कार्यकारी सारांश

रेती उत्खननाच्या पर्यावरणीय व्यवस्थापन आराखड्याचा मसुदा

जिल्हा जालना, महाराष्ट्र राज्य

(जालना जिल्ह्यातील प्रस्तावित २४ रेती घाटांच्या पर्यावरणीय जनसुनावणीकरिता)

प्रकल्प प्रवर्तक

जिल्हा खनिकर्म अधिकारी,जिल्हाधिकारी कार्यालय, जालना

पर्यावरण सल्लागार

एन्व्हायरो टेकनो कंसल्ट प्रायव्हेट लिमिटेड ६८, महाकाली नगर -२ मानेवाडा चौकाजवळ , नागपूर ४४००२४.

१.० प्रस्तावना

मा. जिल्हाधिकारी जालना यांनी रेती/वाळू निर्गमीतीचे धोरण दि. ०३.०९.२०१९ अनुसार २४ रेती घाट उत्खननासाठी प्रस्तावित केलेले असून जिल्हा खनिकर्म अधिकारी जालना यांना विविध अनुमती घेणेकरिता प्रकल्प प्रवर्तक म्हणून नेमलेले आहे. सदर २४ रेती घाट तालुकास्तरावर मा. तहसीलदार यांच्या अध्यक्षतेखाली नेमलेल्या व भुवैद्यन्यानिक, म. प्र.नि.म.यांचे प्रतिनिधी, जलसंधारण विभागाचे प्रतिनिधी असलेल्या तालुका तांत्रिक समिती द्वारे ओपन कास्ट पद्धतीने घमेले,पावडे यांच्या साहाय्याने उत्खनन करण्याचे प्रस्तावित केलेले आहे.

पर्यावरण अनुमतीसाठी प्रस्तावित २४ रेती घाटांची यादी खालील प्रमाणे आहे.

						घाटाची ला.*रु. *खोली. मी ³												
अ.क्र.	तालुका	रेती घाट	गावाचे नाव	नदी/नाला	जवळील गट न.	लांबी	रुंदी	खोली	क्षेत्र हे. मध्ये	रेती ब्रास मध्ये	हौलेज लांबी (मी)	हौलेज रुंदी (मी)	कामगार संख्या	ट्रॅक्टर संख्या	नदी किनारा झाड वृक्षारोपण	हौलेज रोड वृक्षारोपण	पाणी मी ³ ^{/दिवस}	पर्यावरण व्यवस्थापन अंदाजे खरच रु. मध्ये
1	जाफाताट	जनमेहा देंग	जनग्वेदा देंग	केलणा	26 28 60 62 / 8	×20		0.50	8 . 26	28103	19/0	8	2/	1	206	19/0	8 6 6 0	80.810
2	আস্ঠ্যজাব আদ্যানাব	जपखडा ठन देऊलगांत	जपखडा ठन देऊळगांव	भळगा धामणा	53,54,70,75,05 280 283 200X	850 X60	۲۹ ۵۵	0.40	5.029	9911	1210	ч Е	27	6	२०५	1219	5.940 8680	38.50
2	9127919	उगले-	उगले-		, , , , , , , , , , , , , , , , , , , ,	0 10			2.272	7,000	0.00	`				0.00	3.140	11.04
		निमखेडा	निमखेडा															
3	जाफ्राबाद	सांवगी	सांवगी	पर्णा	રે	400	30	8.00	१.५०	५३००	२१००	६	33	२०	२५०	२१००	१.६६०	6.51
4	जाफ्राबाद	मेरखेडा	मेरखेडा	धामणा	२६२. २६३. २६४. २६५. २५२. २६१. २६९. २६८. २६६. २६.	400	30	0.40	१.५०	२६५०	600	६	२८	१०	२५०	600	१.५६०	10.75
					२८, २९, ३०, ३१, ३२, २६७													
5	भोकरदन	वालसा	वालसा	पुर्णा	१३२, १३३, १५४, १५५	४८०	३०	0.60	१.४४	४०७१	६६९	६	३८	१६	२४०	६६९	१.७६०	10.91
		डावरगांव	डावरगांव															
6	भोकरदन	वालसा	वालसा	पुर्णा	५०, ५१, ५२, ५४	૪૭५	२२	0.60	શ.૦૪५	२९५४	१४२२	६	२८	११	२३८	१४२२	१.५६०	15.89
		खालसा	खालसा															
7	भोकरदन	वालसा	वालसा	गिरीजा	६१, ६२, ६३, ६६, ६७	४७५	२२	0.40	१.०४५	१८४६	१२२५	६	२८	6	२३८	१२२५	१.५६०	14.20
		खालसा	खालसा															
8	भोकरदन	जवखेडा ठोंबरी	जवखेडा ठोंबरी	पुर्णा	३१२, ३१३, ३१४, ३२६, ३२७	५८७	४०	०.५०	२.३४	४१४८	११०२	६	३८	१६	२९३	११०२	१.७६०	14.20
9	जालना	बढाण बु.	बढाण बु.	दुधना	१६७, १६६, १६५, १६४, १६२, १६१	600	२०	०.५०	१.४०	२४७३	५०७	६	२८	१०	३५०	५०७	१.५६०	9.89
10	जालना	गोलापांगरी	गोलापांगरी	दुधना	१३९, १४०, १११, ११२	६००	२०	०.४०	१.२०	१६९६	৬४३	६	२८	9	३००	७४३	१.५६०	11.13
11	जालना	पाचनवडगांव	पाचनवडगांव	कुंडलीका	४७४,३९, २७२, २७१, २७०, २६९, २५८	१४००	२०	०.५०	२.८०	४९४७	२२३	६	३८	१९	900	२२३	१.७६०	10.25
12	जालना	कौठा	कौठा	दुधना	३९, ४०, ४१, ४२, ४३, ४४, ४५, ४८	१०००	२२	٥.८٥	२.२०	६२१९	૪૭५	६	82	२४	400	<u> </u>	१.९६०	11.26
१३	जालना	घेटुळी	घेटुळी	दुधना	५३,५२,४७,४५,४४,४१,३९	५२०	૨૭.५૦	٥.८٥	१.४३	४०४२	५२९	६	३८	१६	२६०	५२९	१.७६०	10.03
१४	जालना	कारला	कारला	_ कुंडलीका	गायरान (०६), ८६,८७	९००	રષ	0.80	ર.રષ	३१८०	४८६	६	२८	१२	४५०	४८६	१.५६०	१०.३६
१५	मंठा	किर्ला-	किर्ला-	पूर्णा	किर्ला- ४०, ४१,४२,४३,४७,४८,५०,५१	६५०	५०	१.००	રૂ.ર્પ	११४८४	२३२	६	40	88	३२५	२३२	२.००	5.58
		टाकळखोपा	टाकळखोपा		टाकलखोपा- ४०,४१,४२,४३,४४,४६,४७,५०,५१,५२,५३,													
		C (C (· · ·	48,44,48,40,42,88,87,83,88,84,88,80,802													
१६	ਸਠਾ	ाकला-वाघाळा	ाकला-वाघाळा	पूर्णा	किला- १५१, १५२	400	६०	8.00	3.00	१०६०१	१८८	E	40	88	२५०	१८८	2.00	9.09
9.7				f		1		9.00	21.0		9 - 149	c		21	21.5	9	2.5.5	9.4169
१८	୍ୟରା	ବାଧାର୍ଡା- મୁବન	ବାଧାର୍ଡା- મୁବન	Y 01		400	40	\$.00	7.40	2638	3085	G	90	28	२५०	१०४९	2.00	<i>९४.७९</i>
					$\begin{array}{cccc} & & & & \\ & & & & \\ & & & & \\ & & & & $													
91	मंत्रा	कानदी-उम्रवट	कानदी-उम्पतट	 		Xoo	60	8 0 0	200	190819	3/X	8	X	کر ا	200	378	8 9 8 0	و عن باد ه
10	101	4/10/-0(144	4/1/01-0(144		3Hac- 328 330 343 344 346 343	000		1.00		0040	200	4	00	10		40.0	3.340	3. \ ⁻ \
१९	घनसावंगी	भादली	भादली	गोदावरी	28	४२५	૪५	8.00	१.९१	६५७८	१९८	६	86	રષ	२१०	१९८	१.९६०	८.०६
२०	घनसावंगी	गंज ब.	गंज ब.	गोदावरी	३६१,३६२	५१०	40	8.00	ર.५५	९०१०	१८७	६	40	રૂષ	રેલલ	१८७	2.00	૮.७५
२१	अंबड	<u>अ</u> लमगांव	<u>अ</u> लमगांव	द्धना	१६६,१६७	440	રષ	0.60	१.३८	१८८७	१५८	६	३८	१५	રહ્વ	१५८	१.७६०	७.६२
२२	अंबड	साडेसावंगी	साडेसावंगी	दुधना	०२,०३	ૡ૭ૡ	રષ	०.६०	१.४४	३०४८	१९५	६	३८	१०	२८८	१९५	१.७६०	७.६०
२३	परतूर	डोल्हारा-	डोल्हारा-	दुधना	डोल्हारा- ५४,५५,५९,६०,६१,७२,७३,७४,७५	600	७०	0.60	४.९०	१३८५१	२५९	६	40	५३	३५०	२५९	२.००	१०.७८
		बाबुलतारा	बाबुलतारा		बाबुलतारा ३४९,३५१,३५२,३२,३३,३४,३५,३६,३७,													
					३८,३९,४०													
२४	परतूर	गोळेगांव	गोळेगांव	गोदावरी	३३९,३३८,३३७,३३६,३३५	400	६०	१.००	३.००	१०६००	२३५	६	40	४०	२५०	२३५	२.००	९.३४

• रेतीघाटांसाठी प्राप्त आवश्यक अनुमती/परवानग्या व गोषवारा.

प्रकल्प प्रवर्तक	जिल्हा खनिकर्म अधिकारी जालना.
प्रकल्प स्थिती	नवीन, प्रस्तावित रेती घाट
उत्खनन करावयाचे खनिज	रेती/वाळू (बांधकाम योग्य)
रेतीघाट प्रस्तावित करणारी समिती	मा. तहसीलदार यांच्या अध्यक्षतेखाली नेमलेल्या व भुवैद्यन्यानिक,
	म.प्र.नि.म. यांचे प्रतिनिधी, जलसंधारण विभागाचे प्रतिनिधी असलेल्या
	तालुका तांत्रिक समिती
ग्रामपंचायत ना हरकत	ग्रामपंचायतींकडून वाळू निर्गमीतीच्या धोरणानुसार प्राप्त
उत्खननाकरिता ठरवून दिलेला कालावधी	दि. १० जुन ते ३० सप्टेंबर पर्यंतचा मानसून कालावधी वगळता जास्तीत
	जास्त १ वर्ष.

• प्रस्तावित उत्खनन पद्धत :

रेती उत्खनन टोपले,पावडे द्वारे मजुरांकरवी करण्याचे प्रस्तावित आहे.

- अ. मातीचे ढिगारा किंवा मातीचे उत्खनन करता येणार नाही.
- ब. रेती उत्खनन टोपले,पावडे द्वारे मजुरांकरवी करण्याचे प्रस्तावित आहे.
- क. उचललेली रेती ट्रॅक्टर द्वारे वाहण्याचे प्रस्तावित आहे.
- ड . ट्रॅक्टर वगळता कोणतीही अवजड व यांत्रिक मशीनरी उपयोगात आणता येणार नाही.

इ. उत्खननाकरिता ठरवून दिलेला कालावधी हा दि. १० जुन ते ३० सप्टेंबर पर्यंतचा मानसून कालावधी वगळता जास्तीत जास्त १ वर्षीकरिता प्रस्तावित आहे.

• वायू प्रदूषण उपाय योजना

अ. क्र	प्रदूषणाचे स्रोत	अपेक्षित परिणाम	व्यवस्थापन योजना
१	ट्रान्सपोर्ट रोड/रेती	हवा गुणवत्ता /जमिन	●वहन मार्गाचे मजबूती करण
	वहन मार्ग	रास्ता मजबूती	● वहन मार्गाची देखभाल
		रस्त्याचा ऱ्हास	● ट्रॅक्टर मध्ये मान्यताप्राप्त क्षमतेनुसार खनिज वहन
			● उत्खनन कालावधी दरम्यान हवा दर्जा तपासणी
ર	ट्रक/ट्रॅक्टर यांचे	हवा दर्जा /गुणवत्ता	●मान्यता प्राप्त क्षमते पेक्षा ट्रॅक्टर मध्ये खनिज न भरणे
	चलन		●रेती वाहन करणाऱ्या ट्रॅक्टर ट्रॉलीज टरपोलिन ने वहन दरम्यान
			झाकणे.
			●वाहनांना गती नियंत्रक बसविणे.
			●रेती घाटावर रेती ट्रॅक्टर मध्ये भरताना इंजिन बंद ठेवणे.
₩ N	रेती घाट व रेती	उत्खनन प्रक्रिया	• रेतीघाट होलेज मार्गाची वारंवार दुरुस्ती व देखभाल
	घाट मार्ग		●कामगारांना डस्ट मास्क देणे.
			● रेती उत्खनन व वहन दिवसाचं करणे
8	नदी किनाऱ्याचे	नदी किनाऱ्याची झीज	● नदी किनाऱ्यावर झाडे लावणे
	व्यवस्थापन	पूर रेषा व्यवस्थापन	• नदी किनार्याच्या उतारावर हिरवळ(ग्रास) लावणे

• व्यवसाय, आरोग्य व सेवा योजना

१	धूळ कन श्वसन	कामगारांची	सुरक्षितता	व	•कामगारांसाठी पर्यावरण पूरक व सुरक्षित वातावरण तयार करणे.
	विषयी व्यवसाय	उत्खनन			●असे वातावरण व उपाययोजना अंमल बजावणीसाठी मान्यता प्राप्त
	सुरक्षितता, आरोग्य				निविदाधारक/ठेकेदार उपायोजना करेल.
	व सेवा योजना				●कामगारांना वैय्यक्तिक संरक्षण उपकरने प्रदान करण्याचे प्रस्तावित
					आहे.
					●कामगारांना आवश्यक प्रशिक्षण देण्याचे प्रस्तावित आहे.
					●प्रथोमपचार पेटी, पिण्या योग्य पाणी ,तात्पुरत्या निवार्याची सोय
					करण्याचे प्रस्तावित

• ध्वनी प्रदूषण

- कामगारांना कांन बुचे देण्याचे प्रस्तावित आहे
- ट्रॅक्टर/ट्रक व्यतिरिक्त कोणत्याही ध्वनी प्रदूषण करणाऱ्या मशीनरी प्रतिबंधित आहेत.
- ट्रॅक्टर चे एंजिने रेतीघाटावर रेती भरते वेळेस बंद ठेवण्यात येईल
- कामगारांची आरोग्य विषयक तपासणी करण्यात येईल.
- कामगारांना व अभ्यंगताना वैयक्तिक सरंक्षक उपकरणे देण्यात येईल.

●वाहतूक व्यवस्थापन

- खनिज वाहतूक करणारे वाहन फॉरेस्ट व महसूल विभागाकडे नोंदणीकृत करणे प्रस्तावित आहे.
- अश्या सर्व वाहनाकडे प्रदूषण नियंत्रण प्रमाणपत्र असण्याचे बंधनकारक असेल.
- अशी सर्व वाहने ध्वनी उत्सर्जन व धूळ/इतर उत्सर्जन संबंधी मानक द्वारे उच्च प्रतीच्या देखभाली खाली प्रमाणित असतील.
- असे सर्व वाहनचालक वाहतुकीसंबंधी नियमांचे पालन करण्यास बध्य असतील.
- अश्या सर्व वाहनांची गती नियंत्रित केलेली असेल.
- क्षमतेपेक्षा जास्त खनिजाचे वाहन करता येणार नाही.
- खनिज वाहन करणाऱ्या वाहनांचे खनिज टरपोलिन ने झाकण्याचे प्रस्तावित आहे.
- इतर रेती ठेकेदारांसोबत समनव्यय साधून रेतीचे वाहन करण्याचे प्रस्तावित आहे जेणेकरून वाहतुकीचा खोळंबा होणार नाही.

●वृक्षारोपण योजना

- मान्सून दरम्यान (दि. १० जून ते ३० सप्टेंबर) नदी किनाऱ्यावर व वाहन मार्गावर झाडे लावण्याचे प्रस्तावित आहे.
- नीम, पिंपळ, करंज,गुलमोहर अशी स्थानिक झाडे लावण्याचे प्रस्तावित आहे.
- मान्य निविदाधारक/रेती ठेकेदार ह्या पर्यावरण व्यवस्थापन योजनेचे टेबल करा. १ अनुसार दिलेल्या व्यवस्थापन अंदाजानुसार क्रियान्वयन करण्याचे प्रस्तावित आहे.
- मान्य निविदाधारक /रेती ठेकेदार सादर पर्यावरण व्यवस्थापन योजना क्रियान्वयनाचा अनुपालन अहवाल जिल्हा खनिकर्म अधिकारी , तत्सम तहसीलदार यांना सादर करेल.
- जिल्हा खनिकर्म अधिकारी/तत्सम तहसीलदार हा पर्यावरण व्यवस्थापन योजनेच्या क्रियान्वयनाची वेळोवेळी खात्री करतील व
 मा. जिल्हा अधिकारी यांच्या अध्यक्षतेखालील समितीला अहवाल वाळू निर्गमीती च्या धोरण मध्ये सुचविल्याप्रमाणे सादर करतील.

FORM 1 M

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

(II) Basic Information:-

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

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

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

- (x) Size of the Mining Lease (Hectare) : 1.025 Ha
- (xi) Capacity of Mining Lease (TPA): 17403 TPA, 2173 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 5519420
- (xiv) Contact Information: District Mining Officer, Washim District

Environmental Sensitivity

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

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

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

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Washim District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

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

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Kelna Lease 1.025 ha comprises of river bed of Kelna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

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

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

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

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

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

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

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

River Basin

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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

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

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

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

Drainage :

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

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

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

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

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

Local geology:

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

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.60 m near the banks. The surface plan is prepared on the specified scale.

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

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

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

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

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

LOCATION OF LEASE

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

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

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

ii) Location:

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



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

iii) Alternate sites:

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

iv) Magnitude of operation: Proposed production

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

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

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

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

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

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

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

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

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

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

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

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

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

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

iii) Topography

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

Existing land use pattern

Existing Sand Ghat is a river bed having 2.6 m of sand .

There are a number of sand ghats along the river.

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

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 souls.

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

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

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

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

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

Project schedule :

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

9. Analysis of proposal (final recommendations)

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

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Javkheda Theng Sand Ghat:

SI.	Areas	
INO.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on Painganga river -4.5 km SE near Asegaon Pen
2	Distance from infrastructural facilities	Jafrabad –16 Km SW
	Railway line	19.2 km SE
	National Highway	NH6-69 Km N
	State Highway	SH183–3.88 Km SE
	Major District Road	SH208–4.8 Km NW
	Any Other Road	
	Electric transmission line nole or tower	VII KU-0.2.78 KIII NE
	Canal or check dam or reservoirs or lake or ponds	Check dam 4.2 Km SE
	In-take for drinking water nump house	4.3 Km SE
	Intake for Irrigation canal numps	4.5 KIII SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Katepurna Santury 40 Km NE
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Painganga River Adol Dam -7.2 km NE Wet Land Not Notified for district, Biosphere -Pachmadi-272 km NE Mountains Govilgad Hill range 98 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Katepurna Santury 40 Km NE
6	Inland, coastal, marine or underground waters	Painganga River Adol Dam -7.2 km NE Coastal Area 450 Km West Marine Water -440 Km West
7	State, National boundaries	Telangana -126 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	

10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Theng –0.284 Km NE
11	Areas occupied by sensitive man-made land uses	Jafrabad –16 Km SW
	(hospitals, schools, places of worship, community facilities)	Javkheda Theng -0.284 Km NE Jalna - 22 Km NE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Painganga River Adol Dam -7.2 km NE Coastal Area 450 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No
1		

Proposed Production :

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

Mining :

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

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

GPS Location

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



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

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

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second state sta	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

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

Jalna District Requirement of Minor Minerals (Sand)

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

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

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

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

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31

26	3.1.11	Occupational Health	31
27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37
Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

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

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

Table 1.0 Details of Sand Ghat :

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

Table 2.0 All corner Coordinates of Sand Ghat :

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

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on Painganga river -4.5 km SE near Asegaon Pen
2	Distance from infrastructural facilities	Jafrabad –16 Km SW
	Railway line	19.2 km SE
	National Highway	NH6-69 Km N
	State Highway	SH183–3.88 Km SE
	Major District Road	SH208–4.8 Km NW
	Any Other Road	V:1 D d 0 2 78 km NE
	Electric transmission line pole or tower	16 km
	Canal or check dam or reservoirs or lake or ponds	Check dam 4.3 Km SE
	In-take for drinking water pump house	4 3 Km SE
	Intake for Irrigation canal pumps	4.3 Km SE
3	Areas protected under international conventions, national or local	Katepurna Santury 40 Km NE
	legislation for their ecological, landscape, cultural or other related value	1 5
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Painganga River
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Adol Dam -7.2 km NE Wet Land Not Notified for district
		Biosphere -Pachmadi-272 km NE Mountains Govilgad Hill range
		98 Km N
5	Areas used by protected, important or sensitive species of flora or fauna	Katepurna Santury 40 Km NE
	forbreeding, nesting, foraging, resting, over wintering, migration	
6	Inland, coastal, marine or underground waters	Painganga River
		Adol Dam - 7.2 km NE Coastal Area 450 Km West
		Marine Water -440 Km West
7	State, National boundaries	Telangana -126 Km SE
8	Routes or facilities used by the public for access to recreation or other	
	iourisi,piigrim areas	
9	Defence installations	
10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Theng –0.284 Km NE
11	Areas occupied by sensitive man-made land uses	Jafrabad –16 Km SW
	(hospitals, schools, places of worship, community facilities)	Javkheda Theng -0.284 Km NE Jalna – 22 Km NE

Table 3.0 Environmental Sensitivity of Sand Ghat :

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

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

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

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jafrabad Tahsil. District Mining Officer Jalna has proposed for the production of 2173 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

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



Surface Plan for Javkheda Theng Sand Ghat:

2.1 Method of Mining :

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

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

2.2 Period of Mining :

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



Production Plan for Javkheda Theng Sand Ghat :

2.3 Manpower Requirement

۱.
1

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

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

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

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

2.5 Existing & Proposed Land Use Pattern :

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

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

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

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

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

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

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

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

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

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually.. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 2173 Brass/annum from the proposed sand ghat.

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

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

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

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

Area Source Emission-Production and Development

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

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.099646134
Total	0.099646134

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

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

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

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

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

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

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

3.1.2 Impact due to Noise Pollution and its Management

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

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

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

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

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.6m depth only.

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

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

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Kelna River)

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

3.1.4 Impact on Land and its Management

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

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

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

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

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Jawkheda Theng sand ghat is 0.6m keeping 2.0m bed depth of sand. Total Sand depth available is 2.6m.

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

3.1.7 Sand Replenishment Studies

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

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

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

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

Sand Replenishment

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

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

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

22



cum/minute



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

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

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

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

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

Anticipated Impacts

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

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

The impact on soil quality is not likely to be more intensive than the present status and hence

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

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

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

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

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

Proposed Mitigation Measures

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

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

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

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

26

3.1.9 Biological Environment

Baseline Status

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

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

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

Anticipated Impacts

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

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

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

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

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

Afforestation

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

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

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

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

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

3.1.10 Socio economic Environment

Baseline Environment

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

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

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

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

3.1.11 Occupational Health

Baseline Status

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

Medical & Health Facilities

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

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 10.97 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.5578\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

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

S. No	Impact Source	Impact	Control measure	
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village. 	
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed 	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only. 	
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

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

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

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

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

4.1.3 Traffic Management

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

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

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

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

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

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 985 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

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

4.1.7 Occupational Health and Safety Management

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

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

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 10.97 Lakhs on his own.

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

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					IN KS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	156000
		On Land /			
		Rd stability/	· Proper		25000
		-	maintenance.		
		Rd degradation	 Regular water 		100000
			spraying.		
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		10000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. 	(8 tarpaulin) 8 trucks @ Rs. 500/truck	40000 4000
			 Barriers & Traffic Management Expenses 	 Excluding Man Power Salary which is included in labour costs 	10000
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	 Green belt along bank 		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	205 Nos.	102500
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	780 Nos.	390000
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

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

FORM 1 M

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

(II) Basic Information:-

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

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

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

- (x) Size of the Mining Lease (Hectare) : 1.125 Ha
- (xi) Capacity of Mining Lease (TPA): 15921 TPA, 1988 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 5049520
- (xiv) Contact Information: District Mining Officer, Washim District

Environmental Sensitivity

Sl. No.	Areas	
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.05 km NW
2	Distance from infrastructural facilities	Jafrabad –3.2 Km SW
	Railway line	43.7 km SW
	National Highway	NH211-72 Km SW
	State Highway	SH178–3.04 Km SW
	Major District Road	SH178–3.04 Km SW
	Any Other Road	Vil Rd-0.385 km S
	Electric transmission line pole or tower	16.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 0.840 Km NW
	In-take for drinking water pump house	1.626 Km SE
	Intake for Irrigation canal pumps	1.626 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
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4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dhamna River Purna river-1.21 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-310 km NE Mountains Govilgad Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 39 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -100 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -93 Km NE
10	Densely populated or built-up area, distance from nearest human habitation	Deulgaon Ugle-0.587 N Nimkheda –0.415 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad –3.2 Km SW Deulgaon Ugle-0.587 N
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. Forest land involved (hectares) 	Not within 5 km study area

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

District Mining officer ,Washim District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

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

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dhamana Lease 1.125 ha comprises of river bed of Dhamana river for sand scooping proposed in 24 Sand Ghats.

Physiography :

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

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

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

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

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

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

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

River Basin

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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

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

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

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

Drainage :

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

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

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

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

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

Local geology:

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

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.50 m near the banks. The surface plan is prepared on the specified scale.

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

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



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

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

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

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

LOCATION OF LEASE

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

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

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

ii) Location:

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



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

iii) Alternate sites:

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

iv) Magnitude of operation: Proposed production

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

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

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

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

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

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

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

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

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

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

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

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

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

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

iii) Topography

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

Existing land use pattern

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

There are a number of sand ghats along the river.

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

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 souls.

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

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

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

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

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

Project schedule :

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

9. Analysis of proposal (final recommendations)

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

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

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

Sl.	Areas	
No.		Distance in bilemeter / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.05 km NW
2	Distance from infrastructural facilities	Jafrabad –3.2 Km SW
	Railway line	43.7 km SW
	National Highway	NH211-72 Km SW
	State Highway	SH178–3.04 Km SW
	Major District Road	SH178–3.04 Km SW
	Any Other Road	Vil D.4 0 295 Irm S
	Electric transmission line nole or tower	V II Kd-0.585 KIII S
	Canal or check dam or reservoirs or lake or ponds	Chook dam 0.840 Km NW
	In-take for drinking water pump house	1.626 Km SE
	Intake for Irrigation canal pumps	1.626 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dhamna River Purna river-1.21 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-310 km NE Mountains Govilgad Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 39 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -100 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -93 Km NE

10	Densely populated or built-up area, distance from nearest human habitation	Deulgaon Ugle-0.587 N Nimkheda –0.415 Km S
11	Areas occupied by sensitive man-made land uses	Jafrabad –3.2 Km SW
	(hospitals, schools, places of worship, community facilities)	Deulgaon Ugle-0.587 N
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No
1		

Proposed Production :

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

Mining :

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

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

GPS Location

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



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
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र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

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

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second state sta	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

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

Jalna District Requirement of Minor Minerals (Sand)

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

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

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

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

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

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

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

Table 1.0 Details of Sand Ghat :

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

Table 2.0 All corner Coordinates of Sand Ghat :

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

Sl.	Areas	
110.		Distance in kilometer / Deteils
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -1.05 km NW
	concerned River, Rivulet, Nallah etc.	
2	Distance from infrastructural facilities	Jafrabad –3.2 Km SW
	Railway line	43.7 km SW
	National Highway	NH211-72 Km SW
	State Highway	SH178–3.04 Km SW
	Major District Road	SH178–3.04 Km SW
	Any Other Road	Vil Rd-0 385 km S
	Electric transmission line pole or tower	16.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam $-$ 0.840 Km NW
	In-take for drinking water pump house	1.626 Km SE
	Intake for Irrigation canal pumps	1.626 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Dhamna River
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Purna river-1.21 Km S Wat L and Nat Natified for
	forests	district.
		Biosphere -Pachmadi-310 km NE
		Mountains Govilgad Hill range
		95 KIII N
5	Areas used by protected, important or sensitive species of flora or fauna	Gautala Wildlife Santury 39 Km
	forbreeding, nesting, foraging, resting, over wintering, migration	NW
6	Inland, coastal, marine or underground waters	Dhamna River
		Purna river-1.21 Km S Coastal Area 445 Km West
		Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -100 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist pilgrim areas	
9	Defence installations	Varangaon OF -93 Km NE
10	Densely populated or built-up area, distance from nearest human	Deulgaon Ugle-0.587 N
11	habitation	Nimkheda –0.415 Km S
	Areas occupied by sensitive man-made faild uses	Deulgaon Ugle-0.587 N
	(nospitais, schools, places of worship, community facilities)	

Table 3.0 Environmental Sensitivity of Sand Ghat :

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

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

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

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jafrabad Tahsil. District Mining Officer Jalna has proposed for the production of 1988 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

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

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Surface Plan for Deulgaon Ugle – Nimkheda Sand Ghat:

2.1 Method of Mining :

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

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

2.2 Period of Mining :

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


Production Plan for Deulgaon Ugle Nimkheda Sand Ghat :

2.3 Manpower Requirement

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

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

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

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

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

2.5 Existing & Proposed Land Use Pattern :

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

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

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

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

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

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

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

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

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

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 1988 Brass/annum from the proposed sand ghat.

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

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

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

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

Area Source Emission-Production and Development

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

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.091162685
Total	0.091162685

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

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

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

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

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

 The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers

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

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

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

3.1.2 Impact due to Noise Pollution and its Management

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

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

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

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

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.5m depth only.

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

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

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.

- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.
- Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Dhamna River)

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

3.1.4 Impact on Land and its Management

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

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.

- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.
- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

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

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

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Deulgaon Ugle Nimkheda sand ghat is 0.5 m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

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

3.1.7 Sand Replenishment Studies

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

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

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

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

Sand Replenishment

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

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

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

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



cum/minute



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

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

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

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

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

Anticipated Impacts

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

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed. The impact on soil quality is not likely to be more intensive than the present status and hence degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

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

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

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

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

Proposed Mitigation Measures

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

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

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

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

fertility.

3.1.9 Biological Environment

Baseline Status

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

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

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

Anticipated Impacts

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

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

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

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas.

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

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

Afforestation

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

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

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

Adaptation to the geo-climatic conditions of the area.

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

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

surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

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

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

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

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

3.1.11 Occupational Health

Baseline Status

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

Medical & Health Facilities

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

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 11.66 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.6691\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

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

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

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

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

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

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

4.1.3 Traffic Management

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

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

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

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

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

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 1072 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

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

4.1.7 Occupational Health and Safety Management

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

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

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 11.66 Lakhs on his own.

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

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	169400
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water spraying. 		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		10000

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

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

FORM 1 M

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

(II) Basic Information:-

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

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

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

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

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

(xii) Period of Mining Lease: 1 years

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

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

Environmental Sensitivity

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

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

District Mining officer ,Washim District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

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

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

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

May 2021 Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Purna Lease 1.50 ha comprises of river bed of Purna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

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

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

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

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

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

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

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

River Basin

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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

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

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project. Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

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

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

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

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

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

Local geology:

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

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 3.00m near the banks. The surface plan is prepared on the specified scale.

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

Details of rivers marked on district geological map is as below


River inventory for Jalna district is drawn as below



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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

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

LOCATION OF LEASE

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

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

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

ii) Location:

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



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

iii) Alternate sites:

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

iv) Magnitude of operation: Proposed production

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

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

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

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

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

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

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

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.660
Total	1.660

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

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

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

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

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

iii) Topography

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

Existing land use pattern

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

There are a number of sand ghats along the river.

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

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 33 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 33 souls.

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

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

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

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

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

Project schedule :

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

9. Analysis of proposal (final recommendations)

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

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

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

Details of Environmental Sensitivity for Sawangi Sand Ghat:

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

Proposed Production :

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

Mining :

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

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

GPS Location

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



Annexure -1 : Details of Sand Ghat

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1			15 16 50 51 89	410	25	0.60	1 0 2 5	2173
-			10,10,00,01,00	120	20	0.00	1.025	21/0
2			160 162 163 174	450	25	0.50	1 1 2 5	1988
2			100,102,103,174	450	25	0.50	1.125	1900
<u> </u>				500		1.05	1.55	5000
3			255, 256, 257, 258,	500	30	1.00	1.50	5300
			259, 260, 261					
4			262,263,264,265,252	500	30	0.50	1.50	2650
			,261,269,268,					
			266,					
			26 28 29 30 31 32 26					
			20,20,23,30,31,32,20					
			/					
5	□ □ करटन		132 133 154 155	480	30	0.80	1 11	/071
5			152,155,154,155	480	50	0.80	1.44	4071
6			50 51 52 54	475	22	0.80	1 0/15	2054
0			50,51,52,54	475		0.80	1.045	2954
7			61 62 62 66 67	475	22	0.50	1.045	1946
/			01,02,03,00,07	475	22	0.50	1.045	1840
-			 242 242 244 226 227	507	40	0.50	2.24	44.40
8			312,313,314,326,327	587	40	0.50	2.34	4148
				700	20	0.50	4.40	2.472
9			167,166,165,164,162	700	20	0.50	1.40	2473
			, 161					
10			1 20 1/ 01 11 112	600	20	0.40	1 20	1606
10			1,37,14,01,11,112	000	20	0.40	1.20	1090
1		1	1	1				1

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

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
	--	700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second state sta	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

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

Jalna District Requirement of Minor Minerals (Sand)

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

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

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

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

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED 68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

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

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

Table 1.0 Details of Sand Ghat :

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

Table 2.0 All corner Coordinates of Sand Ghat :

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

Sl.	Areas	
N0.		
1	Distance of ancient site from a constant soil on and heider even the	Distance in kilometer / Details
	concerned River, Rivulet, Nallah etc.	Bridge on river -3.08 km NE
2	Distance from infrastructural facilities	Jafrabad –2.5 Km NE
	Railway line	38.8 km SW
	National Highway	NH211-67 Km SW
	State Highway	SH178–1.8 Km E
	Major District Road	SH178–1.8 Km E
	Any Other Road	V:1 D d 0 295 1mm S
	Electric transmission line nole or tower	16.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dom 0.840 Km NW
	In-take for drinking water nump house	Check dam -0.840 Km N w
	Intake for Irrigation canal numps	1.2 Km SE
2	A reas protected under international conventions, national or local	1.2 Km SE Coutolo Wildlife Sontury 30 Km
3	legislation for their ecological, landscape, cultural or other related value	NW
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Kelna River-1.7 Km N Wet Land Not Notified for
	lolests	district,
		Biosphere -Pachmadi-310 km NE
		Mountains Govilgad Hill range
5	Areas used by protected, important or sensitive species of flora or fauna	Gautala Wildlife Santury 39 Km
	forbreeding, nesting, foraging, resting, over wintering, migration	NW
6	Inland, coastal, marine or underground waters	Purna river
		Kelna River-1.7 Km N
		Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -102 Km N
8	Routes or facilities used by the public for access to recreation or other	
	tourist,pilgrim areas	
9	Defence installations	Varangaon OF -93 Km NE
10	Densely populated or built-up area, distance from nearest human	Savangi -1.5 Km SE
	habitation	5
11	Areas occupied by sensitive man-made land uses	Jafrabad –2.5 Km NE
	(hospitals, schools, places of worship, community facilities)	Savangi -1.5 Km SE

Table 3.0 Environmental Sensitivity of Sand Ghat :

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



Google Image for Sand Ghat (600 m Area) :

Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

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

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jafrabad Tahsil. District Mining Officer Jalna has proposed for the production of 5300 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

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

Surface Plan for Sawangi Sand Ghat:



2.1 Method of Mining :

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

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

2.2 Period of Mining :

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



Production Plan for Sawangi Sand Ghat :

2.3 Manpower Requirement

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

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

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

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

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

2.5 Existing & Proposed Land Use Pattern :

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

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

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

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

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

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

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

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

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

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 5300 Brass/annum from the proposed sand ghat.

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

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

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

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

Area Source Emission-Production and Development

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

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.243039352
Total	0.243039352

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

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

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

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

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

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

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

3.1.2 Impact due to Noise Pollution and its Management

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

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

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

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

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to **1.00m depth** only.

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

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

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.
Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Purna River)

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

3.1.4 Impact on Land and its Management

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

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

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

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

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Sawangi sand ghat is 1.00m keeping 2.0m bed depth of sand. Total Sand depth available is 3.0m.

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

3.1.7 Sand Replenishment Studies

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

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

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

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

Sand Replenishment

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

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

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

22



cum/minute



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

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

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

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

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

Anticipated Impacts

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

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

The impact on soil quality is not likely to be more intensive than the present status and hence

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

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

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

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

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

Proposed Mitigation Measures

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

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

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

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

26

3.1.9 Biological Environment

Baseline Status

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

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

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

Anticipated Impacts

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

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

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

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

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

Afforestation

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

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

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

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

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

3.1.10 Socio economic Environment

Baseline Environment

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

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

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

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

3.1.11 Occupational Health

Baseline Status

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

Medical & Health Facilities

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

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 6.51 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.3347\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

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

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

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

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

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

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

4.1.3 Traffic Management

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

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

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

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

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

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 2350 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

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

4.1.7 Occupational Health and Safety Management

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

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

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 6.51Lakhs on his own.

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

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	420
		On Land /			
		Rd stability/	· Proper		25000
		-	maintenance.		
		Rd degradation	 Regular water spraying. 		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			• Health Checkup of Employees		20000

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

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

FORM 1 M

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

(II) Basic Information:-

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

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

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

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

- (xi) Capacity of Mining Lease (TPA): 21223 TPA, 2650 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 6731000

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

Environmental Sensitivity

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

4	Areas which are important or sensitive for ecological reasons - Wetlands,	Dhamna River
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river-5.22 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-315 km NE
		Mountains Govilgad Hill range 97 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 35 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-5.22 Km S Coastal Area 450 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -96 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -88 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Merkheda –0.336 Km NE
11	Areas occupied by sensitive man-made land uses	Jafrabad –4.3 Km SW
	(hospitals, schools, places of worship, community facilities)	Merkheda –0.336 Km NE
12	Areas containing important, high quality or scarce resources	Dhamna River Purna river-5 22 Km S
	fisheries, tourism, minerals)	Coastal Area 450 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No

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

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Washim District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

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

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dhamana Lease 1.5 ha comprises of river bed of Dhamana river for sand scooping proposed in 24 Sand Ghats.

Physiography :

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

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

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

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

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

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

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

River Basin

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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

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

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

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

Drainage :

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

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

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

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

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

Local geology:

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

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.50 m near the banks. The surface plan is prepared on the specified scale.

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

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

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

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

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

LOCATION OF LEASE

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

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. Project description:

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

ii) Location:

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



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

iii) Alternate sites:

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

iv) Magnitude of operation: Proposed production

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

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

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

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

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

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

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

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

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

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

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

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

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

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

iii) Topography

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

Existing land use pattern

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

There are a number of sand ghats along the river.

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

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 souls.

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

5. Planning Brief

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

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

6. Proposed infrastructure

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

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

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

Project schedule :

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

9. Analysis of proposal (final recommendations)

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

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.
- v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.
- vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

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

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

Proposed Production :

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

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

Mining :

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

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

GPS Location

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



A N N E X U R E S

Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

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

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

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

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

Jalna District Requirement of Minor Minerals (Sand)

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

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

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

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

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31

26	3.1.11	Occupational Health	31
27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

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

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

Table 1.0 Details of Sand Ghat :

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

Table 2.0 All corner Coordinates of Sand Ghat :

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

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

Table 3.0 Environmental Sensitivity of Sand Ghat :

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

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

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

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jafrabad Tahsil. District Mining Officer Jalna has proposed for the production of 2650 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

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

Surface Plan for Merkheda Sand Ghat:



2.1 Method of Mining :

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

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

2.2 Period of Mining :

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





2.3 Manpower Requirement

About 28 labors are required to carry ou	It the scooping activity.

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

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

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

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

2.5 Existing & Proposed Land Use Pattern :

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

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

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

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

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

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.





Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

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

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

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

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually.. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 2650 Brass/annum from the proposed sand ghat.

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

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

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

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

Area Source Emission-Production and Development

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

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.121519676
Total	0.121519676

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

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

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

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

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

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

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

3.1.2 Impact due to Noise Pollution and its Management

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

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

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

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

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.5m depth only.

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

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

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Dhamna River)

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

3.1.4 Impact on Land and its Management

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

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

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

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

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Melkheda sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

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

3.1.7 Sand Replenishment Studies

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

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

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

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

Sand Replenishment

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

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

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

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

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

22



cum/minute



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

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

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

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

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

Anticipated Impacts

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

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

The impact on soil quality is not likely to be more intensive than the present status and hence

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

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

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

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

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

Proposed Mitigation Measures

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

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

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

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

26

3.1.9 Biological Environment

Baseline Status

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

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

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

Anticipated Impacts

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

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

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

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27
have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

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

Afforestation

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

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

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

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

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

3.1.10 Socio economic Environment

Baseline Environment

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

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

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

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

3.1.11 Occupational Health

Baseline Status

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

Medical & Health Facilities

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

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 10.75 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.6693 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

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

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

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

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

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

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

4.1.3 Traffic Management

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

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

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

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

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

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 950 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

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

4.1.7 Occupational Health and Safety Management

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

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

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 10.75 Lakhs on his own.

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

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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

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

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

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

FORM 1 M

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

(II) Basic Information:-

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

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

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

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

- (xi) Capacity of Mining Lease (TPA): 32604 TPA, 4071 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 10340340
- (xiv) Contact Information: District Mining Officer, Washim District

Environmental Sensitivity

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

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

(Signature of Project ProponentAlong with name and address)

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

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

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Purna Lease 1.44 ha comprises of river bed of Purna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

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

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

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

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

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

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

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

River Basin

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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

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

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

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

Drainage :

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

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

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

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

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

Local geology:

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

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.80 m near the banks. The surface plan is prepared on the specified scale.

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

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



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

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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

LOCATION OF LEASE

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

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

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

ii) Location:

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



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

iii) Alternate sites:

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

iv) Magnitude of operation: Proposed production

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

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

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

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

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

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

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

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

Purpose	Qty Required m³/day				
Dust suppression/ Plantation	1.0				
Domestic Use	0.760				
Total	1.760				

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

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

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

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

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

iii) Topography

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

Existing land use pattern

Existing Sand Ghat is a river bed having 2.8 m of sand .

There are a number of sand ghats along the river.

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

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 souls.

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

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

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

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

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

Project schedule :

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

9. Analysis of proposal (final recommendations)

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

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Valsa Davargaon Sand Ghat:

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

10	Densely populated or built-up area, distance from nearest human habitation	Valsa Davergaon -0.280 Km SW
11	Areas occupied by sensitive man-made land uses	Bhokardan-10 Km NW
	(hospitals, schools, places of worship, community facilities)	Valsa Davergaon -0.280 Km SW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-0.850 Km S Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No
1		

Proposed Production :

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

Mining :

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

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

GPS Location

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



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

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

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

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

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

Jalna District Requirement of Minor Minerals (Sand)

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

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

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

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

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

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

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

Table 1.0 Details of Sand Ghat :

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

Table 2.0 All corner Coordinates of Sand Ghat :

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

Sl. No.	Areas	
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.164 km SE
2	Distance from infrastructural facilities	Bhokardan –10 Km NW
	Railway line	32.5 km S
	National Highway	NH211-52 Km SW
	State Highway	SH178–10.8 Km N
	Major District Road	Sillod Jalna Rd–1.85 Km E
	Any Other Road	Vil Dd 0 346 km W
	Electric transmission line nole or tower	14.5 km
	Canal or check dam or reservoirs or lake or ponds	$\frac{14.5 \text{ Km}}{\text{Check dam}} = 2.014 \text{ Km SE}$
	In-take for drinking water nump house	2.014 Km SE
	Intake for Irrigation canal pumps	2.014 Km SE 2.014 Km SE
3	Areas protected under international conventions national or local	Gautala Wildlife Santury 40 Km
	legislation for their ecological, landscape, cultural or other related value	N
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Girija River-0.850 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-0.850 Km S Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Davergaon -0.280 Km SW
11	Areas occupied by sensitive man-made land uses	Bhokardan-10 Km NW
	(hospitals, schools, places of worship, community facilities)	Valsa Davergaon -0.280 Km SW

Table 3.0 Environmental Sensitivity of Sand Ghat :

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



Google Image for Sand Ghat (600 m Area) :

Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

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

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Bhokardan Tahsil. District Mining Officer Jalna has proposed for the production of 4071 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

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



Surface Plan for Valsa Davergaon Sand Ghat:

2.1 Method of Mining :

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

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

2.2 Period of Mining :

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



Production Plan for Valsa Davergaon Sand Ghat :

2.3 Manpower Requirement

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

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

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

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

Requirement of Water for Dust Suppression & Domestic Purposes

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

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

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

2.5 Existing & Proposed Land Use Pattern :

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

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

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

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

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

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

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

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

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

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 4071 Brass/annum from the proposed sand ghat.

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

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

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

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

Area Source Emission-Production and Development

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

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.186681736
Total	0.186681736

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

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

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

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

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards.

In order to mitigate fugitive dust emissions and other air emissions from the project activities,

the following measures are proposed to be adopted.

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

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

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

3.1.2 Impact due to Noise Pollution and its Management

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

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

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

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

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.8m depth only.

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

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

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.

- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.
- Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Purna River)

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

3.1.4 Impact on Land and its Management

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

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.

- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.
- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

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

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

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Valsa Davergaon sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

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

21

3.1.7 Sand Replenishment Studies

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

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

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

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

Sand Replenishment

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

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

22



cum/minute



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

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

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

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

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

Anticipated Impacts

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

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

The impact on soil quality is not likely to be more intensive than the present status and hence

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

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

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

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

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

Proposed Mitigation Measures

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

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

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

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

26

3.1.9 Biological Environment

Baseline Status

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

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

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

Anticipated Impacts

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

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

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

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

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

Afforestation

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

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

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

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

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

3.1.10 Socio economic Environment

Baseline Environment

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

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

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

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

3.1.11 Occupational Health

Baseline Status

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

Medical & Health Facilities

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

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 10.91 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.4183 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

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

S. No	Impact Source	Impact	Control measure	
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village. 	
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed 	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only. 	
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

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

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

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

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

4.1.3 Traffic Management

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

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

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

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

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

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 909 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

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

4.1.7 Occupational Health and Safety Management

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

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

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 10.91 Lakhs on his own.

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

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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

Impact Source	Impact	Control measure	Particulars	
			/Qty.	Budget/Cost in RS.
Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	133800
	On Land /			
	Rd stability/	· Proper		25000
		maintenance.		
	Rd degradation	 Regular water spraying. 		100000
		 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
		 Health Checkup of Employees 		20000
	Impact Source Transport Road	Impact Source Impact Transport Road On Air Quality On Land / Rd stability/ Rd degradation Rd degradation	Impact SourceImpactControl measureTransport RoadOn Air Quality· Compaction, gradation and drainage on both sidesOn Land / Rd stability/· Proper maintenance.Rd degradation· Regular water spraying.· Air quality will be monitoring at impacted village.· Health Checkup of Employees	Impact SourceImpactControl measureParticulars /Qty.Transport RoadOn Air Quality· Compaction, gradation and drainage on both sides(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/KmOn Land / Rd stability/· Proper maintenance. · Regular water spraying.(For One Day Monitoring at impacted village. · Health Checkup of Employees

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. Barriers & Traffic 	(16 tarpaulin) 16 tractors @ Rs. 500/tractor • Excluding	80000 8000 10000
			Management Expenses	Man Power Salary which is included in labour costs	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in Iabour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	• Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	240 Nos.	120000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	669 Nos.	334500
6	Final Mine Closer Plan implementation	Replenishment of Sand	Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000
8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
---	--	--	---	--	--------
•	Total in Rs				

-FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Valsa Khalsa Sand Ghat, River Purna

(ix) Location / site (GPS Co-ordinates) : Valsa Khalsa, Tq Bhokardan, Gut No. 50,51,52,54

BP	Latitude	Longitute
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E

(x) Size of the Mining Lease (Hectare) : 1.045 Ha

- (xi) Capacity of Mining Lease (TPA): 23658 TPA, 2954 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 7503160
- (xiv) Contact Information: District Mining Officer, Jalna District

Environmental Sensitivity

Sl. No	Areas	
110.		
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -1.856 km SEE
	concerned River, Rivulet, Nallah etc.	
2	Distance from infrastructural facilities	Bhokardan –10 Km NW
	Railway line	31.7 km S
	National Highway	NH211-51.65 Km SW
	State Highway	SH178–11 Km N
	Major District Road	Sillod Jalna Rd–1.62 Km E
	Any Other Road	V1 D 1 0 265 1 W
		V11 Kd-0.365 Km W
	Electric transmission line pole or tower	14.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 1.62 Km SE
	In-take for drinking water pump house	1.62 Km SE
	Intake for Irrigation canal pumps	1.62 Km SE
3	Areas protected under international conventions, national or local	Gautala Wildlife Santury 40 Km
	legislation for their ecological, landscape, cultural or other related value	Ν
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Girija River
	forests	Wet Land Not Notified for
		district,
		Biosphere -Pachmadi-330 km NE

		Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.804 Km W
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Khalsa -0.804 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

(Signature of Project ProponentAlong with name and address)

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Purna Lease 1.045 ha comprises of river bed of Purna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.80 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E



Approach road available over pandan rd of 1422 connecting Merkheda rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day			
Dust suppression/ Plantation	1.0			
Domestic Use	0.560			
Total	1.560			

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.8 m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee.

Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.
- v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.
- vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Valsa Khalsa (Purna) Sand Ghat:

Sl.	Areas	
INO.		
1	Distance of mainet site from accuset roll on read bridge even the	Distance in kilometer / Details
	concerned River, Rivulet, Nallah etc.	Bridge on river -1.830 km SEE
2	Distance from infrastructural facilities	Bhokardan –10 Km NW
	Railway line	31.7 km S
	National Highway	NH211-51.65 Km SW
	State Highway	SH178–11 Km N
	Major District Road	Sillod Jalna Rd–1.62 Km E
	Any Other Road	V1 D 1 0 265 1 W
	Electric transmission line nole or tower	VII Rd-0.365 km w
	Canal or check dam or reservoirs or lake or ponds	14.5 Km
	In take for drinking water nump house	Check dam $- 1.62$ Km SE
	Intake for Irrigation canal numps	1.62 Km SE
2	Areas material and an international conventions, notional or local	1.62 Km SE
3	legislation for their ecological, landscape, cultural or other related value	N
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Girija River Wet Land Not Notified for district
		Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range
		46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river
		Girija River
		Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other	
	tourist,pilgrim areas	
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.804 Km W
11	Areas occupied by sensitive man-made land uses	Bhokardan-10 Km NW
	(hospitals, schools, places of worship, community facilities)	Valsa Khalsa -0.804 Km W

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude

1	Valsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9'	75°48'
	Khalsa							16.6124"N	9.5415"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	475m x 22 m x 0.80 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

BP	Latitude	Longitute
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E



A N N E X U R E S

Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
	--	700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
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Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Тс	otal		820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
		Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Тс	otal		130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Valsa Khalsa and ghat proposed (over Purna river) in Bhokardan taluka is one of the four sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Bhokardan and adjoining areas of other talukas. All four sand ghats are on Purna river. Details of Bhokardan taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitute		
BP-1	20°9' 16.6124"N	75°48' 9.5415"E		
BP-2	20°9' 20.2368"N	75°48' 10.1414"E		
BP-3	20°9' 31.2292"N	75°48' 14.6338"E		
BP-4	20°9' 30.9716"N	75°48' 15.3408"E		
BP-5	20°9' 20.0506"N	75°48' 10.8776"E		
BP-6	20°9' 16.5018"N	75°48' 10.2902"E		

Sl.	Areas			
INO.		Distance in bilemeter / Details		
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -1 856 km SEE		
-	concerned River, Rivulet, Nallah etc.	binge on fiver -1.000 km SLL		
2	Distance from infrastructural facilities	Bhokardan –10 Km NW		
	Railway line	31.7 km S		
	National Highway	NH211-51.65 Km SW		
	State Highway	SH178–11 Km N		
	Major District Road	Sillod Jalna Rd–1.62 Km E		
	Any Other Road	Vil Rd-0 365 km W		
	Electric transmission line pole or tower	14.5 km		
	Canal or check dam or reservoirs or lake or ponds	Check dam – 1.62 Km SE		
	In-take for drinking water pump house	1.62 Km SE		
	Intake for Irrigation canal pumps	1.62 Km SE		
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N		
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river		
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE		
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N		
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West		
7	State, National boundaries	Madhyapradesh -109 Km N		
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas			
9	Defence installations	Varangaon OF -96 Km N		
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.804 Km W		
11	Areas occupied by sensitive man-made land uses	Bhokardan-10 Km NW		

Table 3.0 Environmental Sensitivity of Sand Ghat :

	(hospitals, schools, places of worship, community facilities)	Valsa Khalsa -0.804 Km W		
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West		
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area		
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area		
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area		
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area		
17	Forest land involved (hectares)	No		
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No		



Google Image for Sand Ghat (600 m Area) :

Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 1422m connecting Melkheda rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Bhokardan Tahsil. District Mining Officer Jalna has proposed for the production of 2954 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E
Surface Plan for Valsa Khalsa Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading
 The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	475mx22mx0.8m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	





Production Plan for Valsa Khalsa Sand Ghat :

664.760

554.250 663.760 563,250 662.760 865 655

EXISTING CHMINAGE GEO 780

000.02 000'0 275 255

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552.250

551.700 551,250

2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	5
3	Mining Labors	10
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

About 28 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	14400
Area under dumps	00	00
Undisturbed Area	14400	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 2954 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 23658 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	23658 TPA
Operational Days per Year	260 Days
Lead (m)	1422 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.135460046
Total	0.135460046

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.4183µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Valsa Khalsa	Bhokardan	Purna	0.4183µgm/cum

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.8m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Purna River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Valsa Khalsa sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute



Siltation is mapped for the rivers using slope –discharge-silt formula as below

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical	Last Year	This Year Deposition
	in m ³	Deposition in m ³	in m ³
Valsa Khalsa	2257	7440(Yr 17-18)	8360

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu,sipnas,wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Purna. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 10.97 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.4183 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Purna or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 1660 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 15.89Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	284400
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water spraying. 		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			• Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. 	(11 tarpaulin) 11 tractors @ Rs. 500/tractor	55000
			 Barriers & Traffic Management Expenses 	 Excluding Man Power Salary which is included in labour costs 	10000
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	• Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	238 Nos.	119000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	1422 Nos.	711000
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
•	Total in Rs				1589900

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Valsa Khalsa Sand Ghat, River Girija

(ix) Location / site (GPS Co-ordinates) : Valsa Khalsa, Tq Bhokardan, Gut No. 61,62,63,66,67

BP	Latitude	Longitute
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E

(x) Size of the Mining Lease (Hectare) : 1.045 Ha

- (xi) Capacity of Mining Lease (TPA): 14784 TPA, 1846 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 4688840
- (xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl.	Areas	
INO.		
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -1.87 km E
	concerned River, Rivulet, Nallah etc.	
2	Distance from infrastructural facilities	Bhokardan –10.5 Km NW
	Railway line	31.2 km S
	National Highway	NH211-51.3 Km SW
	State Highway	SH178–12 Km N
	Major District Road	Sillod Jalna Rd–1.8 Km E
	Any Other Road	Vil Dd 0 002 Irm W
	Electric transmission line note or tower	VII Ku-0.993 KIII W
		14.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 1.634 Km SE
	In-take for drinking water pump house	1.634 Km SE
	Intake for Irrigation canal pumps	1.634 Km SE
3	Areas protected under international conventions, national or local	Gautala Wildlife Santury 40 Km
	legislation for their ecological, landscape, cultural or other related value	Ν
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Girija River
	forests	Wet Land Not Notified for
		district,
		Biosphere -Pachmadi-330 km NE

		Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.814 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Khalsa -0.814 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Girija Lease 1.045 ha comprises of river bed of Girija river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.
Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.50 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9'	75°48'
	Rhaisa							10.0124 N	9.5415 E



Approach road available over pandan rd of 1225 connecting Valsa Davargaon Rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.5 m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Valsa Khalsa(Girija) Sand Ghat:

Sl.	Areas	
No.		
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.87 km E
2	Distance from infrastructural facilities	Bhokardan –10.5 Km NW
	Railway line	31.2 km S
	National Highway	NH211-51.3 Km SW
	State Highway	SH178–12 Km N
	Major District Road	Sillod Jalna Rd–1.8 Km E
	Any Other Road	Vil Pd 0 002 km W
	Electric transmission line pole or tower	14.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam $= 1.634$ Km SF
	In-take for drinking water pump house	1 634 Km SE
	Intake for Irrigation canal pumps	1.634 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -96 Km N

10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.814 Km NW
11	Areas occupied by sensitive man-made land uses	Bhokardan-10 Km NW
	(hospitals, schools, places of worship, community facilities)	Valsa Khalsa -0.814 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	475m x 22 m x 0.50 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

BP	Latitude	Longitute
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	 बद	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					Ha	LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Valsa Khalsa and ghat proposed (over Dhamna river) in Bhokardan taluka is one of the four sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Bhokardan and adjoining areas of other talukas. All four sand ghats are on Girija river. Details of Bhokardan taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9'	75°48'
	Khalsa							16.6124"N	9.5415"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitute
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.87 km E
2	Distance from infrastructural facilities	Bhokardan –10.5 Km NW
	Railway line	31.2 km S
	National Highway	NH211-51.3 Km SW
	State Highway	SH178–12 Km N
	Major District Road	Sillod Jalna Rd–1.8 Km E
	Any Other Road	Vil Rd-0 993 km W
	Electric transmission line pole or tower	14.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 1.634 Km SE
	In-take for drinking water pump house	1.634 Km SE
	Intake for Irrigation canal pumps	1.634 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.814 Km NW

Table 3.0 Environmental Sensitivity of Sand Ghat :

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Khalsa -0.814 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 1225m connecting Valsa Devergaon rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Bhokardan Tahsil. District Mining Officer Jalna has proposed for the production of 1846 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"F
								10.0124 1	5.5 FIS E

Surface Plan for Valsa Khalsa Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading
 The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	475mx22mx0.5m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	



Production Plan for Valsa Khalsa Girija Sand Ghat :

2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

About 28 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day	
Dust suppression/ Plantation	1.0	
Domestic Use	0.560	
Total	1.560	

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	10450
Area under dumps	00	00
Undisturbed Area	10450	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 1846 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 14784 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	14784 TPA
Operational Days per Year	260 Days
Lead (m)	1225 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.084651065
Total	0.084651065

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.6694µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Valsa Khalsa	Bhokardan	Girija	0.6694µgm/cum

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.
- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.5m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Girija River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Valsa Khalsa sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute



Siltation is mapped for the rivers using slope –discharge-silt formula as below

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method			
	Theoretical	Last Year	This Year Deposition	
	in m ³	Deposition	in m ³	
		in m ³		
			5005	
Javkheda Theng	1675	3270(Yr 17-18)	5225	

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Girija. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 14.20 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.6694 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Girija or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 1463 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 14.20 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	245000
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water spraying. 		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			• Health Checkup of Employees		10000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. Barriers & Traffic Management Expenses 	(7 tarpaulin) 7 tractors @ Rs. 500/tractor • Excluding Man Power Salary which is	35000 3500 10000
				included in labour costs	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			• Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	• Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	238 Nos.	119000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	1225 Nos.	612500
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
•	Total in Rs				

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Javkheda Thombari Sand Ghat, River Purna

(ix) Location / site (GPS Co-ordinates) : Javkheda Thombari, Tq Bhokardan, Gut No. 312,313,314,326,327

BP	Latitude	Longitute
BP-1	20°8' 43.5877"N	75°51' 19.9251"E
BP-2	20°8' 41.3149"N	75°51' 39.9996"E
BP-3	20°8' 40.023"N	75°51' 39.8356"E
BP-4	20°8' 42.2958"N	75°51' 19.7611"E

(x) Size of the Mining Lease (Hectare) : 2.34 Ha

- (xi) Capacity of Mining Lease (TPA): 33221 TPA, 4148 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 10535920
- (xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -3.7 km W
2	Distance from infrastructural facilities	Bhokardan –14.5 Km NW
	Railway line	32 km S
	National Highway	NH211-55 Km SW
	State Highway	SH178–13.11 Km N
	Major District Road	Sillod Jalna Rd–3.6 Km W
	Any Other Road	Vil Rd-0.358 km N
	Electric transmission line pole or tower	18.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 2.5 Km NE
	In-take for drinking water pump house	2.5 Km NE
	Intake for Irrigation canal pumps	2.5 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 42 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Girija River-5.55 W Wet Land Not Notified for
	forests	district.
		Biosphere -Pachmadi-330 km NE
		Mountains Govilgad Hill range
		46 Km NE

5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 42 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -108 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -98 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Thombari -1.5 Km NW
11	Areas occupied by sensitive man-made land uses	Bhokardan-14.5 Km NW
	(hospitals, schools, places of worship, community facilities)	Javkheda Thombari -1.5 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

(Signature of Project ProponentAlong with name and address)

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Purna Lease over 2.34 ha comprises of river bed of Purna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.50 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Javkheda	Bhokardan	Purna	312,313,314,	2.34	587 x 40 x 0.5	4148	20°8'	75°51'
	Thombri			326,327				43.5877"N	19.9251"E



Approach road available over pandan rd of 1102m connecting Nalni rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Javkheda	Bhokardan	Purna	312,313,314,	2.34	587 x 40 x 0.5	4148	20°8'	75°51'
	Thombri			326,327				43.5877"N	19.9251"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.760		
Total	1.760		

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.5 m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee.
Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Javkheda Thombari Sand Ghat:

SI.	Areas	
No.		
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -3.7 km W
2	Distance from infrastructural facilities	Bhokardan –14.5 Km NW
	Railway line	32 km S
	National Highway	NH211-55 Km SW
	State Highway	SH178–13.11 Km N
	Major District Road	Sillod Jalna Rd–3.6 Km W
	Any Other Road	Vil Dd 0 258 km N
	Electric transmission line pole or tower	18.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam 2.5 Km NE
	In-take for drinking water pump house	2.5 Km NE
	Intake for Irrigation canal pumps	2.5 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 42 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River-5.55 W Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 42 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -108 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -98 Km N

10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Thombari -1.5 Km NW
11	Areas occupied by sensitive man-made land uses	Bhokardan-14.5 Km NW
	(hospitals, schools, places of worship, community facilities)	Javkheda Thombari -1.5 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	587m x 40 m x 0.50 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

BP	Latitude	Longitute
BP-1	20°8' 43.5877"N	75°51' 19.9251"E
BP-2	20°8' 41.3149"N	75°51' 39.9996"E
BP-3	20°8' 40.023"N	75°51' 39.8356"E
BP-4	20°8' 42.2958"N	75°51' 19.7611"E



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	 बद	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Javkheda Thombari and ghat proposed (over Dhamna river) in Bhokardan taluka is one of the four sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Bhokardan and adjoining areas of other talukas. All four sand ghats are on Purna river. Details of Bhokardan taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitute
BP-1	20°8' 43.5877"N	75°51' 19.9251"E
BP-2	20°8' 41.3149"N	75°51' 39.9996"E
BP-3	20°8' 40.023"N	75°51' 39.8356"E
BP-4	20°8' 42.2958"N	75°51' 19.7611"E

Sl.	Areas	
NO.		Distance in kilometer / Deteile
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -3.7 km W
	concerned River, Rivulet, Nallah etc.	
2	Distance from infrastructural facilities	Bhokardan –14.5 Km NW
	Railway line	32 km S
	National Highway	NH211-55 Km SW
	State Highway	SH178–13.11 Km N
	Major District Road	Sillod Jalna Rd–3.6 Km W
	Any Other Road	Vil Rd-0 358 km N
	Electric transmission line pole or tower	18.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 2.5 Km NE
	In-take for drinking water pump house	2.5 Km NE
	Intake for Irrigation canal pumps	2.5 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 42 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands.	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Girija River-5.55 W Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 42 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -108 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -98 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Thombari -1.5 Km NW

Table 3.0 Environmental Sensitivity of Sand Ghat :

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-14.5 Km NW Javkheda Thombari -1.5 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 1102 m connecting Nalni rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Bhokardan Tahsil. District Mining Officer Jalna has proposed for the production of 4148 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

Surface Plan for Javkheda Thomabri Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading
 The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	587mx40mx0.5m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	



Production Plan for Javkheda Thomabri Sand Ghat :

2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	5
3	Mining Labors	15
4	Ramp Maintenance	5
6	Support Staff/Labors	10
	Total	38

About 38 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day	
Dust suppression/ Plantation	1.0	
Domestic Use	0.760	
Total	1.760	

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	23400
Area under dumps	00	00
Undisturbed Area	23400	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 4148 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 33221 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	33221 TPA
Operational Days per Year	260 Days
Lead (m)	1102 m

Predicted Emission

Activity	Emission rate gm/sec		
Transportation	0.190212685		
Total	0.190212685		

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.6670µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Javkheda	Bhokardan	Purna	0.6670µgm/cum
	Thomabri			

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.5m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Purna River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Jawkheda Thomabri sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute



Siltation is mapped for the rivers using slope –discharge-silt formula as below

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method			
	Theoretical	Last Year	This Year Deposition	
	in m ³	Deposition in m ³	in m ³	
Javkheda Thomabri	4109	7180(Yr 18-19)	11740	

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26
3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu,sipnas,wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Purna. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 14.20 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.6670 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure	
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village. 	
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed 	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only. 	
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Purna or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 1395 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 14.20 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

Impact Source	Impact	Control measure	Particulars	
			/Qty.	Budget/Cost
				in RS.
Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	220400
	On Land /			
	Rd stability/	· Proper		25000
		maintenance.		
	Rd degradation	 Regular water spraying. 		100000
		• Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
		 Health Checkup of Employees 		20000
	Impact Source Transport Road	Impact Source Impact Transport Road On Air Quality On Land / Rd stability/ Rd degradation	Impact Control measure Transport Road On Air Quality · Compaction, gradation and drainage on both sides On Land / Rd stability/ · Proper maintenance. Rd degradation · Regular water spraying. · Air quality will be monitoring at impacted village. · Health Checkup of Employees · Health Checkup of Employees	Impact SourceImpactControl measureParticulars /Qty.Transport RoadOn Air Quality· Compaction, gradation and drainage on both sides(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/KmOn Land / Rd stability/· Proper maintenance.(For One Day Monitoring at impacted village.· Health Checkup of Employees· Health Checkup of Employees(For One Day Monitoring)

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. Barriers & Traffic Management Expenses 	(16 tarpaulin) 16 tractors @ Rs. 500/tractor · Excluding Man Power	80000 8000 10000
				Salary which is included in labour costs	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	 Green belt along bank 		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	293 Nos.	146500
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	1102 Nos.	551000
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
•	Total in Rs			1420900	

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Badhan Bk. Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Badhan Bu., Tq Jalna, Gut No. 167,166,165,164,162,161

BP	Latitude	Longitute
BP-1	19°42' 48.9773"N	75°52' 42.9883"E
BP-2	19°42' 52.3277"N	75°52' 45.9918"E
BP-3	19°42' 53.3068"N	75°52' 48.1736"E
BP-4	19°42' 52.5334"N	75°52' 58.575"E
BP-5	19°42' 51.1394"N	75°53' 1.9098"E
BP-6	19°42' 48.1891"N	75°53' 3.9386"E
BP-7	19°42' 47.834"N	75°53' 3.363"E
BP-8	19°42' 50.6223"N	75°53' 1.4456"E
BP-9	19°42' 51.8935"N	75°52' 58.4046"E
BP-10	19°42' 52.6447"N	75°52' 48.3013"E
BP-11	19°42' 51.8118"N	75°52' 46.4306"E
BP-12	19°42' 48.5567"N	75°52' 43.5124"E

- (x) Size of the Mining Lease (Hectare) : 1.40 Ha
- (xi) Capacity of Mining Lease (TPA): 19806 TPA, 2473 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 6281420
- (xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.4 km W
2	Distance from infrastructural facilities	Jalna –13.5 Km N
	Railway line	8.1 km NE
	National Highway	NH211-27.8 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Ambad Jalna Rd–5.2 Km W
	Any Other Road	Vil Rd-0.175 km N
	Electric transmission line pole or tower	1.9 km NW
	Canal or check dam or reservoirs or lake or ponds	Check dam – 1.99 Km SE
	In-take for drinking water pump house	1.95 Km NE

	Intake for Irrigation canal pumps	1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Badhan Bu0.420 Km NW
11	Areas occupied by sensitive man-made land uses	Jalna –13.5 Km N
	(hospitals, schools, places of worship, community facilities)	Badhan Bu0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No

 18 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No
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(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.40 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.50 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165,	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E



Approach road available over pandan rd of 507m connecting Badhan Bu rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in Ha		Sand in		
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.5 m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Badhan Bu Sand Ghat:

Sl.	Areas	
No.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.4 km W
2	Distance from infrastructural facilities	Jalna –13.5 Km N
	Railway line	8.1 km NE
	National Highway	NH211-27.8 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Ambad Jalna Rd–5.2 Km W
	Any Other Road	Vil Dd 0 175 km N
	Electric transmission line nole or tower	VII Kd-0.175 Km N
	Canal or check dam or reservoirs or lake or ponds	1.9 km N w
	In-take for drinking water nump house	1.05 Km NE
	Intake for Irrigation canal numps	1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	

9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Badhan Bu0.420 Km NW
11	Areas occupied by sensitive man-made land uses	Jalna –13.5 Km N
	(hospitals, schools, places of worship, community facilities)	Badhan Bu0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165,	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E
				164,162,161					

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	700m x 20 m x 0.50 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°42' 48.9773"N	75°52' 42.9883"E
BP-2	19°42' 52.3277"N	75°52' 45.9918"E
BP-3	19°42' 53.3068"N	75°52' 48.1736"E
BP-4	19°42' 52.5334"N	75°52' 58.575"E
BP-5	19°42' 51.1394"N	75°53' 1.9098"E
BP-6	19°42' 48.1891"N	75°53' 3.9386"E
BP-7	19°42' 47.834"N	75°53' 3.363"E
BP-8	19°42' 50.6223"N	75°53' 1.4456"E
BP-9	19°42' 51.8935"N	75°52' 58.4046"E
BP-10	19°42' 52.6447"N	75°52' 48.3013"E
BP-11	19°42' 51.8118"N	75°52' 46.4306"E
BP-12	19°42' 48.5567"N	75°52' 43.5124"E



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	 बद	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
	--	700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series
Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
110.	Sana Shat				 Lla	1 5 5 (3)	Brass	1	
					Па	LxBxD (m ⁻)	DIdSS	Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165,	1.40	700 x 20 x 0.5	2473	19°42'	75°52'
								48.9773"N	42.9883"E
				164,162,161					

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31

26	3.1.11	Occupational Health	31
27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Badhan Bu and ghat proposed (over Dudhna river) in Jalna taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Jalna and adjoining areas of other talukas. All six sand ghats are on Dudhna river. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165,	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E
				164,162,161					

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°42' 48.9773"N	75°52' 42.9883"E
BP-2	19°42' 52.3277"N	75°52' 45.9918"E
BP-3	19°42' 53.3068"N	75°52' 48.1736"E
BP-4	19°42' 52.5334"N	75°52' 58.575"E
BP-5	19°42' 51.1394"N	75°53' 1.9098"E
BP-6	19°42' 48.1891"N	75°53' 3.9386"E
BP-7	19°42' 47.834"N	75°53' 3.363"E
BP-8	19°42' 50.6223"N	75°53' 1.4456"E
BP-9	19°42' 51.8935"N	75°52' 58.4046"E
BP-10	19°42' 52.6447"N	75°52' 48.3013"E
BP-11	19°42' 51.8118"N	75°52' 46.4306"E
BP-12	19°42' 48.5567"N	75°52' 43.5124"E

Sl.	Areas	
No.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.4 km W
2	Distance from infrastructural facilities	Jalna –13.5 Km N
	Railway line	8.1 km NE
	National Highway	NH211-27.8 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Ambad Jalna Rd–5.2 Km W
	Any Other Road	Vil Rd-0 175 km N
	Electric transmission line pole or tower	1.9 km NW
	Canal or check dam or reservoirs or lake or ponds	Check dam – 1.99 Km SE
	In-take for drinking water pump house	1.95 Km NE
	Intake for Irrigation canal pumps	1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Badhan Bu0.420 Km NW
11	Areas occupied by sensitive man-made land uses	Jalna –13.5 Km N

Table 3.0 Environmental Sensitivity of Sand Ghat :

	(hospitals, schools, places of worship, community facilities)	Badhan Bu0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 507 m connecting Basdhan rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 2473 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E

Surface Plan for Badhan Bu Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading
 The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	700mx20mx0.5m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	



Production Plan for Badhan Bu Sand Ghat :

2.3 Manpower Requirement

About 28 labors are required to carry out the scooping activity.

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day	
Dust suppression/ Plantation	1.0	
Domestic Use	0.560	
Total	1.560	

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

Area	Existing Land Use	Proposed Land Use
	sq. m.	sq. m.
Area under pits	00	14000
Area under dumps	00	00
Undisturbed Area	14000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 2473 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 19806 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	19806 TPA
Operational Days per Year	260 Days
Lead (m)	507 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.113403079
Total	0.113403079

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.6694µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Badhan Bu	Jalna	Dudhna	0.6694µgm/cum

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.5m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Dudhna River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Badhan Bu sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below



cum/minute

Siltation is mapped for the rivers using slope –discharge-silt formula as below



[#] In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical	Last Year	This Year Deposition
	in m ³	Deposition	in m ³
		in m ³	
Javkheda Theng	2450	4920(Yr 18-19)	7000

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil

from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu,sipnas,wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to have a green belt along the bank. For which appropriate species of plants that suits the geo-

climatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months. Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Dudhna. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 9.89 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.6694 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Dudhna or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 857 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.
4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 9.89 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality On Land /	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	101400
		Rd stability/	· Proper		25000
		Rd degradation	· Regular water spraying.		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			• Health Checkup of Employees		10000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. Barriers & Traffic 	(10 tarpaulin) 10 tractors @ Rs. 500/tractor · Excluding	50000 5000 10000
			Management Expenses	Man Power Salary which is included in labour costs	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	• Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	350 Nos.	175000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	507 Nos.	253500
6	Final Mine Closer Plan implementation	Replenishment of Sand	Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
•	Total in Rs				989900

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Golapangari Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Golapangari, Tq Jalna, Gut No. 139,140,11,112

BP	Latitude	Longitute
BP-1	19°43' 24.8192"N	75°50' 15.8327"E
BP-2	19°43' 21.6897"N	75°50' 18.3053"E
BP-3	19°43' 19.7328"N	75°50' 21.3232"E
BP-4	19°43' 10.8681"N	75°50' 30.1098"E
BP-5	19°43' 10.4211"N	75°50' 29.6105"E
BP-6	19°43' 19.2353"N	75°50' 20.8745"E
BP-7	19°43' 21.2121"N	75°50' 17.8259"E
BP-8	19°43' 24.4248"N	75°50' 15.2862"E

(x) Size of the Mining Lease (Hectare) : 1.20 Ha

(xi) Capacity of Mining Lease (TPA): 13586 TPA, 1696 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 4307840

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

SI.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.0.5 km NW
2	Distance from infrastructural facilities	Jalna –13.5 Km N
	Railway line	8.1 km NE
	National Highway	NH211-27.8 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Ambad Jalna Rd–5.2 Km W
	Any Other Road	Vil Rd-0.175 km N
	Electric transmission line pole or tower	1.9 km NW
	Canal or check dam or reservoirs or lake or ponds	Check dam – 1.99 Km SE
	In-take for drinking water pump house	1.95 Km NE
	Intake for Irrigation canal pumps	1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological landscape, cultural or other related value	Gautala Wildlife Santury 82 Km
	registation for then ecological, landscape, cultural of other related value	
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Wet Land Not Notified for

	forests	district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Golapangari -0.420 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –13.5 Km N Golapangari -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140,	1.20	600 x 20 x 0.5	1696	19°43'	75°50'
				111,112				24.8192"N	15.8327"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.20 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.50 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	1696	19°43' 24.8192"N	75°50' 15.8327"E
				111,112				24.8192"N	15



Approach road available over pandan rd of 743m connecting Gopalpangri rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140,	1.20	600 x 20 x 0.5	1696	19°43'	75°50'
				111,112				24.8192"N	15.8327"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.560		
Total	1.560		

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.5 m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

SI. Areas No. **Distance in kilometer / Details** Distance of project site from nearest rail or road bridge over the Bridge on river -1.0.5 km NW 1 concerned River, Rivulet, Nallah etc. Distance from infrastructural facilities 2 Jalna –13.5 Km N Railway line 8.1 km NE National Highway NH211-27.8 Km SW State Highway SH30-14.5 Km N Major District Road Ambad Jalna Rd-5.2 Km W Any Other Road Vil Rd-0.175 km N Electric transmission line pole or tower 1.9 km NW Canal or check dam or reservoirs or lake or ponds Check dam – 1.99 Km SE In-take for drinking water pump house 1.95 Km NE Intake for Irrigation canal pumps 1.95 Km NE Gautala Wildlife Santury 82 Km 3 Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value NW Areas which are important or sensitive for ecological reasons - Wetlands, Purna river 4 Dudhna River watercourses or other water bodies, coastal zone, biospheres, mountains, Wet Land Not Notified for forests district. Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N Areas used by protected, important or sensitive species of flora or fauna 5 Gautala Wildlife Santury 82 Km forbreeding, nesting, foraging, resting, over wintering, migration NW 6 Inland, coastal, marine or underground waters Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West 7 State, National boundaries Madhyapradesh -155 Km N Routes or facilities used by the public for access to recreation or other 8 --tourist, pilgrim areas

Details of Environmental Sensitivity for Gopalpangri Sand Ghat:

9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Golapangari -0.420 Km NW
11	Areas occupied by sensitive man-made land uses	Jalna –13.5 Km N
	(hospitals, schools, places of worship, community facilities)	Golapangari -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	1696	19°43' 24.8192"N	75°50' 15.8327"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	600m x 20 m x 0.50 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

Sr. No.	Latitude	Longitude			
BP-1	19°43' 24.8192"N	75°50' 15.8327"E			
BP-2	19°43' 21.6897"N	75°50' 18.3053"E			
BP-3	19°43' 19.7328"N	75°50' 21.3232"E			
BP-4	19°43' 10.8681"N	75°50' 30.1098"E			
BP-5	19°43' 10.4211"N	75°50' 29.6105"E			
BP-6	19°43' 19.2353"N	75°50' 20.8745"E			
BP-7	19°43' 21.2121"N	75°50' 17.8259"E			
BP-8	19°43' 24.4248"N	75°50' 15.2862"E			



Annexure -1 : Details of Sand Ghat

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			(m)		(11)		
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1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
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		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
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9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
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11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
	--	700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
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Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	Jalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	2540	19°43' 24.8192"N	75°50' 15.8327"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Golapangri and ghat proposed (over Dudhna river) in Jalna taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Jalna and adjoining areas of other talukas. All six sand ghats are on Dudhna river. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140,	1.20	600 x 20 x 0.5	2540	19°43'	75°50'
				111,112				24.8192"N	15.8327"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°43' 24.8192"N	75°50' 15.8327"E
BP-2	19°43' 21.6897"N	75°50' 18.3053"E
BP-3	19°43' 19.7328"N	75°50' 21.3232"E
BP-4	19°43' 10.8681"N	75°50' 30.1098"E
BP-5	19°43' 10.4211"N	75°50' 29.6105"E
BP-6	19°43' 19.2353"N	75°50' 20.8745"E
BP-7	19°43' 21.2121"N	75°50' 17.8259"E
BP-8	19°43' 24.4248"N	75°50' 15.2862"E

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -1.0.5 km NW
	concerned River, Rivulet, Nallah etc.	
2	Distance from infrastructural facilities	Jalna –13.5 Km N
	Railway line	8.1 km NE
	National Highway	NH211-27.8 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Ambad Jalna Rd–5.2 Km W
	Any Other Road	Vil Rd 0 175 km N
	Electric transmission line pole or tower	1.9 km NW
	Canal or check dam or reservoirs or lake or ponds	Check dam $= 1.99$ Km SF
	In-take for drinking water pump house	1 95 Km NF
	Intake for Irrigation canal pumps	1.95 Km NF
3	Areas protected under international conventions, national or local	Gautala Wildlife Santury 82 Km
	legislation for their ecological, landscape, cultural or other related value	NW
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Purna river
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Dudhna River
	forests	Wet Land Not Notified for district
		Biosphere -Pachmadi-364 km NE
		Mountains Dyanganga Hill range
		93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna	Gautala Wildlife Santury 82 Km
	Tororeeding, nesting, roraging, resting, over wintering, ingration	
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km
		Dudhna River
		Coastal Area 330 Km West
	State National hour device	Marine Water -320 Km West
	Davide on facilities used by the multiplication section and the	Madhyapradesh -155 Km N
8	tourist, pilgrim areas	
9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Golapangari -0.420 Km NW
11	Areas occupied by sensitive man-made land uses	Jalna –13.5 Km N

Table 3.0 Environmental Sensitivity of Sand Ghat :

	(hospitals, schools, places of worship, community facilities)	Golapangari -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No
Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 743 m connecting Golapangri rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 1696 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location		
					На	LxBxD (m ³)	Brass	Latitude	Longitude	
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	1696	19°43' 24.8192"N	75°50' 15.8327"E	

Surface Plan for Golapangri Sand Ghat:

	ur Lattado Lacolistos	IBP3 19:447 3 4467741 3550 1550075 IBP3 19:447 3 14667741 1550 1550075 IBP4 19:447 3 1666774 1550 3100765	tests 1944 194						•	Plate No.			Muturicolarpargn' To, Jana Det: Járna (Mahasanthas) Area = 1.20 ha, Date of Suvey: 28.01.21	OWARRY LEASE FOR EXPOSED SAND DEPOSITE GRANTED TO DISTINCT MANAGO OF INCER SUCCESSIST, BEDGER CENTRIED THAT THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTIMENTIONTED BY THE STATE	GOVT. (3CALE - 1400) THIS IS TO CERTEY THAT TO THE REST OF MY XHOM FIDDE	AND BELIEF THIS PLANIS CORRECT	SIGN OF R. G. P.	A. P. SARAF ROPNGPN672013/A
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2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	600mx20mx0.40m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	

Production Plan for Golapingri Sand Ghat :



2.3 Manpower Requirement

About 28 labors are required to carry out the scooping activity.

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.560		
Total	1.560		

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

Area	Existing Land Use	Proposed Land Use
	sq. m.	sq. m.
Area under pits	00	12000
Area under dumps	00	00
Undisturbed Area	12000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.





Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually.. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 1696 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 13586 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	13586 TPA
Operational Days per Year	260 Days
Lead (m)	743 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.077772593
Total	0.077772593

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.8366µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Golapangri	Jalna	Dudhna	0.8366µgm/cum

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.4m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Dudhna River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Golapangri sand ghat is 0.4m keeping 2.0m bed depth of sand. Total Sand depth available is 2.4m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute



Siltation is mapped for the rivers using slope –discharge-silt formula as below

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method				
	Theoretical	Last Year	This Year Deposition		
	in m ³	Deposition	in m ³		
		in m ³			
Javkheda Theng	1200	4920(Yr 18-19)	4800		

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu,sipnas,wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Dudhna. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 11.13 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.8366 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Dudhna or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 1043 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 11.13 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	148600
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water spraying. 		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		10000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. Barriers & Traffic Management Expenses 	(7 tarpaulin) 7 tractors @ Rs. 500/tractor • Excluding Man Power	35000 3500 10000
				labour costs	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			• Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	 Green belt along bank 		
		Flood Plain management	Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	300 Nos.	150000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	743 Nos.	371500
6	Final Mine Closer Plan implementation	Replenishment of Sand	Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

5	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000	
•	Total in Rs					

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Pachanvadgaon Sand Ghat, River Kundalika

(ix) Location / site (GPS Co-ordinates) : Pachanvadgaon, Tq Jalna, Gut No. 474,39,272,271,270,269,259

BP	Latitude	Longitute
BP-1	19°47' 12.4417"N	75°57' 3.8812"E
BP-2	19°47' 5.1153"N	75°57' 7.0245"E
BP-3	19°46' 57.1618"N	75°57' 6.7567"E
BP-4	19°46' 52.9896"N	75°57' 8.0524"E
BP-5	19°46' 47.1882"N	75°57' 12.1366"E
BP-6	19°46' 42.2249"N	75°57' 18.7422"E
BP-7	19°46' 35.0059"N	75°57' 26.2404"E
BP-8	19°46' 34.5479"N	75°57' 25.7523"E
BP-9	19°46' 41.6544"N	75°57' 18.3667"E
BP-10	19°46' 46.7428"N	75°57' 11.6242"E
BP-11	19°46' 52.7112"N	75°57' 7.4225"E
BP-12	19°46' 57.0783"N	75°57' 6.0663"E
BP-13	19°47' 4.9983"N	75°57' 6.3329"E
BP-14	19°47' 12.1969"N	75°57' 3.2444"E

(x) Size of the Mining Lease (Hectare) : 2.80 Ha

- (xi) Capacity of Mining Lease (TPA): 39620 TPA, 4947 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 12565380
- (xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.567 km NW
2	Distance from infrastructural facilities	Jalna –8.5 Km NW
	Railway line	2.15 km SW
	National Highway	NH211-37.5 Km SW
	State Highway	SH177–7.8 Km N
	Major District Road	Jalna Punegaon Rd–3.45 KmW
	Any Other Road	Vil Rd-0.04 km W
	Electric transmission line pole or tower	11.3 km NW
	Canal or check dam or reservoirs or lake or ponds	Check dam – 0.132 Km SE

	In-take for drinking water pump house	2.334 Km NW
	Intake for Irrigation canal pumps	2.334 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 81 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 9.7 Km SW Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-353 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 81 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 9.7 Km SW Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -147 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -160 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Pachanvadgaon -0.162 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –8.5 Km NW Pachanvadgaon -0.052 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 9.7 Km SW Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. Forest land involved (hectares) 	Not within 5 km study area
17	Forest land involved (hectares)	No

18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?(a) Name of the Court(b) Case No.(c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021
Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Kundlika Lease 2.80 ha comprises of river bed of Kundalika river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.50 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

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There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

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River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E



Approach road available over pandan rd of 223m connecting Pachanvadgaon rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr.	Name of Sand	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.5 m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Pachanvadgaon Sand Ghat:

SI.	Areas	
No.		
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.567 km NW
2	Distance from infrastructural facilities Railway line National Highway	Jalna –8.5 Km NW 2.15 km SW NH211-37.5 Km SW
	State Highway Major District Road Any Other Road	SH177–7.8 Km N Jalna Punegaon Rd–3.45 KmW Vil Rd-0.04 km W
	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	11.3 km NW Check dam – 0.132 Km SE 2.334 Km NW 2.334 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 81 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 9.7 Km SW Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-353 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 81 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 9.7 Km SW Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -147 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -160 Km NW

10	Densely populated or built-up area, distance from nearest human habitation	Pachanvadgaon -0.162 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –8.5 Km NW
	(hospitals, schools, places of worship, community facilities)	Pachanvadgaon -0.052 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 9.7 Km SW Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	1400m x 20 m x 0.50 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

BP	Latitude	Longitute
BP-1	19°47' 12.4417"N	75°57' 3.8812"E
BP-2	19°47' 5.1153"N	75°57' 7.0245"E
BP-3	19°46' 57.1618"N	75°57' 6.7567"E
BP-4	19°46' 52.9896"N	75°57' 8.0524"E
BP-5	19°46' 47.1882"N	75°57' 12.1366"E
BP-6	19°46' 42.2249"N	75°57' 18.7422"E
BP-7	19°46' 35.0059"N	75°57' 26.2404"E
BP-8	19°46' 34.5479"N	75°57' 25.7523"E
BP-9	19°46' 41.6544"N	75°57' 18.3667"E
BP-10	19°46' 46.7428"N	75°57' 11.6242"E
BP-11	19°46' 52.7112"N	75°57' 7.4225"E
BP-12	19°46' 57.0783"N	75°57' 6.0663"E
BP-13	19°47' 4.9983"N	75°57' 6.3329"E
BP-14	19°47' 12.1969"N	75°57' 3.2444"E



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr.	Name of Sand	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29

25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31
27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Pachanvadgaon and ghat proposed (over Jalna river) in Kundalika taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Kundalika and adjoining areas of other talukas. All six sand ghats are on Jalna river. Details of Kundalika taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr.	Name of Sand	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitute
BP-1	19°47' 12.4417"N	75°57' 3.8812"E
BP-2	19°47' 5.1153"N	75°57' 7.0245"E
BP-3	19°46' 57.1618"N	75°57' 6.7567"E
BP-4	19°46' 52.9896"N	75°57' 8.0524"E
BP-5	19°46' 47.1882"N	75°57' 12.1366"E
BP-6	19°46' 42.2249"N	75°57' 18.7422"E
BP-7	19°46' 35.0059"N	75°57' 26.2404"E
BP-8	19°46' 34.5479"N	75°57' 25.7523"E
BP-9	19°46' 41.6544"N	75°57' 18.3667"E
BP-10	19°46' 46.7428"N	75°57' 11.6242"E
BP-11	19°46' 52.7112"N	75°57' 7.4225"E
BP-12	19°46' 57.0783"N	75°57' 6.0663"E
BP-13	19°47' 4.9983"N	75°57' 6.3329"E
BP-14	19°47' 12.1969"N	75°57' 3.2444"E

Sl.	Areas	
No.		
		Distance in kilometer / Details
	concerned River, Rivulet, Nallah etc.	Bridge on river -1.367 km N w
2	Distance from infrastructural facilities	Jalna –8.5 Km NW
	Railway line	2.15 km SW
	National Highway	NH211-37.5 Km SW
	State Highway	SH177–7.8 Km N
	Major District Road	Jalna Punegaon Rd–3.45 KmW
	Any Other Road	Vil Rd 0.04 km W
	Electric transmission line nole or tower	11.2 km NW
	Canal or check dam or reservoirs or lake or ponds	Check dam 0.132 Km SE
	In-take for drinking water nump house	2 324 Km NW
	Intake for Irrigation canal pumps	2.334 Km NW
3	Areas protected under international conventions national or local	2.554 KIII N W Gautala Wildlife Santury 81 Km
5	legislation for their ecological, landscape, cultural or other related value	NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 9.7 Km SW Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-353 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 81 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 9.7 Km SW Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -147 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -160 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Pachanvadgaon -0.162 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –8.5 Km NW

Table 3.0 Environmental Sensitivity of Sand Ghat :

	(hospitals, schools, places of worship, community facilities)	Pachanvadgaon -0.052 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 9.7 Km SW Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 223m connecting Pachanvadgaon rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 4947 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

Surface Plan for Pachanvadgaon Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	1400mx20mx0.5m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	



Production Plan for Pachanvadgaon Sand Ghat :

2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	38

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.760		
Total	1.760		

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	28000
Area under dumps	00	00
Undisturbed Area	28000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.
Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.





Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually.. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 4947 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 39620 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	39620 TPA
Operational Days per Year	260 Days
Lead (m)	223 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.226852014
Total	0.226852014

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.6693µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted	
No.	Village		River	incremental GLC	
				in terms of PM_{10}	
1	Pachanvadgaon	Jalna	Kundlika	0.6693µgm/cum	

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.5m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Kundlika River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Pachanvadgaon sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute



Siltation is mapped for the rivers using slope –discharge-silt formula as below

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method			
	Theoretical	Last Year	This Year Deposition	
	in m ³	Deposition	in m ³	
		in m ³		
Javkheda Theng	2940	5170(Yr 18-19)	14000	

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Kundalika. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 10.25 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.6693 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure	
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village. 	
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed 	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only. 	
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Kundalika or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 923 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 10.25 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	44600
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water spraying. 		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			• Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. Barriers & Traffic Management Exponses 	(19 tarpaulin) 19 tractors @ Rs. 500/tractor • Excluding Map Power	95000 9500 10000
				Salary which is included in labour costs	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			• Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	• Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	700 Nos.	350000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	223 Nos.	111500
6	Final Mine Closer Plan implementation	Replenishment of Sand	Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
•	Total in Rs				1025600

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Kautha Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Kautha, Tq Jalna, Gut No. 39 to 45, 48

Sr. No.	Latitude	Longitude			
BP-1	19°41' 8.6429"N	76°6' 37.3594"E			
BP-2	19°41' 18.2092"N	76°6' 45.8436"E			
BP-3	19°41' 21.2366"N	76°6' 50.3415"E			
BP-4	19°41' 21.5033"N	76°6' 54.2209"E			
BP-5	19°41' 16.9471"N	76°7' 5.5258"E			
BP-6	19°41' 16.2886"N	76°7' 5.23"E			
BP-7	19°41' 20.777"N	76°6' 54.0933"E			
BP-8	19°41' 20.5373"N	76°6' 50.6069"E			
BP-9	19°41' 17.6788"N	76°6' 46.3598"E			
BP-10	19°41' 8.1823"N	76°6' 37.9377"E			

- (x) Size of the Mining Lease (Hectare) : 2.20 Ha
- (xi) Capacity of Mining Lease (TPA): 49807 TPA, 6219 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 15796260
- (xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.337 km SE
2	Distance from infrastructural facilities	Jalna –28 Km NW
	Railway line	4.11 km SW
	National Highway	NH211-49 Km SW
	State Highway	SH173–14 Km NE
	Major District Road	Jintur Jalna Rd–3.33 Km N
	Any Other Road	Vil Rd-0.352 km N
	Electric transmission line pole or tower	1.1 km N
	Canal or check dam or reservoirs or lake or ponds	Check dam – 0.715 Km SE
	In-take for drinking water pump house	1.03 Km SE
	Intake for Irrigation canal pumps	0.715 Km SE

3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related valueGautala Wildlife Santury NW				
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 2.8 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-350 km NE Mountains Dyanganga Hill range 92 Km N			
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 101 Km NW			
6	Inland, coastal, marine or underground waters	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West			
7	State, National boundaries	Madhyapradesh -154 Km N			
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas				
9	Defence installations	Varangaon OF -157 Km NW			
10	Densely populated or built-up area, distance from nearest human habitation	Kautha -0.981 Km SE			
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –28 Km NW Kautha -0.981 Km SE			
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West			
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area			
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area			
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area			
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area			
/	rorest failu illivorveu (lieutares)	No			

18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?(a) Name of the Court(b) Case No.(c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41'	76°6'
								8.6429"N	37.3594"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 2.2 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.80 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41'	76°6'
								8.6429"N	37.3594"E


Approach road available over pandan rd of 457m connecting Kautha Vazar rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41'	76°6'
								8.6429"N	37.3594"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.960m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.960
Total	1.960

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.8 m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 48 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 48 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

SI. Areas No. **Distance in kilometer / Details** Distance of project site from nearest rail or road bridge over the Bridge on river -1.337 km SE 1 concerned River, Rivulet, Nallah etc. Distance from infrastructural facilities 2 Jalna –28 Km NW Railway line 4.11 km SW National Highway NH211-49 Km SW State Highway SH173-14 Km NE Major District Road Jintur Jalna Rd-3.33 Km N Any Other Road Vil Rd-0.352 km N Electric transmission line pole or tower 1.1 km N Canal or check dam or reservoirs or lake or ponds Check dam – 0.715 Km SE In-take for drinking water pump house 1.03 Km SE Intake for Irrigation canal pumps 0.715 Km SE Gautala Wildlife Santury 101 Km 3 Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value NW Kundalika river – 2.8 Km NE Areas which are important or sensitive for ecological reasons - Wetlands, 4 Dudhna River watercourses or other water bodies, coastal zone, biospheres, mountains, Wet Land Not Notified for forests district. Biosphere -Pachmadi-350 km NE Mountains Dyanganga Hill range 92 Km N Areas used by protected, important or sensitive species of flora or fauna 5 Gautala Wildlife Santury 101 Km forbreeding, nesting, foraging, resting, over wintering, migration NW 6 Inland, coastal, marine or underground waters Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West State, National boundaries 7 Madhyapradesh -154 Km N Routes or facilities used by the public for access to recreation or other 8 --tourist, pilgrim areas Defence installations 9 Varangaon OF -157 Km NW

Details of Environmental Sensitivity for Kavtha Sand Ghat:

10	Densely populated or built-up area, distance from nearest human habitation	Kautha -0.981 Km SE
11	Areas occupied by sensitive man-made land uses	Jalna –28 Km NW
	(hospitals, schools, places of worship, community facilities)	Kautha -0.981 Km SE
12	Areas containing important, high quality or scarce resources	Dahifal waterbody-12.5 Km E
	(ground water resources, surface resources, forestry, agriculture,	Dudhna River
	fisheries, tourism, minerais)	Marine Water -330 Km West
13	Areas already subjected to pollution or environmental damage. (those	Not within 5 km study area
	where existing legal environmental standards are exceeded)	
14	Areas susceptible to natural hazard which could cause the project to	No. Sand Ghat is at safe
	present environmental problems (earthquakes, subsidence, landslides,	distances from natural hazards
	erosion, hooding of extreme of adverse climatic conditions)	subsidence landslide erosion
		flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	Whether there is any litigation pending against the project and/or land in	
	which the project is propose to be set up?	
	(a) Name of the Court (b) Case No	
	(c) Orders or directions of the Court, if any, and its relevance with the	No
	proposed project.	

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	1000m x 22 m x 0.80 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°41' 8.6429"N	76°6' 37.3594"E
BP-2	19°41' 18.2092"N	76°6' 45.8436"E
BP-3	19°41' 21.2366"N	76°6' 50.3415"E
BP-4	19°41' 21.5033"N	76°6' 54.2209"E
BP-5	19°41' 16.9471"N	76°7' 5.5258"E
BP-6	19°41' 16.2886"N	76°7' 5.23"E
BP-7	19°41' 20.777"N	76°6' 54.0933"E
BP-8	19°41' 20.5373"N	76°6' 50.6069"E
BP-9	19°41' 17.6788"N	76°6' 46.3598"E
BP-10	19°41' 8.1823"N	76°6' 37.9377"E



Annexure -1 : Details of Sand Ghat

अ □ र.		गट	(m)	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	(m)		000380000 00000 0000000 0
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160,162,163,174	450	25	0.50	1.125	1988
3		255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4		262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5		132,133,154,155	480	30	0.80	1.44	4071
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314,326,327	587	40	0.50	2.34	4148
9		167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10		1,39,14,01,11,112	600	20	0.40	1.20	1696

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	 बद	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
	--	700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
	1		Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Kautha and ghat proposed (over Dhamna river) in Jalna taluka is one of the sixsand ghats proposed to cater infrastructural requirement of sand in the tahsil of six and adjoining areas of other talukas. All six sand ghats are on Dudhna river. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41'	76°6'
								8.6429"N	37.3594"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°41' 8.6429"N	76°6' 37.3594"E
BP-2	19°41' 18.2092"N	76°6' 45.8436"E
BP-3	19°41' 21.2366"N	76°6' 50.3415"E
BP-4	19°41' 21.5033"N	76°6' 54.2209"E
BP-5	19°41' 16.9471"N	76°7' 5.5258"E
BP-6	19°41' 16.2886"N	76°7' 5.23"E
BP-7	19°41' 20.777"N	76°6' 54.0933"E
BP-8	19°41' 20.5373"N	76°6' 50.6069"E
BP-9	19°41' 17.6788"N	76°6' 46.3598"E
BP-10	19°41' 8.1823"N	76°6' 37.9377"E

Sl.	Areas	
NO.		Distance in kilometer / Deteile
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -1.337 km SE
	concerned River, Rivulet, Nallah etc.	8
2	Distance from infrastructural facilities	John 28 Km NW
2	Railway line	4.11 km SW
	National Highway	4.11 Km SW
	State Highway	NH211-49 KIII S W SH172 14 Km NE
	Major District Road	SH175-14 KIII NE
	Any Other Road	Jintur Jaina Rd–3.33 Km N
		Vil Rd-0.352 km N
	Electric transmission line pole or tower	1.1 km N
	Canal or check dam or reservoirs or lake or ponds	Check dam – 0.715 Km SE
	In-take for drinking water pump house	1.03 Km SE
	Intake for Irrigation canal pumps	0.715 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 101 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 2.8 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-350 km NE Mountains Dyanganga Hill range 92 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 101 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -157 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Kautha -0.981 Km SE
11	Areas occupied by sensitive man-made land uses	Jalna –28 Km NW

Table 3.0 Environmental Sensitivity of Sand Ghat :

	(hospitals, schools, places of worship, community facilities)	Kautha -0.981 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No



Google Image for Sand Ghat (600 m Area) :

Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 457m connecting KauthaVazar rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 6219 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41'	76°6'
								8.6429"N	37.3594"E

Surface Plan for Kautha Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	1000mx22mx0.8m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	

Production Plan for Kautha Sand Ghat :



2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	20
4	Ramp Maintenance	5
6	Support Staff/Labors	10
	Total	48

About 48 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.960m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.960		
Total	1.960		

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	22000
Area under dumps	00	00
Undisturbed Area	22000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 6219 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 49807 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	49807 TPA
Operational Days per Year	260 Days
Lead (m)	457 m

Predicted Emission

Activity	Emission rate gm/sec	
Transportation	0.285181458	
Total	0.285181458	

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.4183µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Kautha	Jalna	Dudhna	0.4183µgm/cum

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.8m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Dudhna River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Kautha sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22


cum/minute



Siltation is mapped for the rivers using slope –discharge-silt formula as below

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method			
	Theoretical	Last Year	This Year Deposition	
	in m ³	Deposition in m ³	in m ³	
Kautha	5280	6190(Yr 17-18)	17600	

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Dudhna. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 11.26 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.4183 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Dudhna or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 957 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 11.26 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	91400
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water spraying. 		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		30000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. Barriers & Traffic 	(24 tarpaulin) 24 tractors @ Rs. 500/tractor • Excluding	120000 12000 10000
			Management Expenses	Man Power Salary which is included in labour costs	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			• Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	500 Nos.	250000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	457 Nos.	228500
6	Final Mine Closer Plan implementation	Replenishment of Sand	Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
•	Total in Rs				1126900

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Ghetuli Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Ghetuli, Tq Jalna, Gut No. 53,52,47,45,44,41,39

Sr. No.	Latitude	Longitude
BP-1	19°40' 46.482"N	76°10' 4.1613"E
BP-2	19°40' 39.8317"N	76°10' 20.5798"E
BP-3	19°40' 39.0093"N	76°10' 20.2084"E
BP-4	19°40' 45.6595"N	76°10' 3.79"E

(x) Size of the Mining Lease (Hectare) : 1.43 Ha

- (xi) Capacity of Mining Lease (TPA): 32372 TPA, 4042 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 10266680
- (xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -702 km NW
2	Distance from infrastructural facilities	Jalna –32 Km NW
	Railway line	5.9 km SW
	National Highway	NH211-54 Km SW
	State Highway	SH173–7.9 Km NE
	Major District Road	Rajnani Virgaon Rd–4.2 Km W
	Any Other Road	Vil Rd-0.388 km NE
	Electric transmission line pole or tower	2.8 km NE
	Canal or check dam or reservoirs or lake or ponds	Check dam – 4.56 Km SE
	In-take for drinking water pump house	0.657 Km SE
	Intake for Irrigation canal pumps	4.56 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 106 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 1.64 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-351 km NE Mountains Dyanganga Hill range

5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 106 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -158 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Ghetuli -0.483 Km NE
11	Areas occupied by sensitive man-made land uses	Jalna –32 Km NW
	(hospitals, schools, places of worship, community facilities)	Ghetuli -0.483 Km NE Partur- 10.5 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No
L		

(Signature of Project ProponentAlong with name and address)

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45,	1.43	520 x 27.5 x 0.8	4042	19°40'	76°10'
				44,41,39				46.482"N	4.1613"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.43 ha comprises of river bed of DUdhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.80 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

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There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E



Approach road available over pandan rd of 529m connecting Ghetuli rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.760		
Total	1.760		

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.8 m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

SI. Areas No. **Distance in kilometer / Details** Distance of project site from nearest rail or road bridge over the Bridge on river -702 km NW 1 concerned River, Rivulet, Nallah etc. Distance from infrastructural facilities 2 Jalna –32 Km NW Railway line 5.9 km SW National Highway NH211-54 Km SW State Highway SH173-7.9 Km NE Major District Road Rajnani Virgaon Rd-4.2 Km W Any Other Road Vil Rd-0.388 km NE Electric transmission line pole or tower 2.8 km NE Canal or check dam or reservoirs or lake or ponds Check dam – 4.56 Km SE In-take for drinking water pump house 0.657 Km SE Intake for Irrigation canal pumps 4.56 Km SE Gautala Wildlife Santury 106 Km 3 Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value NW Kundalika river – 1.64 Km NE Areas which are important or sensitive for ecological reasons - Wetlands, 4 Dudhna River watercourses or other water bodies, coastal zone, biospheres, mountains, Wet Land Not Notified for forests district. Biosphere -Pachmadi-351 km NE Mountains Dyanganga Hill range 92 Km N Areas used by protected, important or sensitive species of flora or fauna 5 Gautala Wildlife Santury 106 Km forbreeding, nesting, foraging, resting, over wintering, migration NW 6 Inland, coastal, marine or underground waters Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West State, National boundaries 7 Madhyapradesh -154 Km N Routes or facilities used by the public for access to recreation or other 8 --tourist, pilgrim areas Defence installations 9 Varangaon OF -158 Km NW

Details of Environmental Sensitivity for Ghetuli Sand Ghat:

10	Densely populated or built-up area, distance from nearest human habitation	Ghetuli -0.483 Km NE
11	Areas occupied by sensitive man-made land uses	Jalna –32 Km NW
	(hospitals, schools, places of worship, community facilities)	Ghetuli -0.483 Km NE Partur- 10.5 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	520m x 27.5 m x 0.80 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°40' 46.482"N	76°10' 4.1613"E
BP-2	19°40' 39.8317"N	76°10' 20.5798"E
BP-3	19°40' 39.0093"N	76°10' 20.2084"E
BP-4	19°40' 45.6595"N	76°10' 3.79"E


Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
]		Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Тс	otal		820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
		Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Тс	otal		130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
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PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Ghetuli and ghat proposed (over Dhamna river) in Jalna taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Jalna and adjoining areas of other talukas. All six sand ghats are on Dudhna river. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°40' 46.482"N	76°10' 4.1613"E
BP-2	19°40' 39.8317"N	76°10' 20.5798"E
BP-3	19°40' 39.0093"N	76°10' 20.2084"E
BP-4	19°40' 45.6595"N	76°10' 3.79"E

Sl.	Areas	
INO.		Distance in kilometer / Doteile
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -702 km NW
-	concerned River, Rivulet, Nallah etc.	
2	Distance from infrastructural facilities	Jalna –32 Km NW
	Railway line	5.9 km SW
	National Highway	NH211-54 Km SW
	State Highway	SH173–7.9 Km NE
	Major District Road	Rajnani Virgaon Rd–4.2 Km W
	Any Other Road	Vil Rd-0.388 km NE
	Electric transmission line pole or tower	2.8 km NE
	Canal or check dam or reservoirs or lake or ponds	Check dam – 4.56 Km SE
	In-take for drinking water pump house	0.657 Km SE
	Intake for Irrigation canal pumps	4.56 Km SE
3	Areas protected under international conventions, national or local	Gautala Wildlife Santury 106 Km
	legislation for their ecological, landscape, cultural or other related value	NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 1.64 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-351 km NE Mountains Dyanganga Hill range 92 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 106 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -158 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Ghetuli -0.483 Km NE

Table 3.0 Environmental Sensitivity of Sand Ghat :

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –32 Km NW Ghetuli -0.483 Km NE Partur- 10.5 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of529m connecting Ghetuli rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 4042 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

Surface Plan for Ghetuli Sand Ghat:

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2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading
 The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	520mx27.50mx0.8m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	





2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	5
6	Support Staff/Labors	10
	Total	38

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.760		
Total	1.760		

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	14300
Area under dumps	00	00
Undisturbed Area	14300	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.





Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually.. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 4042 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T	
1	Loading & Transportation	@0.0005 Kg/T	

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 32372 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	32372 TPA
Operational Days per Year	260 Days
Lead (m)	529 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.185351898
Total	0.185351898

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.4183µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Ghetuli	Jalna	Dudhna	0.4183µgm/cum

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.8m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Dudhna River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Ghetuli sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute



Siltation is mapped for the rivers using slope –discharge-silt formula as below

[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method			
	Theoretical	Last Year	This Year Deposition	
	in m ³	Deposition in m ³	in m ³	
Ghetuli	3203	3203(Yr 17-18)	11440	

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Dudhna. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 10.03 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.4183 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.
	 Provision of necessary personal protective equipments 		
--	--		
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities 		
	• Provision of First Aid and Drinking Water, Temporary rest Room		

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Dudhna or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 789 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 10.03 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	105800
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	Regular water		100000
			spidying.		
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		20000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. Barriers & Traffic Management Expenses 	(16 tarpaulin) 16 tractors @ Rs. 500/tractor • Excluding Man Power	80000 8000 10000
				Salary which is included in labour costs	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	• Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	260 Nos.	130000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	529 Nos.	264500
6	Final Mine Closer Plan implementation	Replenishment of Sand	Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000	
•	Total in Rs					

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Karla Sand Ghat, River Kundalika

(ix) Location / site (GPS Co-ordinates) : Karla, Tq Jalna, Gut No. Gairan (06),86,87

BP	Latitude	Longitute
BP-1	19°42' 28.6197"N	76°2' 7.0846"E
BP-2	19°42' 26.1441"N	76°2' 5.6425"E
BP-3	19°42' 24.3403"N	76°2' 2.433"E
BP-4	19°42' 22.6064"N	76°2' 1.5775"E
BP-5	19°42' 21.6041"N	76°2' 1.6903"E
BP-6	19°42' 19.5975"N	76°2' 4.8616"E
BP-7	19°42' 17.9058"N	76°2' 5.5381"E
BP-8	19°42' 12.7073"N	76°2' 4.3632"E
BP-9	19°42' 10.0814"N	76°2' 5.1675"E
BP-10	19°42' 5.5785"N	76°2' 9.4773"E
BP-11	19°42' 5.0299"N	76°2' 8.8435"E
BP-12	19°42' 9.6727"N	76°2' 4.3986"E
BP-13	19°42' 12.6774"N	76°2' 3.4783"E
BP-14	19°42' 17.8418"N	76°2' 4.6455"E
BP-15	19°42' 19.0659"N	76°2' 4.156"E
BP-16	19°42' 21.1394"N	76°2' 0.879"E
BP-17	19°42' 22.7455"N	76°2' 0.6983"E
BP-18	19°42' 24.9117"N	76°2' 1.7672"E
BP-19	19°42' 26.7266"N	76°2' 4.9964"E
BP-20	19°42' 28.9998"N	76°2' 6.3256"E

- (x) Size of the Mining Lease (Hectare) : 2.25 Ha
- (xi) Capacity of Mining Lease (TPA): 25468 TPA, 3180 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 8077200
- (xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -0.845 km SE
2	Distance from infrastructural facilities	Jalna –20 Km NW
	Railway line	1.2 km SW
	National Highway	NH211-42 Km SW

	State Highway	SH177–19.5 Km NE
	Major District Road	Jalna Jintur Rd–6.77 Km NE
	Any Other Road	Vil Rd-0.285 km SW
	Electric transmission line pole or tower	3.1 km NE
	Canal or check dam or reservoirs or lake or ponds	Check dam – 0.510 Km SE
	In-take for drinking water pump house	0.510 Km SE
	Intake for Irrigation canal pumps	0.510 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 93 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 3.2 Km S Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-352 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 93 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 3.2 Km S Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -156 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -160 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Karla -0.162 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –20 Km NW
	(hospitals, schools, places of worship, community facilities)	Karla -0.162 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 3.2 Km S Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980;	Not within 5 km study area

	(b) The Wildlife (Protection) Act, 1972;(c) The Coastal Regulation Zone Notification, 2011.If yes, details of the same and their status to be given	
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Kundlika Lease over 2.25 ha comprises of river bed of Kundlika river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.40 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

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Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E



Approach road available over pandan rd of 486m connecting Karla rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.4m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

SI. Areas No. **Distance in kilometer / Details** Distance of project site from nearest rail or road bridge over the Bridge on river -0.845 km SE 1 concerned River, Rivulet, Nallah etc. Distance from infrastructural facilities 2 Jalna – 20 Km NW Railway line 1.2 km SW National Highway NH211-42 Km SW State Highway SH177–19.5 Km NE Major District Road Jalna Jintur Rd–6.77 Km NE Any Other Road Vil Rd-0.285 km SW Electric transmission line pole or tower 3.1 km NE Canal or check dam or reservoirs or lake or ponds Check dam – 0.510 Km SE In-take for drinking water pump house 0.510 Km SE Intake for Irrigation canal pumps 0.510 Km SE Gautala Wildlife Santury 93 Km Areas protected under international conventions, national or local 3 legislation for their ecological, landscape, cultural or other related value NW Dudhna river – 3.2 Km S 4 Areas which are important or sensitive for ecological reasons - Wetlands, Kundalika River watercourses or other water bodies, coastal zone, biospheres, mountains, Wet Land Not Notified for forests district. Biosphere -Pachmadi-352 km NE Mountains Dyanganga Hill range 94 Km N Areas used by protected, important or sensitive species of flora or fauna Gautala Wildlife Santury 93 Km 5 forbreeding, nesting, foraging, resting, over wintering, migration NW Inland, coastal, marine or underground waters Kundalika River 6 Dudhna river – 3.2 Km S Coastal Area 342 Km West Marine Water -332 Km West State, National boundaries 7 Madhyapradesh -156 Km N Routes or facilities used by the public for access to recreation or other 8 --tourist, pilgrim areas Defence installations 9 Varangaon OF -160 Km NW

Details of Environmental Sensitivity for Karla Sand Ghat:

10	Densely populated or built-up area, distance from nearest human habitation	Karla -0.162 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –20 Km NW
	(hospitals, schools, places of worship, community facilities)	Karla -0.162 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 3.2 Km S Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	900m x 25 m x 0.40 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

BP	Latitude	Longitute
BP-1	19°42' 28.6197"N	76°2' 7.0846"E
BP-2	19°42' 26.1441"N	76°2' 5.6425"E
BP-3	19°42' 24.3403"N	76°2' 2.433"E
BP-4	19°42' 22.6064"N	76°2' 1.5775"E
BP-5	19°42' 21.6041"N	76°2' 1.6903"E
BP-6	19°42' 19.5975"N	76°2' 4.8616"E
BP-7	19°42' 17.9058"N	76°2' 5.5381"E
BP-8	19°42' 12.7073"N	76°2' 4.3632"E
BP-9	19°42' 10.0814"N	76°2' 5.1675"E
BP-10	19°42' 5.5785"N	76°2' 9.4773"E
BP-11	19°42' 5.0299"N	76°2' 8.8435"E
BP-12	19°42' 9.6727"N	76°2' 4.3986"E
BP-13	19°42' 12.6774"N	76°2' 3.4783"E
BP-14	19°42' 17.8418"N	76°2' 4.6455"E
BP-15	19°42' 19.0659"N	76°2' 4.156"E
BP-16	19°42' 21.1394"N	76°2' 0.879"E
BP-17	19°42' 22.7455"N	76°2' 0.6983"E
BP-18	19°42' 24.9117"N	76°2' 1.7672"E
BP-19	19°42' 26.7266"N	76°2' 4.9964"E
BP-20	19°42' 28.9998"N	76°2' 6.3256"E



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		218,211,210,209,208 ,180,179,178 वन- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	 बद	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
	1		Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Тс	otal		820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Availabl e Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Karla	Jalna	Kundalik	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42'	76°2'
			а					28.6197"N	7.0846"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED 68, MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37
Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Karla sand ghat proposed (over river Kundlika) in Jalna taluka is one of the Six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Jalna and adjoining areas of other talukas. All Six sand ghats are on Dudhna and Kundlika rivers. Details of Jalna taluka Sand Ghat is as below

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"F

Table 1.0 Details of Sand Ghat :

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitute
BP-1	19°42' 28.6197"N	76°2' 7.0846"E
BP-2	19°42' 26.1441"N	76°2' 5.6425"E
BP-3	19°42' 24.3403"N	76°2' 2.433"E
BP-4	19°42' 22.6064"N	76°2' 1.5775"E
BP-5	19°42' 21.6041"N	76°2' 1.6903"E
BP-6	19°42' 19.5975"N	76°2' 4.8616"E
BP-7	19°42' 17.9058"N	76°2' 5.5381"E
BP-8	19°42' 12.7073"N	76°2' 4.3632"E
BP-9	19°42' 10.0814"N	76°2' 5.1675"E
BP-10	19°42' 5.5785"N	76°2' 9.4773"E
BP-11	19°42' 5.0299"N	76°2' 8.8435"E
BP-12	19°42' 9.6727"N	76°2' 4.3986"E
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BP-15	19°42' 19.0659"N	76°2' 4.156"E
BP-16	19°42' 21.1394"N	76°2' 0.879"E
BP-17	19°42' 22.7455"N	76°2' 0.6983"E

BP-18	19°42' 24.9117"N	76°2' 1.7672"E
BP-19	19°42' 26.7266"N	76°2' 4.9964"E
BP-20	19°42' 28.9998"N	76°2' 6.3256"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

SI.	Areas	
INU.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -0.845 km SE
2	Distance from infrastructural facilities	Jalna –20 Km NW
	Railway line	1.2 km SW
	National Highway	NH211-42 Km SW
	State Highway	SH177–19.5 Km NE
	Major District Road	Jalna Jintur Rd–6.77 Km NE
	Any Other Road	Vil Rd-0 285 km SW
	Electric transmission line pole or tower	3.1 km NE
	Canal or check dam or reservoirs or lake or ponds	Check dam -0.510 Km SE
	In-take for drinking water pump house	0.510 Km SE
	Intake for Irrigation canal pumps	0.510 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 93 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 3.2 Km S Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-352 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 93 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 3.2 Km S Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -156 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -160 Km NW

10	Densely populated or built-up area, distance from nearest human habitation	Karla -0.162 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –20 Km NW
	(hospitals, schools, places of worship, community facilities)	Karla -0.162 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 3.2 Km S Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No



Google Image for Sand Ghat (600 m Area) :

Figure -1 : Google Image



Proposed Approach Road for Sand Ghat on Google Image

Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 486m connecting Karla rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 3180 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
NO.	Sand Ghat		River		In		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan	2.25	900 x 25 x 0.4	3180	19°42'	76°2'
				(06),86,87				28.6197"N	7.0846"E

Surface Plan for Karla Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	900m x 25m x 0.40 m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	

Production Plan for Karla Sand Ghat :



2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

About 28 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560 m^3 /day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day	
Dust suppression/ Plantation	1.0	
Domestic Use	0.560	
Total	1.560	

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	22500
Area under dumps	00	00
Undisturbed Area	22500	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 3180 Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 98 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	25468TPA
Operational Days per Year	260 Days
Lead (m)	486m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.145823611
Total	0.145823611

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.8366µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Karla	Jalna	Kundlika	0.8366µgm/cum

Predicted levels of PM_{10} were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.40m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Kundlika River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Karla sand ghat is 0.40m keeping 2.0m bed depth of sand. Total Sand depth available is 2.4m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

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A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute

Siltation is mapped for the rivers using slope –discharge-silt formula as below



[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method			
	Theoretical	Last Year	This Year Deposition	
	in m ³	Deposition	in m ³	
Karla	3570	4310 (Yr 18-19)	9000	

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Grade sand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Grade sand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Kundlika. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 10.36 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.8366 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure	
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village. 	
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed 	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only. 	
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Kundlika or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 936 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 10.36 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	97200
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water 		100000
			spraying.		
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		10000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. 	(12 tarpaulin) 12 tractor @ Rs. 500/tractor	60000
			 Barriers & Traffic Management Expenses 	 Excluding Man Power Salary which is included in labour costs 	10000
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	450Nos.	225000
5	Transportation on Village Roads	Dust Control	 Green belt along village Rd 	486 Nos.	243000
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
Total in Rs				1036200	

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Bhadli Sand Ghat, River Godavari

(ix) Location / site (GPS Co-ordinates) : Bhadli, Tq Ghansawangi, Gut No. 29

BP	Latitude	Longitute
BP-1	19°16' 46.797"N	76°4' 26.4597"E
BP-2	19°16' 48.0406"N	76°4' 40.9598"E
BP-3	19°16' 46.5827"N	76°4' 41.0984"E
BP-4	19°16' 45.3391"N	76°4' 26.5984"E

(x) Size of the Mining Lease (Hectare) : 1.91 Ha

- (xi) Capacity of Mining Lease (TPA): 52682 TPA, 6578 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 16708120
- (xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

SI. No.	Areas	
1.00		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -12.25 km NW
2	Distance from infrastructural facilities	Ghansawangi –27.5 Km NW
	Railway line	35 km NE
	National Highway	NH222-8.5 Km SW
	State Highway	SH144–28 Km SW
	Major District Road	Takarwan sultanpur rd–3.2 Km S
	Any Other Road	Vil Rd-0.180 km N
	Electric transmission line pole or tower	15.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 2.8 Km W
	In-take for drinking water pump house	2.8 Km W
	Intake for Irrigation canal pumps	2.8 Km W
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Botha Santury 141 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-395 km NE
		Mountains Hingoli Hill range 32 Km S
----	---	---
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Botha Santury 141 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
7	State, National boundaries	Madhyapradesh -156 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Bhadli-0.470 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi –27.5 Km NW Bhadli-0.470 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Godavari Lease over 1.91 ha comprises of river bed of Godavari river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 3.00 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					Ha	LxBxD (m ³)	Brass	Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16'	76°4'
								46.797"N	26.4597"E



Approach road available over pandan rd of 198 m connecting Bhadli rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16'	76°4'
								46.797"N	26.4597"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass						
Jalna	150000	132647						

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day			
Dust suppression/ Plantation	1.0			
Domestic Use	1.0			
Total	1.0			

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 3.0m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 48 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 48 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee.

Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Bhadli Sand Ghat:

SI.	Areas	
110.		Distance in hilematen / Details
1	Distance of project site from nearest rail or road bridge over the	Bridge on river -12.25 km NW
	concerned River, Rivulet, Nallah etc.	
2	Distance from infrastructural facilities	Ghansawangi –27.5 Km NW
	Railway line	35 km NE
	National Highway	NH222-8.5 Km SW
	State Highway	SH144–28 Km SW
	Major District Road	Takarwan sultanpur rd–3.2 Km S
	Any Other Road	Vil Rd-0.180 km N
	Electric transmission line pole or tower	15.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 2.8 Km W
	In-take for drinking water pump house	2.8 Km W
	Intake for Irrigation canal pumps	2.8 Km W
3	Areas protected under international conventions, national or local	Botha Santury 141 Km N
	legislation for their ecological, landscape, cultural or other related value	
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Godavari river
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Majalgaon dam-14.5 SE Coastal Area -395 Km West
	lorests	Marine Water -390 Km West
		Wet Land Not Notified for
		district, Biosphere -Pachmadi-395 km NE
		Mountains Hingoli Hill range 32
		Km S
5	Areas used by protected, important or sensitive species of flora or fauna	Botha Santury 141 Km N
	forbreeding, nesting, foraging, resting, over wintering, migration	
6	Inland, coastal, marine or underground waters	Godavari river
		Majalgaon dam-14.5 SE
		Marine Water -390 Km West
7	State, National boundaries	Madhyapradesh -156 Km SE
8	Routes or facilities used by the public for access to recreation or other	
	tourist, pilgrim areas	
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human	Bhadli-0.470 Km NW
	habitation	
11	Areas occupied by sensitive man-made land uses	Ghansawangi –27.5 Km NW
	(hospitals, schools, places of worship, community facilities)	Bhadli-0.470 Km NW

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	425m x 45 m x 1.0 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

ВР	Latitude	Longitute			
BP-1	19°16' 46.797"N	76°4' 26.4597"E			
BP-2	19°16' 48.0406"N	76°4' 40.9598"E			
BP-3	19°16' 46.5827"N	76°4' 41.0984"E			
BP-4	19°16' 45.3391"N	76°4' 26.5984"E			



A N N E X U R E S

Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
	--	700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second state sta	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
]		Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Тс	otal		820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
		Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Тс	otal		130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16'	76°4'
								46.797"N	26.4597"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Bhadli sand ghat proposed (over river Godavari) in Ghansawangi taluka is one of the two sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Ghansawangi and adjoining areas of other talukas. All two sand ghats are on Godavari river. Details of Ghansawangi taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16'	76°4'
								46.797"N	26.4597"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitute
BP-1	19°16' 46.797"N	76°4' 26.4597"E
BP-2	19°16' 48.0406"N	76°4' 40.9598"E
BP-3	19°16' 46.5827"N	76°4' 41.0984"E
BP-4	19°16' 45.3391"N	76°4' 26.5984"E

SI. No.	Areas	
		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -12.25 km NW
2	Distance from infrastructural facilities	Ghansawangi –27.5 Km NW
	Railway line	35 km NE
	National Highway	NH222-8.5 Km SW
	State Highway	SH144–28 Km SW
	Major District Road	Takarwan sultanpur rd–3.2 Km S
	Any Other Road	Vil Rd 0 180 km N
	Electric transmission line pole or tower	15.5 km
	Canal or check dam or reservoirs or lake or ponds	$\frac{13.5 \text{ Km}}{\text{Check dam} - 2.8 \text{ Km W}}$
	In-take for drinking water pump house	2.8 Km W
	Intake for Irrigation canal pumps	2.8 Km W
3	Areas protected under international conventions, national or local	Botha Santury 141 Km N
	legislation for their ecological, landscape, cultural or other related value	, , , , , , , , , , , , , , , , , , ,
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Godavari river
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-395 km NE Mountains Hingoli Hill range 32 Km S
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Botha Santury 141 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
7	State, National boundaries	Madhyapradesh -156 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Bhadli-0.470 Km NW

Table 3.0 Environmental Sensitivity of Sand Ghat :

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi –27.5 Km NW Bhadli-0.470 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image



Proposed Approach Road for Sand Ghat on Google Image

Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 198 m connecting Bhadli rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Ghansawangi Tahsil. District Mining Officer Jalna has proposed for the production of 6578 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

Surface Plan for Bhadli Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	425m x 45m x 1.0 m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	
Production Plan for Bhadli Sand Ghat :



2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	20
4	Ramp Maintenance	10
6 Support Staff/Labors		5
Total		48

About 38 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.960 m^3 /day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day	
Dust suppression/ Plantation	1.0	
Domestic Use	0.960	
Total	1.960	

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	19100
Area under dumps	00	00
Undisturbed Area	19100	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 6578Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 202 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	52682 TPA
Operational Days per Year	260 Days
Lead (m)	198m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.301643935
Total	0.301643935

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.3433µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Bhadli	Ghansawangi	Godavari	0.3433µgm/cum

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 1.00m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Godavari River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Bhadli sand ghat is 1.00m keeping 2.0m bed depth of sand. Total Sand depth available is 3.0m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute

Siltation is mapped for the rivers using slope –discharge-silt formula as below



[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical	Last Year	This Year Deposition
	in m ³	Deposition in m ³	in m ³
Bhadli	124050	14800(Yr 17-18)	19100

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Godavari. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 8.06 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.3433 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Godavari or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 408plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 8.06 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	39600
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water spraying. 		100000
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		30000
1				1	

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. 	(25 tarpaulin) 25 tractor @ Rs. 500/tractor	125000 12500
			 Barriers & Traffic Management Expenses 	 Excluding Man Power Salary which is included in labour costs 	10000
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	210 Nos.	105000
5	Transportation on Village Roads	Dust Control	 Green belt along village Rd 	198 Nos.	99000
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
Total in Rs				806100	

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Gunj Bu. Sand Ghat, River Godavari

(ix) Location / site (GPS Co-ordinates) : Gunj Bu., Tq Ghansawangi, Gut No. 361,362

BP	Latitude	Longitute
BP-1	19°17' 53.4599"N	76°6' 45.0905"E
BP-2	19°17' 49.8604"N	76°6' 48.2058"E
BP-3	19°17' 49.5324"N	76°6' 57.7485"E
BP-4	19°17' 50.4186"N	76°6' 59.2512"E
BP-5	19°17' 49.0412"N	76°7' 0.1621"E
BP-6	19°17' 47.889"N	76°6' 58.2086"E
BP-7	19°17' 48.2615"N	76°6' 47.3724"E
BP-8	19°17' 52.4273"N	76°6' 43.7671"E

(x) Size of the Mining Lease (Hectare) : 2.55 Ha

(xi) Capacity of Mining Lease (TPA): 72160 TPA, 9010 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 22885400

(xiv) Contact Information : District Mining Officer ,Jalna District

Environmental Sensitivity

SI. No	Areas	
1.00		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -9.2 km SE
2	Distance from infrastructural facilities	Ghansawangi –28 Km NW
	Railway line	30.5 km NE
	National Highway	NH222-10.5 Km SW
	State Highway	SH144–31.5 Km SW
	Major District Road	Takarwan sultanpur rd–5.4 Km S
	Any Other Road	Vil Rd-0.190 km N
	Electric transmission line pole or tower	15.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam – 6.9 Km SW
	In-take for drinking water pump house	2.0.33 Km NW
	Intake for Irrigation canal pumps	6.9 Km SW
3	Areas protected under international conventions, national or local	Botha Santury 140 Km N
	registration for their ecological, randscape, cultural of other related value	
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Godavari river
	watercourses or other water bodies, coastal zone, biospheres, mountains,	Majalgaon dam-15.3 SE Coastal Area -394 Km West

	forests	Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-394 km NE Mountains Hingoli Hill range 33 Km S
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Botha Santury 140 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
7	State, National boundaries	Karnatak -157 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Gunj Bu2.014 Km NW, Gunj Bk0.0055 Km N
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi –8 Km NW, Gunj Bu2.014 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No

18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?(a) Name of the Court(b) Case No.(c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Godavari Lease over 2.55 ha comprises of river bed of Godavari river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 3.00 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below


River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

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Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E



Approach road available over pandan rd of 187 m connecting Gunj rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day				
Dust suppression/ Plantation	1.0				
Domestic Use	1.0				
Total	1.0				

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 3.0m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 50 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 50 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.

vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

SI. Areas No. **Distance in kilometer / Details** Distance of project site from nearest rail or road bridge over the Bridge on river -9.2 km SE 1 concerned River, Rivulet, Nallah etc. Distance from infrastructural facilities 2 Ghansawangi -28 Km NW Railway line 30.5 km NE National Highway NH222-10.5 Km SW State Highway SH144-31.5 Km SW Major District Road Takarwan sultanpur rd-5.4 Km S Any Other Road Vil Rd-0.190 km N Electric transmission line pole or tower 15.5 km Canal or check dam or reservoirs or lake or ponds Check dam – 6.9 Km SW In-take for drinking water pump house 2.0.33 Km NW Intake for Irrigation canal pumps 6.9 Km SW 3 Areas protected under international conventions, national or local Botha Santury 140 Km N legislation for their ecological, landscape, cultural or other related value Areas which are important or sensitive for ecological reasons - Wetlands, Godavari river 4 Majalgaon dam-15.3 SE watercourses or other water bodies, coastal zone, biospheres, mountains, Coastal Area -394 Km West forests Marine Water -390 Km West Wet Land Not Notified for district. Biosphere -Pachmadi-394 km NE Mountains Hingoli Hill range 33 Km S Areas used by protected, important or sensitive species of flora or fauna 5 Botha Santury 140 Km N forbreeding, nesting, foraging, resting, over wintering, migration Inland, coastal, marine or underground waters 6 Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West 7 State, National boundaries Karnatak -157 Km SE 8 Routes or facilities used by the public for access to recreation or other ---

Details of Environmental Sensitivity for Gunj Bu. Sand Ghat:

	tourist, pilgrim areas	
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Gunj Bu2.014 Km NW, Gunj Bk0.0055 Km N
11	Areas occupied by sensitive man-made land uses	Ghansawangi –8 Km NW,
	(hospitals, schools, places of worship, community facilities)	Gunj Bu2.014 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	510m x 50m x 1.0 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

BP	Latitude	Longitute
BP-1	19°17' 53.4599"N	76°6' 45.0905"E
BP-2	19°17' 49.8604"N	76°6' 48.2058"E
BP-3	19°17' 49.5324"N	76°6' 57.7485"E
BP-4	19°17' 50.4186"N	76°6' 59.2512"E
BP-5	19°17' 49.0412"N	76°7' 0.1621"E
BP-6	19°17' 47.889"N	76°6' 58.2086"E
BP-7	19°17' 48.2615"N	76°6' 47.3724"E
BP-8	19°17' 52.4273"N	76°6' 43.7671"E



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	 बद	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
	1		Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Тс	otal		820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Are a in	Area in cum.	Availabl e Sand	Location	
					На	LxBxD (m ³)	in Brass	Latitude	Longitude
1	Gunj Bu.	Ghansawang	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17'	76°6'
		i						53.4599"N	45.0905"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED 68, MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Gunj Bu. sand ghat proposed (over river Godavari) in Ghansawangi taluka is one of the two sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Ghansawangi and adjoining areas of other talukas. All two sand ghats are on Godavari river. Details of Ghansawangi taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17'	76°6'
								53.4599"N	45.0905"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitute
BP-1	19°17' 53.4599"N	76°6' 45.0905"E
BP-2	19°17' 49.8604"N	76°6' 48.2058"E
BP-3	19°17' 49.5324"N	76°6' 57.7485"E
BP-4	19°17' 50.4186"N	76°6' 59.2512"E
BP-5	19°17' 49.0412"N	76°7' 0.1621"E
BP-6	19°17' 47.889"N	76°6' 58.2086"E
BP-7	19°17' 48.2615"N	76°6' 47.3724"E
BP-8	19°17' 52.4273"N	76°6' 43.7671"E

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -9.2 km SE
2	Distance from infrastructural facilities	Ghansawangi –28 Km NW
	Railway line	30.5 km NE
	National Highway	NH222-10.5 Km SW
	State Highway	SH144–31.5 Km SW
	Major District Road	Takarwan sultanpur rd–5.4 Km S
	Any Other Road	Vil Rd-0 190 km N
	Electric transmission line pole or tower	15.5 km
	Canal or check dam or reservoirs or lake or ponds	Check dam $- 6.9$ Km SW
	In-take for drinking water pump house	2.0.33 Km NW
	Intake for Irrigation canal pumps	6.9 Km SW
3	Areas protected under international conventions, national or local	Botha Santury 140 Km N
	legislation for their ecological, landscape, cultural or other related value	5
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Godavari river
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-394 km NE Mountains Hingoli Hill range 33 Km S
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Botha Santury 140 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
7	State, National boundaries	Karnatak -157 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Gunj Bu2.014 Km NW, Gunj Bk0.0055 Km N

Table 3.0 Environmental Sensitivity of Sand Ghat :

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi –8 Km NW, Gunj Bu2.014 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image



Proposed Approach Road for Sand Ghat on Google Image

Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 187 m connecting Gunj rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Ghansawangi Tahsil. District Mining Officer Jalna has proposed for the production of 9010 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr.	Name of Sand	Tahsil	Name of	Nearest Gut	Area	Area in cum.	Available	Location	
No.	Ghat		River	No.	in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17'	76°6'
								53.4599"N	45.0905"E

Surface Plan for Gunj Bu Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	510m x 50m x 1.0 m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	

Production Plan for Gunj Sand Ghat :



2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	20
4	Ramp Maintenance	10
6	Support Staff/Labors	7
	Total	50

About 38 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 2 m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	1.0
Total	2.0

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	25500
Area under dumps	00	00
Undisturbed Area	25500	00
Area under Roads	00 00	
Area under Plantation	00	00
Area under Storage	00 00	
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 9010Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 277 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	72160 TPA
Operational Days per Year	260 Days
Lead (m)	187m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.413166898
Total	0.413166898

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.4198µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Gunj Bu	Ghansawangi	Godavari	0.3347µgm/cum

Predicted levels of PM_{10} were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 1.00m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.
Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Godavari River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Gunj Bu sand ghat is 1.00m keeping 2.0m bed depth of sand. Total Sand depth available is 3.0m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

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A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute

Siltation is mapped for the rivers using slope –discharge-silt formula as below



[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method			
	Theoretical in m ³	Last Year Deposition	This Year Deposition	
		in m ³		
Gunj Bu	9570	17200(Yr 16-17)	25500	

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Godavari. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 8.75 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.3347 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Godavari or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 442plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 8.75 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	37400
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	• Regular water		100000
			spraying.		
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		30000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. 	(35 tarpaulin) 35 tractor @ Rs. 500/tractor	175000 17500
			 Barriers & Traffic Management Expenses 	 Excluding Man Power Salary which is included in labour costs 	10000
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance 	(Excluding Man Power Salary which is included in labour costs)	20000
			 Provision of dusk masks. 		10000
4	Bank Management	Bank Erosion/	 Green belt along bank 		
		Flood Plain management	 Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	255 Nos.	127500
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	187 Nos.	93500
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
• Total in Rs					875900

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Alamgaon Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Alamgaon, Tq Ambad, Gut No. 166,167

Sr. No.	Latitude	Longitude
BP-1	19°44' 20.0157"N	75°46' 23.8025"E
BP-2	19°44' 8.0093"N	75°46' 33.396"E
BP-3	19°44' 6.4589"N	75°46' 35.604"E
BP-4	19°44' 5.8057"N	75°46' 35.0924"E
BP-5	19°44' 7.4256"N	75°46' 32.7854"E
BP-6	19°44' 19.525"N	75°46' 23.1175"E

(x) Size of the Mining Lease (Hectare) : 1.38 Ha

(xi) Capacity of Mining Lease (TPA): 31130 TPA, 3887 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 9872802

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.35 km NNW
2	Distance from infrastructural facilities	Ambad –13.5 Km SE
	Railway line	13 km NE
	National Highway	NH211-18.5 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Jalna Ambad Rd–5.6 Km E
	Any Other Road	Vil Rd-0.295 km S
	Electric transmission line pole or tower	1.9 km S
	Canal or check dam or reservoirs or lake or ponds	Check dam – 3.65 Km NW
	In-take for drinking water pump house	3.65 Km NW
	Intake for Irrigation canal pumps	3.65 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Karaji Nalla – 0.735 Km S
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna Rıver Wet Land Not Notified for district,

		Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Alamgaon -0.115 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –15.5 Km NE ,
	(hospitals, schools, places of worship, community facilities)	Ambad –13.5 Km SE Alamgaon -0.115 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?(a) Name of the Court(b) Case No.(c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr.	Name of	Tahsil	Name of	Nearest Gut	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River	No.	in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44'	75°46'
								20.0157"N	23.8025"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.38 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 3.00 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44'	75°46'
								20.0157"N	23.8025"E



Approach road available over pandan rd of 158 m connecting Alamgaon rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44'	75°46'
								20.0157"N	23.8025"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.76		
Total	1.76		

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

i) Connectivity – All the sand ghats are well connected by roads.

ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.80m of sand.

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee. Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.

v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.
vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

SI. Areas No. **Distance in kilometer / Details** Distance of project site from nearest rail or road bridge over the Bridge on river -2.35 km NNW 1 concerned River, Rivulet, Nallah etc. Distance from infrastructural facilities 2 Ambad –13.5 Km SE Railway line 13 km NE National Highway NH211-18.5 Km SW State Highway SH30-14.5 Km N Major District Road Jalna Ambad Rd–5.6 Km E Any Other Road Vil Rd-0.295 km S Electric transmission line pole or tower 1.9 km S Canal or check dam or reservoirs or lake or ponds Check dam - 3.65 Km NW 3.65 Km NW In-take for drinking water pump house 3.65 Km NW Intake for Irrigation canal pumps 3 Areas protected under international conventions, national or local Gautala Wildlife Santury 78 Km legislation for their ecological, landscape, cultural or other related value NW Karaji Nalla – 0.735 Km S Areas which are important or sensitive for ecological reasons - Wetlands, 4 Dudhna River watercourses or other water bodies, coastal zone, biospheres, mountains, Wet Land Not Notified for forests district. Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S Areas used by protected, important or sensitive species of flora or fauna 5 Gautala Wildlife Santury 78 Km forbreeding, nesting, foraging, resting, over wintering, migration NW 6 Inland, coastal, marine or underground waters Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West State, National boundaries 7 Madhyapradesh -153 Km N Routes or facilities used by the public for access to recreation or other 8 --tourist, pilgrim areas Defence installations 9 Varangaon OF -144 Km N

Details of Environmental Sensitivity for Alamgaon Sand Ghat:

10	Densely populated or built-up area, distance from nearest human habitation	Alamgaon -0.115 Km S
11	Areas occupied by sensitive man-made land uses	Jalna – 15.5 Km NE ,
	(hospitals, schools, places of worship, community facilities)	Ambad –13.5 Km SE Alamgaon -0.115 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44' 20.0157"N	75°46' 23.8025"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	550m x 25m x 0.8 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°44' 20.0157"N	75°46' 23.8025"E
BP-2	19°44' 8.0093"N	75°46' 33.396"E
BP-3	19°44' 6.4589"N	75°46' 35.604"E
BP-4	19°44' 5.8057"N	75°46' 35.0924"E
BP-5	19°44' 7.4256"N	75°46' 32.7854"E
BP-6	19°44' 19.525"N	75°46' 23.1175"E



Annexure -1 : Details of Sand Ghat

अ		गटतततत					
				□ (m)	(m)		
			(m)		(11)		
			(,				ช
र.							
1		15,16,50,51,89	410	25	0.60	1.025	2173
2		160 162 163 174	450	25	0.50	1 1 2 5	1022
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259, 260, 261					
		,,					
Δ		262 263 264 265 252	500	30	0.50	1 50	2650
1			500		0.50	1.50	2050
		,261,269,268,					
		266,					
		26,28,29,30,31,32,26					
		7					
		/					
5		132 133 15/ 155	480	30	0.80	1 11	4071
		152,155,154,155	400		0.00	1.77	
			475			4.045	
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312,313,314.326.327	587	40	0.50	2.34	4148
							-
9		167 166 165 164 162	700	20	0.50	1 40	2473
		107,100,103,104,102		20	0.50	1.40	
		, 101					
10		1 39 14 01 11 112	600	20	0.40	1 20	1696
10		±,33,±+,0±,±±,±±2		20	0.40	1.20	1000
1	1		1	1		1	

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
		700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
]		Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Тс	otal		820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Тс	otal		130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44'	75°46'
								20.0157"N	23.8025"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Alamgaon sand ghat proposed (over river Dudhna) in Ambad taluka is one of the two sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Ambad and adjoining areas of other talukas. All two sand ghats are on Dudhna river. Details of Ambad taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44'	75°46'
								20.0157"N	23.8025"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°44' 20.0157"N	75°46' 23.8025"E
BP-2	19°44' 8.0093"N	75°46' 33.396"E
BP-3	19°44' 6.4589"N	75°46' 35.604"E
BP-4	19°44' 5.8057"N	75°46' 35.0924"E
BP-5	19°44' 7.4256"N	75°46' 32.7854"E
BP-6	19°44' 19.525"N	75°46' 23.1175"E

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.35 km NNW
2	Distance from infrastructural facilities	Ambad –13.5 Km SE
	Railway line	13 km NE
	National Highway	NH211-18.5 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Jalna Ambad Rd–5.6 Km E
	Any Other Road	Vil Rd-0 295 km S
	Electric transmission line pole or tower	1.9 km S
	Canal or check dam or reservoirs or lake or ponds	Check dam -3.65 Km NW
	In-take for drinking water pump house	3.65 Km NW
	Intake for Irrigation canal pumps	3.65 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Karaji Nalla – 0.735 Km S Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Alamgaon -0.115 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –15.5 Km NE ,

Table 3.0 Environmental Sensitivity of Sand Ghat :

	(hospitals, schools, places of worship, community facilities)	Ambad –13.5 Km SE Alamgaon -0.115 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image



Proposed Approach Road for Sand Ghat on Google Image

Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 158 m connecting Alamgaon rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Ambad Tahsil. District Mining Officer Jalna has proposed for the production of 3887 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr.	Name of Sand	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
INO.	Gnat		River		in		Sanu in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44'	75°46'
								20.0157"N	23.8025"E

Surface Plan for Alamgaon Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	550m x 25 m x 0.80 m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	





2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	10
6	Support Staff/Labors	5
	Total	38

About 38 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day	
Dust suppression/ Plantation	1.0	
Domestic Use	0.760	
Total	1.760	

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	13800
Area under dumps	00	00
Undisturbed Area	13800	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 3887Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 119 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	31130 TPA
Operational Days per Year	260 Days
Lead (m)	158m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.178244144
Total	0.178244144

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.4198µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted
No.	Village		River	incremental GLC
				in terms of PM_{10}
1	Alamgaon	Ambad	Dudhna	0.4198µgm/cum

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.8m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Dudhna River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Alamgaon sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute

Siltation is mapped for the rivers using slope –discharge-silt formula as below



[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical	Last Year	This Year Deposition
	in m ³	Deposition in m ³	in m ³
Alamgaon	5100	5840(Yr 16-17)	11000

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27
have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Dudhna. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 7.62 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.4198 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Dudhna or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 433plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 7.62 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	31600
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water 		100000
			spraying.		
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		20000

2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. 	(15 tarpaulin) 15 tractors@ Rs. 500/tractor	75000 7500
			· Barriers & Traffic Management Expenses	 Excluding Man Power Salary which is included in labour costs 	20000
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			• Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	 Green belt along bank 		
		Flood Plain management	• Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	275 Nos.	144000
5	Transportation on Village Roads	Dust Control	• Green belt along village Rd	158 Nos.	79000
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
Total in Rs					762100

FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Sadesawangi Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Sadesawangi, Tq Ambad, Gut No. 02,03

Sr. No.	Latitude	Longitude
BP-1	19°44' 32.7595"N	75°45' 59.888"E
BP-2	19°44' 30.3461"N	75°46' 7.2246"E
BP-3	19°44' 25.8284"N	75°46' 18.3273"E
BP-4	19°44' 25.0711"N	75°46' 18.014"E
BP-5	19°44' 29.54"N	75°46' 7.0432"E
BP-6	19°44' 31.9945"N	75°45' 59.5964"E

(x) Size of the Mining Lease (Hectare) : 1.44 Ha

- (xi) Capacity of Mining Lease (TPA): 24411 TPA, 3048 Brass
- (xii) Period of Mining Lease: 1 years
- (xiii) Expected cost of the Project : Rs. 7741920

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

SI. No	Areas	
1.00		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.36 km NNW
2	Distance from infrastructural facilities	Ambad –13.5 Km SE
	Railway line	13 km NE
	National Highway	NH211-18.5 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Jalna Ambad Rd–6.27 Km E
	Any Other Road	Vil Rd-0.354 km S
	Electric transmission line pole or tower	2.1 km S
	Canal or check dam or reservoirs or lake or ponds	Check dam – 3.024 Km NW
	In-take for drinking water pump house	3.024 Km NW
	Intake for Irrigation canal pumps	3.024 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Karaji Nalla – 1.55 Km SE
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna River Wet Land Not Notified for district,

		Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Sadesawangi -0.245 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –15.5 Km NE ,
	(hospitals, schools, places of worship, community facilities)	Ambad –13.5 Km SE Sadesawangi -0.245 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?(a) Name of the Court(b) Case No.(c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT

PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Jalna district

Sr.	Name of	Tahsil	Name of	Nearest Gut	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River	No.	in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44'	75°45'
								32.7595"N	59.888"E

Proponent

District Mining Officer Jalna Collector Office, Jalna

Consultant

Enviro Techno Consult Private Limited 68, Mahakali Nagar-2 Near Manewada Square Nagpur 440 024 (MS)

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide letter dated 19.06.2020.
- Project Proponent proposed to auction 24 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.44 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro-based industries of different areas. The district may be broadly divided into the following physiographic regions,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the diastrict.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini,Dhamana,Khelana flowing as left bank tributaries and Banganga,Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four triburaties like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

Local geology:

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 2.60 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna& Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have

formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority JAlna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 29 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. **Project description:**

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44'	75°45'
								32.7595"N	59.888"E



Approach road available over pandan rd of 195 m connecting Sadesawangi rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44' 32.7595"N	75°45' 59.888"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass						
Jalna	150000	132647						

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.4 m to 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.76
Total	1.76

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis. Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

- i) Connectivity All the sand ghats are well connected by roads.
- ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.60m of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat or as per directives of district level technical committee.

Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R per se is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.
- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.
- v) Revenue generation of Rs 33.69 Cr will be added advantage to Government.
- vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

Details of Environmental Sensitivity for Sadesawangi Sand Ghat:

SI. No	Areas	
100		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.36 km NNW
2	Distance from infrastructural facilities	Ambad –13.5 Km SE
	Railway line	13 km NE
	National Highway	NH211-18.5 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Jalna Ambad Rd–6.27 Km E
	Any Other Road	Vil Rd-0.354 km S
	Electric transmission line pole or tower	2.1 km S
	Canal or check dam or reservoirs or lake or ponds	Check dam – 3.024 Km NW
	In-take for drinking water pump house	3.024 Km NW
	Intake for Irrigation canal pumps	3.024 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands,	Karaji Nalla – 1.55 Km SE
	watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Sadesawangi -0.245 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –15.5 Km NE , Ambad –13.5 Km SE Sadesawangi -0.245 Km S

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	 Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given. 	Not within 5 km study area
17	Forest land involved (hectares)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in	Location	
						LxBxD (m ³)	Brass	Latitude	Longitude

1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44'	75°45'
								32.7595"N	59.888"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction	575m x 25m x 0.6 m
of sand ghat or as per directives of district level	
technical committee	

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°44' 32.7595"N	75°45' 59.888"E
BP-2	19°44' 30.3461"N	75°46' 7.2246"E
BP-3	19°44' 25.8284"N	75°46' 18.3273"E
BP-4	19°44' 25.0711"N	75°46' 18.014"E
BP-5	19°44' 29.54"N	75°46' 7.0432"E
BP-6	19°44' 31.9945"N	75°45' 59.5964"E



A N N E X U R E S

Annexure -1 : Details of Sand Ghat

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र.							
1		15.16.50.51.89	410	25	0.60	1.025	2173
2		160 162 162 174	450	25	0.50	1 1 2 5	1000
2		100,102,103,174	450	25	0.50	1.125	1900
3		255, 256, 257, 258,	500	30	1.00	1.50	5300
		259 260 261					
		233, 200, 201					
4		262 262 264 265 252	500	20	0.50	1 50	2650
4		202,203,204,203,232	500	30	0.50	1.50	2030
		,261,269,268,					
		266,					
		26.28.29.30.31.32.26					
		7					
		/					
5		122 122 154 155	490	20	0.80	1 1 1	4071
5		152,155,154,155	460	50	0.60	1.44	4071
6		50,51,52,54	475	22	0.80	1.045	2954
7		61,62,63,66,67	475	22	0.50	1.045	1846
8		312 313 314 326 327	587	40	0.50	2 3/	4148
0		512,515,514,520,527	567	40	0.50	2.34	4140
			700		0.50	1.40	2472
9	q uuu uu.	167,166,165,164,162	700	20	0.50	1.40	2473
		, 161					
10		1,39,14,01,11,112	600	20	0.40	1.20	1696

11		474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12		39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13		53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14		86,87 (06),	900	25	0.40	2.25	3180
15		<pre>40, 41,42,43,47,48,50,51 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102</pre>	650	50	1.00	3.25	11484
16		85,106,136,137	500	60	1.00	3.00	10601
17		<pre>218,211,210,209,208 ,180,179,178</pre>	500	50	1.00	2.50	8834
18	ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः ः	 255, 255, 256, 257, 258, 261, 263,264 वद- 329, 330,353,355,356, 373 	400	50	1.00	2.00	7067
19		29	425	45	1.00	1.91	6578
20		361, 362	510	50	1.00	2.55	9010

	166, 167	550	25	0.80	1.38	3887
	02,03	575	25	0.60	1.44	3048
	--	700	70	0.80	4.90	13851
-	54,55,59,60,61,72,73					
	,74,75					
	349,351,352,32,33,3					
	4,35,36,37,					
	38,39,40					
	339,338,337,336,335	500	60	1.00	3.00	10600
						132647
		Image: Second	Image: series of the series	Image: series of the series	Image: series of the series	Image: series of the series

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
]		Quantity in Brass	Quantity in Brass
1		PWD	110000	105000
2		Irrigation Dept.	110000	105000
	1	Domestic Requirement including Govt.		
3	Jaina	Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1		PWD	35000	40000
2		Irrigation Dept.	20000	25000
	lalaa	Domestic Requirement including Govt.		
3	Jailia	Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000
For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44'	75°45'
								32.7595"N	59.888"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2 NEAR MANEWADA SQUARE NAGPUR 440 024

MAY 2021

Sr. No.	Section No.	Section Description	Page No.
1	1.0	Introduction to Sand Ghat	4-8
2		Introduction	4
3	2.0	Project Description and Method of Mining	9-15
4	2.0	Project Description	9
5	2.1	Method of Mining	11
6	2.2	Period of Mining	11
7	2.3	Manpower Requirement	13
8	2.4	Amenities	13
9	2.5	Existing & Proposed Land Use Pattern	14
10	2.6	Existing Flora & Fauna	14
11	2.7	Local Geology	14
12	2.8	Mine Closure Plan	14
13	3.0	Baseline Environment , Anticipated Impacts and Management	16-31
14	3.0	Baseline Air Quality	16
15	3.1	Anticipated Impacts and Management	17
16	3.1.1	Dust Generation and Control	17
17	3.1.2	Impact due to Noise Pollution and its Management	20
18	3.1.3	Impact due to Water Pollution and its Management	20
19	3.1.4	Impact on Land and its Management	21
20	3.1.5	Impact on Socio Economic Environment	22
21	3.1.6	Impact on Ground Water Level of Surrounding Area	23
22	3.1.7	Sand Replenishment Studies	23
23	3.1.8	Land use pattern in the buffer zone	27
24	3.1.9	Biological Environment	29
25	3.1.10	Socio economic Environment	31
26	3.1.11	Occupational Health	31

27	3.1.12	Final Mine Closure Plan	31
28	4.0	Implementation, Monitoring & Budgeting to implement	32-38
29	4.1	Environmental Management Plan	32
30	4.1.1	Air Quality Management	32
31	4.1.1.1	Controlling Dust Levels	32
32	4.1.2	Noise Pollution and Ground Vibrations	34
33	4.1.2.1	Noise Pollution Control	34
34	4.1.3	Traffic Management	34
35	4.1.4	Water Quality Management	35
36	4.1.4.1	Water Pollution Control Measures	35
37	4.1.5	Implementation of Final Mine Closure Plan	35
38	4.1.6	Plantation program	36
39	4.1.7	Occupational Health and Safety Management	36
40	4.2	Monitoring of Implementation of Environmental Management Plan with Budget	37

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Sadesawangi sand ghat proposed (over river Dudhna) in Ambad taluka is one of the two sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Ambad and adjoining areas of other talukas. All two sand ghats are on Dudhna river. Details of Ambad taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr.	Name of	Tahsil	Name of	Nearest Gut No.	Area	Area in cum.	Available	Location	
No.	Sand Ghat		River		in		Sand in		
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44'	75°45'
								32.7595"N	59.888"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°44' 32.7595"N	75°45' 59.888"E
BP-2	19°44' 30.3461"N	75°46' 7.2246"E
BP-3	19°44' 25.8284"N	75°46' 18.3273"E
BP-4	19°44' 25.0711"N	75°46' 18.014"E
BP-5	19°44' 29.54"N	75°46' 7.0432"E
BP-6	19°44' 31.9945"N	75°45' 59.5964"E

Sl.	Areas	
110.		Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.36 km NNW
2	Distance from infrastructural facilities	Ambad –13.5 Km SE
	Railway line	13 km NE
	National Highway	NH211-18.5 Km SW
	State Highway	SH30–14.5 Km N
	Major District Road	Jalna Ambad Rd–6.27 Km E
	Any Other Road	Vil Rd-0 354 km S
	Electric transmission line pole or tower	2.1 km S
	Canal or check dam or reservoirs or lake or ponds	Check dam $- 3.024$ Km NW
	In-take for drinking water pump house	3.024 Km NW
	Intake for Irrigation canal pumps	3.024 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Karaji Nalla – 1.55 Km SE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Sadesawangi -0.245 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –15.5 Km NE ,

Table 3.0 Environmental Sensitivity of Sand Ghat :

	(hospitals, schools, places of worship, community facilities)	Ambad –13.5 Km SE Sadesawangi -0.245 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following	Not within 5 km study area
	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)	No
18	 Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project. 	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image



Proposed Approach Road for Sand Ghat on Google Image

Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 195 m connecting Sadesawangi rd.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around Ambad Tahsil. District Mining Officer Jalna has proposed for the production of 3048 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in	Area in cum.	Available Sand in	Location	
					На	LxBxD (m ³)	Brass	Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44'	75°45'
								32.7595"N	59.888"E

Surface Plan for Sadesawangi Sand Ghat:



2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- a. Over burden/Soil Removal: No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading The ordinary sand will be loaded manually by labours.
- c. Hauling Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand	575m x 25 m x 0.60 m
ghat or up to scooping of Allotted/Permitted	
quantity mined out, whichever is earlier excluding	
stipulated monsoon period between 10 June -30	
September of the calendar year and the rainy days	



Production Plan for Sadesawangi Sand Ghat :

2.3 Manpower Requirement

Sr.	Category	Nos.
No.		
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	10
6	Support Staff/Labors	5
	Total	38

About 38 labors are required to carry out the scooping activity.

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day		
Dust suppression/ Plantation	1.0		
Domestic Use	0.760		
Total	1.760		

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

4.450	Existing	Proposed
Area	Land Use	Land Use
	sq. m.	sq. m.
Area under pits	00	14375
Area under dumps	00	00
Undisturbed Area	14375	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem,tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice,rabbits, lizards etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed. Method of SandTraps Emplace Gabions (1m height) at 200 m intervals to function as sand traps during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.



Figure -3

Final Closure Action Plan for Sand Ghat

(1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.

(2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.

(3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).

(4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.

(5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.

(6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.

(7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Anticipated Impacts and Management

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is only 3048Brass/annum from the proposed sand ghat.

 Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Area Source Emission Factor Considered

Refer Chapter -11 19.2 of EPA emission manual.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 94 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	24411 TPA
Operational Days per Year	260 Days
Lead (m)	195m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.139770556
Total	0.139770556

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Accordingly Maximum incremental GLC is predicted as 0.5577µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr.	Name of	Tahsil	Name of	Predicted	
No.	Village		River	incremental GLC	
				in terms of PM_{10}	
1	Sadesawangi	Ambad	Dudhna	0.5577µgm/cum	

Predicted levels of PM₁₀were found to be within permissible limits as per NAAQ standards.

In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.

- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out as per CPCB guidelines to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. In the lean months, the proposed sand mining will not expose the base flow of the river and hence there will not be any adverse impact on surface hydrology and ground water regime due to this project. As per the Government recommendations the sand in riverbed will be extracted up to 0.6m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.
- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 03.09.2019 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.

 Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health (Dudhna River)

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.

- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed Sadesawangi sand ghat is 0.6m keeping 2.0m bed depth of sand. Total Sand depth available is 2.6m.

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

Sand Replenishment

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A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

22



cum/minute

Siltation is mapped for the rivers using slope –discharge-silt formula as below



[#]In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method			
	Theoretical	Last Year	This Year Deposition	
	in m ³	Deposition	in m ³	
		in m ³		
Sadesawangi	3180	2240(Yr 16-17)	8625	

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands are around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence

degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

26

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, jowar,toor are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu,sipnas,wagur, chhachya, kathla and zinga, etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to

27

have a green belt along the bank. For which appropriate species of plants that suits the geoclimatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest saplings along the bank as per EMP. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees. The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Gulmohar will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement.

Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Dudhna. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder. A budgetary provision of Rs 7.60 lakhs is earmarked to implement the Environment Management Plan.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM_{10} due to proposed mining operation would be about $0.5577 \mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01 \ \mu g/m^3$ at a distance of about $1.0 \ km$ from the mining lease boundary. The impact of mining operation would be negligible beyond $1.0 \ km$. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation
 RAMP
- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allow to keep idle to reduce pollutant levels and conserve riverine health.

S. No	Impact Source	Impact	Control measure	
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	 Compaction, gradation and drainage on both sides & development of green belts Proper maintenance. Regular water spraying. Avoiding over filling of tractor and consequent spillage on the roads Air quality will be monitoring at impacted village. 	
2	Truck/ Tractor Movement	Air Quality	 No overloading of trucks. Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Enforcing speed limit. Regular monitoring of the exhaust fumes. No Engine of tractor/truck will be kept on during the filling. If possible entry be restricted to river bed 	
3	Ramp and Sand Reach	Mining Operations	 Regular ramp Inspection and Ramp maintenance Provision of dusk masks. Mining will be done during day time between fixed hours only. 	
4	Bank Management	Bank Erosion/ Flood Plain management	 Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	

A summary of air pollution control measures is given below:

5	Occupational Health & Safety	Safety of Workers and Mining Operations	 Providing a working environment that is conducive to safety & health
	Measures to Control Dust Inhalation		• The management of occupational safety & health is the prime responsibility of mine owner.

	 Provision of necessary personal protective equipments
	 Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities
	• Provision of First Aid and Drinking Water, Temporary rest Room

4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Туре	Intensity, dB(A)	Proposed control
Transportation through village roads		Highway model -62.8 L _{eq}	Avenue plantation,Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Dudhna or other option as suggested by authority will be eased.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.7 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant about 483plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabhul, Karanj, Gulmohar etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount Rs. 7.60 Lakhs on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars	
				/Qty.	Budget/Cost
					in RS.
1	Transport Road	On Air Quality	 Compaction, gradation and drainage on both sides 	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	39000
		On Land /			
		Rd stability/	· Proper		25000
			maintenance.		
		Rd degradation	 Regular water 		100000
			spraying.		
			 Air quality will be monitoring at impacted village. 	(For One Day Monitoring)	15000
			 Health Checkup of Employees 		20000
2	Truck/ Tractor Movement	Air Quality	 Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. Regular monitoring of the exhaust fumes. 	(10 tarpaulin) 10 tractors@ Rs. 500/tractor	50000 5000
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			. Barriers & Traffic Management Expenses	 Excluding Man Power Salary which is included in labour costs 	20000
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			• Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	 Green belt along bank 		
		Flood Plain management	• Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	288 Nos.	144000
5	Transportation on Village Roads	Dust Control	• Green belt along village Rd	195 Nos.	97500
6	Final Mine Closer Plan implementation	Replenishment of Sand	 Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		 Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		 As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR 		100000
Total in Rs					