



## **EXECUTIVE SUMMARY**

### **1.00 INTRODUCTION**

In order to maintain the Demand and supply gap and control illegal sand mining, MOEF&CC GoI has issued **Sustainable Sand Mining Management Guidelines-2016 and Enforcement & Monitoring Guidelines for Sand Mining -2020.**

Accordingly , GoK constituted District Sand Monitoring Committee (DSMC) in each district for grant of sand blocks. The Ballari District Sand Monitoring Committee, has issued notification for Navali Sand Block No HPT OSB 05 for an area of 28.42 Acres in favor of KSMCL and advised to obtain all statutory clearance.

### **1.01 LOCATION**

Location with reference to the village map is given below

Plot/Survey/Khasra No.	280
Village	Navali
Tehsil	Hoovina hadagali
District	Ballari
State	Karnataka



Executive summary for Navali Sand Block No HPT OSB - 05, Area: 28.42 Acre at Navali Village, Huvina Hadagali Taluk, Ballari District, Karnataka

Location of the project site GPS Coordinates are tabulate below.

Map Datum:- WGS84

Points	Longitude	Latitude
A	E-75 <sup>0</sup> 53' 33.1"	N-15 <sup>0</sup> 03' 14.9"
B	E-75 <sup>0</sup> 53' 33.3"	N-15 <sup>0</sup> 03' 11.6"
C	E-75 <sup>0</sup> 53' 15.9"	N-15 <sup>0</sup> 03' 08.9"
D	E-75 <sup>0</sup> 53' 07.8"	N-15 <sup>0</sup> 03' 07.4"
E	E-75 <sup>0</sup> 53' 02.5"	N-15 <sup>0</sup> 03' 03.4"
F	E-75 <sup>0</sup> 53' 59.3"	N-15 <sup>0</sup> 03' 05.9"
G	E-75 <sup>0</sup> 53' 02.7"	N-15 <sup>0</sup> 03' 10.3"
H	E-75 <sup>0</sup> 53' 15.4"	N-15 <sup>0</sup> 03' 12.3"

## 2.00 PROJECT DESCRIPTION

The nature of the project involves extraction of ordinary sand from the Tungabhadra river bed for the production of 70,846 TPA in an area of 28.42 Acre.

The salient points of the project are given below

Sl. No	Particulars	Units	Proposed
1	Proved Geological reserves	tonne	1,14,932
2	Proved Movable reserves	tonne	98,056
3	Recovery	%	85 %
4	Method of mining	OCM	Open cast mining
5	Max Production	TPA	70,846
6	Max waste	TPA	12,502



7	Total handling	TPA	83,348
8	Sand and waste	ratio	1:0.17
9	Cost of the project	Rs. in Lakhs	125.00
10	Water requirement	KLD	5.00

## 2.01 Method of Mining

- Mining will be restricted within the leased area.
- Opencast semi-mechanized mining method will be adopted for extraction of sand.
- Mining will be avoided where water present in the sand block.
- Mining depth proposed to be restricted to 1 meter.
- Mining will be continued from the downstream towards upstream.
- No drilling and blasting is involved in this project.
- JCB/Loader (light weight) will be deployed for excavation and loading.
- Sand mining will be discontinued during rainy season.
- Mining will be done during day time only with one working shift.
- The waste material will be used for back filling of excavated area and strengthening of river bank.

## 2.02 Waste generation and Disposal

About 50,009 TPA waste likely to be generated, the entire quantity proposed to be used for backfilling of excavated area and strengthen of river bank concurrent to mining.



### 2.03 Man power requirement

The proposed project provides 20 direct employment generation and 100 indirect employment generation. About 90% of the employment preference will be given to the local peoples as per their eligibility.

### 2.04 Site Infrastructures

The Navali Sand Block No HPT OSB 05 will have own office premises, canteen, first aid station, site office, maralu mitra app facilities, telephone facilities, internet facilities, toilet facilities, Creech facilities etc..

## 3.00 BASE LINE ENVIRONMENTAL STUDIES

**Rainfall:** The normal annual rainfall of the district is 611 mm and rainy days 43 normal rainy days, particularly during June to September from southwest monsoon and October to December from northeast monsoon. Precipitation during southwest monsoon accounts for 60% of the total amount of rainfall and during northeast monsoon it is 24% the remaining is due to sporadic in summer. September is the wettest month in the year.

**Temperature:** The climate of Bellary district is quite moderate shows dryness in major part of the year and a hot summer from March to May months. The mean maximum temperature in the district is 40.4°C and the mean minimum temperature is 14.3°C (January month).

**Wind speed:** Relative humidity ranges from 48 to 74% in the morning and in the evening it ranges from 27% to 61%. The winds are light to moderate with some



strengthening in the south west monsoon. During October to April, the winds blow from directions between north east and south east and are calm in morning. Winds blow southwest and northwest direction during May to September with an average velocity of 12 kmph.

### Land use and land cover (LU/LC)

The land use and land cover for the study area of 10 kms radius data were collected. Its abstracts are given below

#### Land use pattern of the study area

S. No	Land category	Area in ha	% of land cover
1	Buildup (urban)	336.72	1.07
2	Buildup (rural)	674.59	2.14
3	Agriculture land	21127.2	67.23
4	Barren land	3218.36	10.25
5	Forest	4058.79	12.92
6	Water body	1973.41	6.27
7	Mining	38.95	0.12
<b>Total</b>		<b>31428</b>	<b>31428</b>

### Air:

In order to know the baseline status of the AAQ level, six locations are identified and samples were drawn and analysed for PM10, PM2.5, SO2, NOX as per the prescribed norms. From the results, it has been concluded all the parameters within the permissible limit as specified by CPCB.



**Noise:**

In order to know the baseline status of noise level, six locations are identified and samples were drawn. From the results, it has been concluded all the parameters within the permissible limits.

**Biological Environment:**

There is no national park, wild life sanctuary and biosphere reserve within 10kms radius from the project. There is no impact on aquatic flora and fauna, due to the sand mining activities.

**Socio Economic status:**

There is no any patta land , R&R plan,mining activity in the region will have positive impact on the social economic condition.

**4.00 ANTICIPATED IMPACTS AND MITIGATION**

**Impact on Land:**

There is no any change in their land use except broken on sand deposited area.

**Mitigation:**

The land used for mining will come back to the original stage every year after replenishment. As per the mine plan the river bed area will be replenished by sediments during rainy season. This practice will be continuous and simultaneous. Hence there is no impact on land.

**Impact on Air:**

The major sources of air pollution in the proposed mine is dust generation due to extraction, loading and haulage of mineral (sand) and wind erosion of exposed material.



**Mitigation:**

Water sprinkling will be done on the roads regularly, avenue plantation, loaded vehicle will be covered with tarpaulin, regular road maintenance, green belt formation etc..

**Impact on Noise:**

The source of Noise pollution will be the vehicular movements. Noise will be generated by the digging of mine area using shovels, crowbars etc.

**Mitigation Measures:**

Regular maintenance of vehicle, green belt development, proper road gradient maintenance etc.. Awareness will be imparted to the workers about the permissible noise levels & maximum exposure to those levels.

**Impact on Water:**

The proposed mining depth is only one meter and away from the water body. The existing ground water level in the area is deeper than proposed mining. Surface water does also not diverted or disturbed. Therefore, there would not be any impact on surface water and ground water quality.

**Mitigation:**

Ground water recharging pit in consultation with the land owner will be undertaken, Rain water harvesting work, Rejuvenation of catchment area towards up stream of the sand block, gully plug and check dam proposed to be undertaken. The surface water path will not be diverted. All along the lease boundary garland drain will be formed to avoid rain water into working place and allowed water into natural water course.



### **Impact on Biological Environment:**

There is no forest area diversion required for the project. No plant will be cut during operational phase of the mine. The nearby area of project is moderately populated with a number of villages. The fauna in the vicinity of the mine is restricted to few common small species. There will be no impact on flora & fauna due to this mining project.

### **Mitigation:**

The mining activity shall be restricted to one meter only, no tree cuttings, massive afforestation, dust suppression in the area.

### **Impact on socio-economics:**

There is no any patta land , R&R plan,mining activity in the region will have positive impact on the social economic condition.

### **Mitigation:**

The KSMCL Management will provide direct and indirect employment, social works, up liftment of poor section, CER activities, massive afforestation, local road maintenance, education facilities, create demand for the local products etc..

## **5.00 ANALYSIS OF ALTERNATIVES**

Sand (minor mineral) deposits are site specific and will be done by open cast mining method. The mined out in river bed area will get replenished annually after monsoon.

Therefore, no alternate site is suggested as existing land use of mine lease classified as “River body” and shall continue to be so even after the current mining project is over.





## **6.00 ENVIRONMENTAL MONITERING PROGRAMME**

### **Monitoring Schedule and Parameters**

<b>Monitoring Schedule and Parameters</b>		
<b>No.</b>	<b>Activity</b>	<b>Schedule</b>
<b>Air Pollution Monitoring</b>		
1	Ambient air monitoring of parameters specified by MoEF (PM10, SO2 & No2).	Once in every season except monsoon
<b>Water Quality Monitoring</b>		
2	Monitoring water quality surface water from the river	Once in every season except monsoon
3	Monitoring of one sample of tube well and open well at mine / nearby location. Parameters are essential parameters as per IS: 10500:1991.	Once in every season except monsoon
4	Monitoring of water spray requirements	Log-sheet of water spray will be maintained on daily basis
<b>Noise Quality Monitoring</b>		
5	Noise in the ambient atmosphere in mining lease	Once in every season except monsoon
<b>Greenbelt Maintenance</b>		
6	Monitoring schedule for Greenbelt development as per mining plan	Yearly
<b>Soil Quality Monitoring</b>		
7	Soil at six locations	Once in every year

## **7.00 ADDITIONAL STUDIES**

**Public consultation:** The public hearing will be conducted by SPCB as per the EIA Notification and the public hearing points raised and commitment of the project proponent is to be incorporated in the final report.



## **Risk Assessment**

- Unauthorized driving of vehicles, mostly by helpers should be prohibited.
- Overloading a vehicle can be a cause of mishaps.
- Driving vehicles in an intoxicated stage should be prohibited.
- Use of sub standard equipment's or machinery parts can result in accidents or break down. Standard machinery with authorized spare parts must be used.
- Managerial, supervisory and competent persons of the mine would be engaged for supervising machinery, maintenance & housekeeping of the mine areas, as per needs.

## **8.00 PROJECT BENEFITS**

- The management will recruit the semi-skilled and unskilled workers from the nearby villages.
- Assistance for the development of public amenities in this region.
- Massive afforestation in the suitable areas.
- Corporate Environment Responsibilities(CER) activities providing to the locals.
- Corporate Social Responsibilities(CSR) activities providing to the locals.
- Training programs for the improvement of lifestyle.
- Supporting for the economically weaker students for their education.

## **9.00 ENVIRONMENTAL MANEGEMENT PLAN**

Following provisions are proposed to be taken for improving, control and monitoring of environment protection measures.



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EMP Measure Cost					
Protective measures	Unit	Proposed	Specification	Capital (Rs.Lakh)	Recurring (Rs.Lakh)
Dust control	Ls	Regular	Water spray	-	0.75
Environmental Monitoring	Per year	Ls	Regular	-	0.50
Avenue Plantation	Ha	1.00	approach road (Navali to S B)	1.70	-
<b>Total</b>				<b>1.70</b>	<b>1.25</b>
<b>Total = Rs. 1.70 + Rs. 1.25 * 5 yrs = 7.95 lakhs</b>					

#### Under Corporate Environment Responsibilities (CER)

Year	CER Activities	Proposed Budget (Rs in Lakhs)
2022-23	Afforestation on both side of TB river near sand block for 0.60 kms towards downstream (5 mtrs on each side = 1 Ha)	1.25
2024-25	Afforestation on both side of TB river near sand block for 0.60 kms towards downstream (5 mtrs on each side = 1 Ha)	1.25
<b>Total</b>		<b>2.50</b>

#### Under Corporate Social Responsibilities (CSR)

Year	CSR Activities	Budget (Lakhs)
2022-23	Upliftment of SC/ST colonies in Navali village	5.00
2024-25	Drinking water and toilet for local Govt school	3.00
<b>Total</b>		<b>8.00</b>



### Under Green Belt development

Year	Location	Budget (Rs)	Types of species
2022-23	Afforestation between OSB 4 and OSB 5 (700 mtrs)	85,000	Soil erosion control species in consultation with local forest dept.
2023-24	Avenue planation of 0.60 kms proposed on approach road from Navali village to Sand block. Total 488 plants (3.5 x 3.5m)	85,000	

### 10.00 SUMMARY AND CONCLUSION

- ❖ The proposed sand mining project will be beneficial for the development of nearby villages.
- ❖ The air, water, noise will have controlled within the permissible limit to avoid impacts on surrounding environment.
- ❖ The necessary pollution control tools will be provided such as plantation, personal protective equipment's in a regular manner.
- ❖ The rain water harvesting and ground water recharging practices will be adopted around the proposed mining area.
- ❖ Local road, temples etc... maintenance will be taken.
- ❖ The CER and CSR works proposed to be adopted by quarry management.
- ❖ The overall impact will be positive from this project.