

PRE-FEASIBILITY REPORT

1.0 EXECUTIVE SUMMARY

The proposed mining project is for mining of soil near Mauza- Janjira Ismailpur, Block- Hajipur, District- Vaishali, Bihar. The proposed mining project is an open cast semi mechanized Mining. The proposed project is < 5 hect. Minor mineral and non-coal mining project thus it is classified as “CATEGORY – B2” project under activity 1(a) of the schedule of EIA notification dated 14th September 2006 as amended by Ministry of Environment, Forests and Climate Change, New Delhi.

. Details of the proposed project are as: -

S. No.	Information	Details
1.	Project name	Proposed mining project is for mining of soil near Mauza- Janjira Ismailpur, Block- Hajipur, District- Vaishali, Bihar
	Mining Lease Area	1.47 Ha
3.	Location of mine	
	Khasra & Thana number	Mauza- Janjira Ismailpur, Block- Hajipur, District- Vaishali, Bihar Thana No.- . Thana No.- 32. Khata No.- 60 & 275 Khasra No- 20 & 21
	Village/Mauja	Mauza- Janjira Ismailpur
	Tehsil	Block- Hajipur
	District:	Vaishali
	State:	Bihar
4.	River/Nalla/Nadi	Gandak River
5.	Minerals of mine	Ordinary soil
6.	Mining Period	1 Years
7.	Proposed Production	37447 tonne/annum or 24475 cum per annum
8.	Method of mining	Open Cast semi-mechanized method (as per Bihar Minerals

		Concession Prevention of Illegal Mining, Transportation & Storage Rules-2019).
9.	Drilling or Blasting	No
10.	No of working days	250 days
11.	Water demand	Domestic Water: 0.2 KLD
		Dust Suppression: 3.0 KLD
		Green Belt Development: 0.2 KLD
		Total Water Requirement: 3.4 KLD
12.	Man Power	13
13.	Nearest railway station	Haraili Fatehpur- Approx. 3.0 km in West
14.	Nearest state highway/ national highway	NH-139W, Approx. 350 m in East
15.	Nearest air port	Patna Airport -22.0 Km SW.

2. INTRODUCTION

2.1 Identification of Project and Project Proponent

Proposed Soil Mining Project is situated at Mauza- Janjira Ismailpur, Block- Hajipur, District- Vaishali, Bihar over an area of 1.47 ha. was given to M/s D. Kumar Construction for extraction of Soil for uses in filling and levelling purpose. Mining Plan has been Submitted under rule (17) of Bihar Minerals (Concession, Prevention of Illegal Transportation & Storage) Rules, 2019 amended till date. The details of the project proponent are given below:

Name of the Lessees	M/s D. Kumar Construction
Name & Address of POA Holder	M/s D. Kumar Construction Prop- Mr. Dhananjay Kumar S/o Sukho Singh At- Kasaha, P.O.- Simaria Ghat
Name of Mine	Proposed Soil Mining Project is situated at Mauza- Janjira Ismailpur, Block- Hajipur, District- Vaishali,

	Bihar
Mineral	Ordinary earth
Area (ha)	1.47 Ha
Status of Mine	Fresh application for Environmental Clearance.

2.2 Brief description of the nature of the project

The project has been proposed for mining of Soil for leveling and filling by adopting opencast semi-mechanized mining method.

As per MoEF Office Memorandum no. L-11011/47/2011-IA.II (M) dated 24th June 2013 following conditions shall be followed during the mining activity:

- i. The activity associated with burrowing/excavation of brick earth and ordinary earth for purpose of brick manufacturing, construction of road, embankments etc. shall not involve blasting.
- ii. The burrowing/excavation activity shall be restricted to a maximum depth of 2 m below general ground level at the site.
- iii. The burrowing/excavation activity shall be restricted to 2 m above the ground water table at the site.
- iv. The borrowing/excavation activity shall not alter the natural drainage pattern of the area.
- v. The borrowed/excavated pit shall be restored by the project proponent for useful purpose(s).
- vi. Appropriate fencing all around the borrowed/excavated pit shall be made to prevent any mishap.
- vii. Measures shall be taken to prevent dust emission by covering of borrowed/excavated earth during transportation.
- viii. Safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to borrowing/excavation of earth.
- ix. Workers / labourers shall be provided with facilities for drinking water and sanitation.
- x. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.

- xi. A minimum distance of 15 m from any civil structure shall be kept from the periphery of any excavation area.

2.3 Need for the project and its importance to the country and region

The need of Ordinary Soil in all fields are very essential as it is a compulsory material for all types of construction, and Industries fields. Another very impotent use of ordinary soil is it is used in all kind of leveling and backfilling purposes for reclamation/ restoration sites and construction/ infrastructural sites. Whether a landscaping project or constructing a retaining wall, soil is used to ensure that it remains standing for many years to come. Soil as a leveling and filling material is ideal for areas in need of compaction and foundation support, it can be easily compacted, providing a firm and solid base.

2.4 Demands-Supply Gap

The demand for soil is ever growing with the growth of the infrastructure sector in our country. The mineral is used mainly in the construction activities like buildings, bridges etc. The requirement for the mineral is always high in the cities and towns. Therefore, there is always a good demand of the mineral in the domestic market.

2.5 Domestic/ Export Markets

The demand in the domestic market is high especially in the nearby towns and cities and hence the need for soil mining.

2.6 Export Possibility

There is no proposal to export the mineral as the minerals excavated, cater to the indigenous demand and the development is a never ending process.

2.7 Domestic/ Export Markets

a) DOMESTIC MARKET

There is always an ever-increasing demand of these minerals in the domestic market.

b) EXPORT MARKET

The proposed mining activity is for indigenous consumption only for real state, road making etc. So no export will be envisaged.

2.8 Employment Generation

The total direct manpower requirement for the proposed mining operation will be around 13 Significant Indirect employments is also expected due to the associated activities. This project operation will provide livelihood to the poorest section of the society.

3.0 PROJECT DESCRIPTION

3.1 Type of project including interlinked and interdependent projects, if any

The project falls under Category “B2” Project or activity 1(a) As per EIA Notification 14th September, 2006 & O.M No-L-11011/47/2011-IA.II (M) dated 24th June 2013. It is for Mining of ordinary earth. It is an opencast semi mechanized mining. The project does not include any interlinked or interdependent project.

3.2 Location

The mining lease area is located at Mauza- Janjira Ismailpur, Block- Hajipur, District- Vaishali, Bihar.

The mine site is located at:

Table-1 :-Pillar co-ordinates of the proposed soil mining site

	Latitude	Longitude
A	25°46'16.50"N	85°11'11.04"E
B	25°46'15.40"N	85°11'17.85"E
C	25°46'13.81"N	85°11'17.51"E
D	25°46'14.45"N	85°11'14.05"E
E	25°46'12.66"N	85°11'13.89"E
F	25°46'13.52"N	85°11'9.85"E
G	25°46'14.37"N	85°11'9.76"E
H	25°46'14.46"N	85°11'11.02"E

The Location map of the project site is given below:

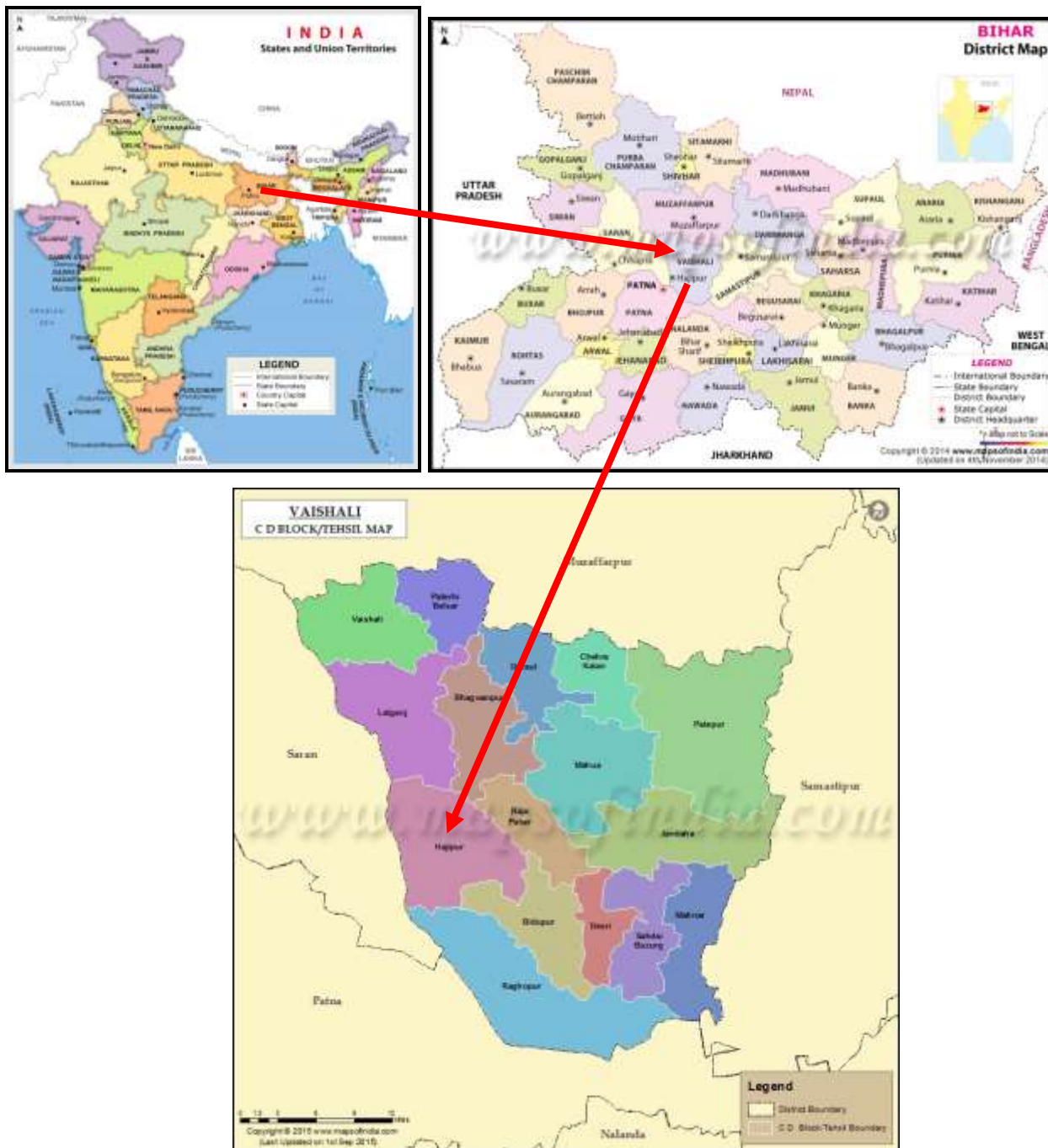


Figure 1: - Location map of the proposed site

3.3 Details of alternate sites considered

No alternative site has been considered, as the mining is site specific.

3.4 Size or magnitude of the operation

The proposed mine has lease over an area of 1.47 Ha. The total extractable material would be approx. **37447 tonne or 24475 cum meter.**

3.5 Project description with process details

3.5.1 Method for developing and working the deposits

The soil material will be collected in its existing form.

3.5.2 Method of mining

Ordinary soil in the area is overlain by thin cover of top soil which is helpful for agriculture. Therefore the top soil is proposed to be scrapped to expose the mineral. It shall be stacked separately & used for restoration after extraction. Proposed method of mining will be open cast with bench formation, is proposed to be extracted by semi mechanized with use of JCBs. Maximum mining depth will be 2.0 m. The width and height of final benches shall be 6 m x 1m. The mining process will include mining of the Ordinary soil/earth and transportation of the material to the end user. Berm around the lease area will be left as a barrier zone which will be half of the working depth. Drilling and Blasting is not required.

The agriculture fields are slightly undulated having mounds of soil at places. The maximum depth of excavation is proposed to be 2.0 m due to these small mounds/dunes present over the field having high deposition of soil, making the fields unsuitable for cultivation. The mining will result in leveling of the fields making them arable.

3.5.3 Working Depth (below ground level)

The deposits occur in the middle/bottom of the land area. During the lease period, the mining will be restricted down to 2.0 m below river bed.

3.6 Raw Material Required Along With Estimated Quantity, Likely Source, Marketing Area of Final Product/S, Mode of Transport of Raw Material and Finished Product

No raw material will be required in the proposed project. The operation involves the extraction of soil in its existing form and loaded into trucks/trolleys which will transport the material to the end use place. The existing roads will be utilized for the transport of soil from mine site to end use place.

3.6.1 Use of Mineral

The proposed excavated soil will be used for filling and levelling purpose.

3.6.2 Mineral Beneficiation

No mineral beneficiation is involved.

3.6.3 Surface Transport

Mineral production requires transport of ordinary earth/soil to the respective user. Depending on the rate of production, 10 tons of trucks will be used for the transportation of the mineral.

3.7 Resource optimization/ recycling and reuse

Not envisaged.

3.8 Availability of water its source, energy/ power requirement and source

3.8.1 Water Requirement

Total water requirement will be 3.4 KLD. This water will be supplied through private water tankers.

Table 2: -Water requirement of the project

Activity	Water requirement (KLD)
Dust suppression	3.0
Domestic	0.2
Green Belt Development	0.2
Total	3.4

3.8.2 Power Requirement

All the activities will be carried out semi mechanically. The operation will be done only from sunrise to sunset hence there is no power requirement for the project at site.

3.9 Quantity of wastes to be generated (liquid and solid) and scheme for their management/ disposal.

3.9.1 Solid Waste Generation & its Disposal

There are no mineral rejects of any kind produced during mining. Only small amount of municipal solid waste will be generated which will be managed by labourers' itself. Separate dustbin will be made available at the site for collection of waste.

3.9.2 Liquid Effluent

No liquid effluents will be generated at the mine site.

4. SITE ANALYSIS

4.1 Connectivity

Mine site is well connected to the nearest metalled road approx. 450 m towards East. Other forms of connectivity are as: -

Table 3: Connectivity

Nearest Railway Station	Haraili Fatehpur- Approx. 3.0 km in West
Nearest Airport	Patna Airport -22.0 Km SW.
Nearest Highway	NH-139W, Approx. 350 m in East

4.2 Land form, land use and land ownership

The topography of the lease area and the surrounding area is plain. The highest and lowest elevation of the lease area is 72 m & 71 m respectively. The area proposed is on agricultural land. Surrounding area comprises of agricultural fields. There are no eco-sensitive areas or forests present in and around the lease area.

4.3 Topography

The Vaishali district constitutes a part of Ganga river basin. It has two sub-basins, namely Gandak sub-basin and Burhi Gandak sub-basin. The major part of the district falls under Burhi Gandak sub-basin. The Gandak is the main river flowing in the southeasterly direction and forming western boundary of the district. It discharges in the river Ganga near Hajipur. The river Gandak does not receive any important tributary in its course. There are two important distributary channels namely the Gandaki and the Baya rivers flowing parallel to the river Gandak and discharge into the river Ganga. The Baya runs through the central part of the district in north–south direction.

4.3.1 Geomorphology

The district comprises extensive plain formed by the alluvium brought by the Ganga, the Gandak and distributaries of Gandak. The morphology of the area has been shaped mainly by Gandak river which originates in the Himalayas in Nepal . Morphologically it can be classified into three broad categories.

- 1) Hazipur Surface: It is the oldest morpho-unit of the area comprising yellow-brown to brownish-grey compact clay.
- 2) Vaishali Surface: It overlies the Hazipur surface. This surface comprises ash-grey-silt/silt-clay/clayey-silt and has been found development on the eroded and very gently sloping Hazipur surface.
- 3) Diara Surface: It is the lowest and youngest geomorphic unit which emerges from river bed. The diara surface has come into existence after the main channel has migrated. They are the old river beds.

4.5 Existing infrastructure

No existing infrastructure is present within lease area, the proposed lease area are Pvt. Agricultural lands.

4.6 Soil classification

Vaishali district is characterized by a wide variety of soils which can be broadly grouped into two categories according to U.S Survey Staff in 1975.

- 1) Entisols: They are younger alluvial soils locally known as Balsundari. They are deficient in nitrogen, phosphoric acid but generally rich in potash and lime. The Balsundari soils are generally a light friable loam with higher portion of sand and silt. The soil is most fertile and suitable for cultivation of high yielding crops like sugarcane and wheat.
- 2) Inceptisols: Calcareous alluvial soils occur mostly in the central part and locally known as Mathivari. The percentage of both phosphoric acid and potash are higher in this region. This soil is richer in lime content and kanker than Balsundari soil. This forms the typical paddy land of Bihar

Ref:- https://www.cgwb.gov.in/old_website/District_Profile/Bihar/Vaishali.pdf

4.7 Climatic data from secondary sources

The climate of the district is sub-tropical to sub-humid. The winter temperature ranges varies from 16° C to 4°C where as the summer temperature rises upto 40° C. The relative humidity is at its minimum during April and May and maximum during July and August. It ranges between 60 to 90%. The average annual rainfall in the district is 1168 mm. The district receives about 85% of the total rainfall from south-west monsoon. The south west monsoon extends from the middle of June to end of September. The district receives 50% of the rainfall during July and August

month of the year.

Ref:- https://www.cgwb.gov.in/old_website/District_Profile/Bihar/Vaishali.pdf

5. PLANNING BRIEF

5.1 Planning concept

The proposed project is for the mining of Ordinary soil/earth. Mining is proposed to be done through semi-mechanized method. Bihar Minor Mineral Rules amended till date & MCDR will be followed in the mining. Mining will be done in benches and will not intersect the ground water table.

5.2 Population projection

The project will employ most of the workers from nearby villages. There will not be any increase in population due to the project.

5.3 Land use planning

A barrier zone of half of depth of mining at the periphery of the lease area will be left on which the top soil scrapped will be stacked temporarily. Temporary office will be made near the mine site.

5.4 Amenities/facilities

Temporary rest shelters, portable toilets and First aid provision will be made available to the mine workers at the site.

6. PROPOSED INFRASTRUCTURE

6.1 Industrial area (Processing Area)

No industrial area is proposed.

6.2 Residential area (Non-Processing Area)

The mine workers will be hired from nearby villages, so residential areas will not be made.

6.3 Green belt

Plantation will be raised along both sides of roads and civic amenities in consultation with the local authorities. Total **50** trees of will be planted with various types of species.

6.4 Social infrastructure

- Road facility (existing roads will be maintained regularly)
- Employment opportunity

- Medical camps
- Social awareness camps,
- Donations to schools
- Secondary employment opportunities
- Formation of self-help groups for the women in nearby villages.

6.5 Connectivity

Mining site is well connected to the nearest metalled road approx. 450 m towards East.

6.6 Drinking Water Management

Water for drinking purpose will be sourced from private tankers.

6.7 Sewerage System

No Sewerage System is provided at the mine site.

6.8 Industrial Waste Management

Not applicable

6.9 Solid Waste management

No any solid waste other than municipal solid waste is expected to be generated at the mining site.

6.10 Power Requirement & Supply/ Source

All the activities will be carried out semi mechanically. The operation will be done only from sunrise to sun set hence there is no power requirement for the project at site.

6.11 Environmental Management Plan

The environmental management plan consists of the set of mitigation, management, monitoring and institutional measures to be taken during the implementation and operation of the project, to eliminate adverse environmental impacts or reduce them to acceptable levels. The present environmental management plan addresses the components of environment, which are likely to be affected by the different operations in the mine area.

Table-4: Budget Allotted for the Environmental Management Plan:-

Sl. No	Description	Capital Cost (lakh)	Recurring Cost (lakh)
1	Pollution Control & Dust Suppression	Nil	3.0*

2	Pollution Monitoring i) Air pollution ii) Water pollution iv) Noise Pollution	--	1.0
3	Plantation and salary for one gardener (part-time basis).	1.0	0.5
4	Haul road Maintenance Cost	1.0*	0.5
TOTAL		2.0	5.0
		7.0 Lakhs*	

7. REHABILITATION AND RESETTLEMENT (R&R) PLAN

Not Applicable

8. PROJECT SCHEDULE & COST ESTIMATES.

Estimated project cost is Rs. 12 Lakh. The lessee has all the mining equipment used for the scientific mining. Economically the mineral is mineable as compared to overburden thickness.

9. ANALYSIS OF PROPOSAL

The proposed mine will bring economic benefits to the state by the way of Royalty for mineral and to the local people by way of direct and secondary employment opportunities. Soil will be used in leveling and filling purposes. The material is in high demand at the local market The project will bring about socio-economic improvement of the area and will prove beneficial to the area.
