PRE - FEASIBILITY REPORT

1. EXECUTIVE SUMMARY

Sri Kuldeep Singh S/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P. is the lessee for Proposed River Bed Sand/Morrum Mining having lease area 3.96ha (9.78 acre) along River Yamuna in Gata No 553, 554 at Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P. of M/s Devansh Infra/109104. Study reveals that in recent years, rapid development has led to an increased demand for river minor mineral as a source of construction material. This has resulted in a mushrooming of river sand/morrum mining activities which have given rise to various ecological problems that require urgent action. These include adverse impact on lakes, groundwater, river bank erosion, river bed degradation, river buffer zone encroachment, change in natural water course, loss of biodiversity and deterioration of river water quality due to quarrying/mining of minor minerals.

To meet out the challenges of unsustainable mining of Minerals and guidance for the systematic and scientific mining of Minor Mineral, MoEF&CC, GoI made prior Environmental Clearance mandatory for mining projects with lease area up to 5ha and above under the notification, Sep 2006, as amended in 2009 & 2016, and requires prior Environment Clearance. Likewise the State of U.P. also amended Rule 35 of the Rules UPMMCR -1963 framed under rule 15 of the Mines and Mineral Development & Regulation Act, 1957 mandating requirement of Mining Plan & Environment Clearance for mining projects of area up to 5.0ha and in addition EMP for projects above 5.0 – 25.0ha in area.

2. INTRODUCTION

2.1 Identification of Project and Project Proponent

Sri Kuldeep Singh S/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P. is the lessee for Proposed River Bed Sand/Morrum Mining having lease area 3.96ha (9.78 acre) along River Yamuna in Gata No 553, 554 at Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P. of M/s Devansh Infra/109104. The proposed area was notified by the Office of the District Magistrate Banda inviting proposals for mining projects by way of E-tender cum E-auction. The offer and rates submitted by the proponent were found highest and LoI was granted to the proponent directing to complete required process of submitting duly approved Mining Plan and Environmental Clearance. The basic details of the proposed mining project of RBM, Sand/Morrum, Bajri, Boulders found seamlessly in mixed state in river bed of River Yamuna near Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P. are given below in Table 1.

Table 1: An overview of project

S.No.	Item	Details
1.	Name of the Applicant	Sri Kuldeep Singh S/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P.
2.	Mining Lease Area	3.96 ha (9.78 acre)
3.	Land Use	River Bed of Yamuna River (Non Forest and Barren Land)
4.	Land Ownership	Barren River bed Government Land
5.	Lease period	5 years from date of lease execution
6.	River	Yamuna River
7.	Name of protected areas, Wildlife Sanctuary, Eco sensitive area	No, there are no protected areas notified under the Wildlife (Protection) Act, 1972, Wildlife Sanctuary, notified Eco sensitive area falling in whole or in part within 15 km radius of the proposed project.
8.	Site Coordinates	Place: A – Latitude: 29°26'56.56"N – Longitude: 77°8'36.28"E B – 29°27'6.19"N – 77°8'32.50"E C – 29°27'5.45"N – 77°8'29.07"E D – 29°26'56.61"N – 77°8'28.25"E
9.	Location	Gata No 553, 554 at Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P
10.	Topography	Plane, River bed of Yamuna with minor slope towards main stream
11.	Minerals of mine	Sand/Morrum, bajri, thin band of clay found seamlessly in mixed state and soil intercalation in river bed of Yamuna.
12.	Proposed production of mine	As per approved mine plan of the project prepared by RQP estimated mineable reserve is given in Mine Plan.
13.	Method of mining	Mining will be carried out as per UPMMCR-1963 and approved Mining Plan.
14.	Drilling/Blasting	No drilling and blasting is proposed
15.	Estimated cost	Rs 50.0 Lac/annum
16.	Water demand	Water requirement for the project is approx. 1.5 KLD for domestic use (@ 30 lpcd for 50 persons), Approx. 1.5 KLD for dust suppression and Approx 2.5 KLD for development of green belt. The total water requirement is 5.5 KLD
17.	Sources of water	Drinking water supply will be met by existing nearby dug well /borewells or private tankers
18.	Ultimate depth of Mining	3.0m BGL
19.	Man power	Approximately 50 workers.
20.	Solid Waste	Laborers from nearby villages will be hired; no generation of solid waste is anticipated due to only day time working of proposed project activity.
21.	Nearest railway station	Railway Station: • Shamli – 17.0 Km (E), Balwa – 16.0 Km (E)*
22.	Nearest state highway	• NH1 -16.67 Km (W), SH12 (Shamli – Kairana Road) – 6.67 Km (S), MDR 22W – 9.0 Km (SE), SH82 (Merrut Karnal Road) – 10.0 Km (NE), Naunangli - Shamli Road – 5.50 Km (E)*
23.	Nearest Airport	• Airport: Karnal Airport – 30.0 Km (N)*
24.	Nearest city	• Nearest Town: Saloni Khurd – 7.50 Km (SW), Kairana – 7.80 Km (SE), Bhura – 6.5 Km (E) *

		• Nearest City - Shamli – 17.00 Km (E), Panipat – 18.00 Km (W), Karnal – 33.0 Km (NW), Mujaffar Nagar – 55 Km (E)* • District headquarters- Shamli – 17.00 Km (E), *

** Approximate aerial distances*

2.2 Brief description of nature of the project

The proposed project is to mine sand/Morrum systematically and scientifically from proposed mining lease area lying in undeveloped area. It will be an opencast surface mining project where mining will be carried out as per UPMMCR-1963. Following geo-scientific methods have been proposed to carry out the activity:

- Mining will be confined to extraction of Sand/Morrum, bajri, grit, clay found seamlessly in mixed state, in its existing form without any sorting from proposed mining lease area which is an undeveloped river bed, non forest upland.
- Mining of Sand in mixed state from proposed mining lease area will be restricted to the granted mining lease hold area only.
- Mining will be carried out as per UPMMCR-1963.
- In order to avoid environmental pollution or any accidental hazards, the mining activity will be restricted to daytime only.
- No storage of mined minor mineral is proposed at mine site.

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

Sand and morrum are very important minerals found in abundance in the riverbeds as major sediment. These minor minerals have become very essential for the society for their many uses, they can be used for making concretes, filling roads and buildings, brick making and reclamation etc. They play very important role in the protection of coastal environment where they take part as a buffer between the high tides and the coastal line. These river bed minor minerals are replenished during the heavy rains of monsoon season. Sediment in the form of river bed material (RBM) deposited in the last many years changes the shape of the river bed from a valley to a raised river bed land. Because of this, every year during monsoon season, heavy and devastating floods damage large tracts of land lying on both the banks of the rivers having large catchment area. Hence, it is imperative to remove the materials so that the river gets channelized.

The production of sand/morrum will benefit the state in the form of revenue from mining lease. Apart from this, project operation will provide employment directly and indirectly to the people residing in vicinity, thus improving the Socio-economic status of the area.

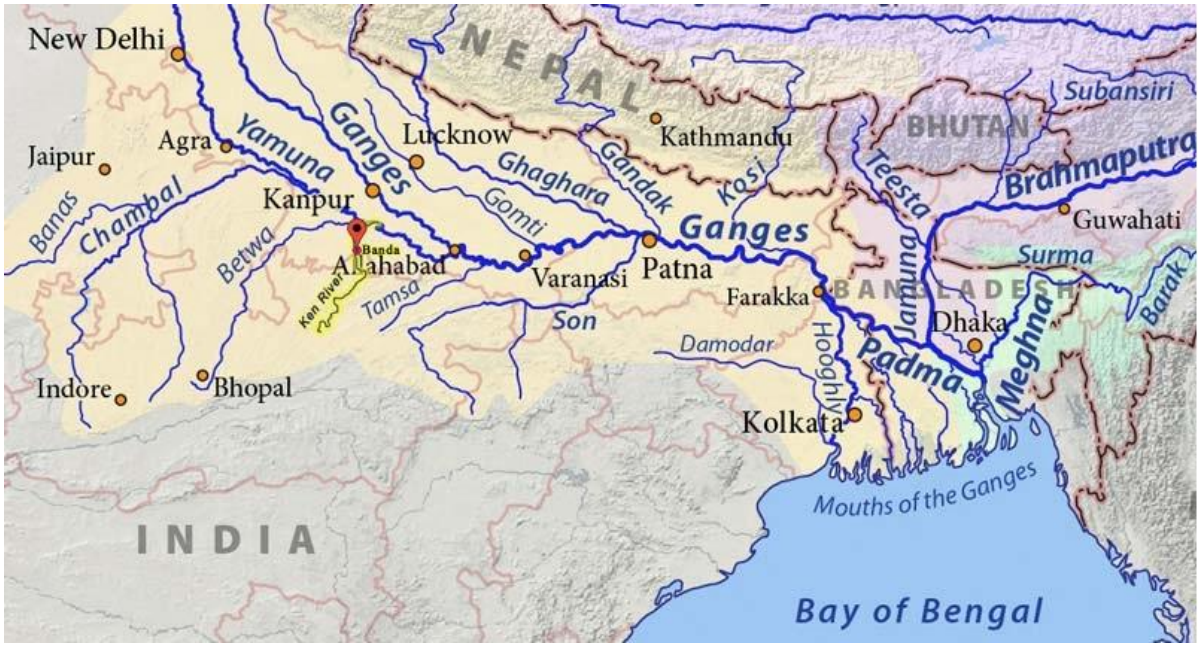
TOPOGRAPHY & PHYSIOGRAPHY

The Shamli district was carved out from Muzaffarnagar District on 28 September, 2011 as Prabudh Nagar and renamed Shamli in July 2012. Shamli is the headquarter of the district. Shamli located approximately 92 kilometres from Delhi along the Delhi–Saharanpur and

Meerut-Karnal highway. The district, covering an area of 1341 sq km lies in the north-west of Uttar Pradesh. It is bounded on the north by the Saharanpur district, Bagpat district in the south and in west Haryana state. It lies to the east of the Yamuna River, which marks the borders of two Indian states, Haryana and Uttar Pradesh.

The district falls in Survey of India Toposheet No. 53G, covering north latitudes 29^{0}45’49.33” and 29^{0}42’33.33” and east longitude 77^{0}23’ 10.06’’ and 78^{0}08’ 13.18’’. For administrative purposes, the district has been sub-divided into 03 tehsils and 5 developmental blocks.

Shamli district is demarcated by rivers Yamuna in the west and Krishni in the east. In fact, the drainage pattern of the district is strictly governed by these rivers which form western boundary of Haryana state and eastern boundary of Muzaffarnagar district. Both the rivers in their respective course flow more or less north to south. The district occupies the northern part of Ganga basin and Yamuna Sub basin.



Physiography

The topography of the area is flat. The district Shamli is located in the North western part of the State. The allotted area extends between the north latitudes of N 29^{0}26'44.17''to 29^{0}26'46.18'''longitudes of E 77^{0}8'41.38’’ to 77^{0}8'41.90''falling in the Survey of India toposheet No’s. H43 R3. It is situated in the Plain of Yamuna River. The river Yamuna, which forms the western boundary of the district, flows in an irregular course from north to south with uncertain and not well-defined channels. The rivers command a large tract of low-lying area of newer alluvium, which is locally known as Khader. The river krishni forms the eastern boundary of the area. Near the river Krishni there is as usual, much poor soil and low land areas are well adapted for rice cultivation. The drainage of the area is controlled by river Yamuna which is perennial & meandering in nature. The climate of this district is on the whole dry, hot in summer and cool in

winter. The months of July to September marks the pleasing monsoon in the area. The average annual rainfall in the district is 1099 mm.

The entire Shamli district is a flat terrain falling in middle Yamuna plain. The highest point in the district is 265.00 m (amsl) in the north and the lowest 230.00 m (amsl) in the south, giving rise to an average slope of about 0.40 m/ km towards south. The district can be sub divided into five geographic units.

a. Sand Bars:

It occurs along the courses of Yamuna river, the characteristic sand bars are changing dynamically during the floods.

b. Flood Plain:

It is a flat, low lying poorly drained area adjacent to river Yamuna forming the flood plains and gets flooded during monsoon season

c. Ravines:

In the western part of the district, this unit is characterized by the deep gullies along the river Krishni. This is probably due to the erosion of unconsolidated material by localized surface run off forming channels and ultimately giving rise to undulating topography and hence the formation of ravines.

d. Younger Alluvial Plains:

This unit occupies the eastern bank of Yamuna river, gently sloping (southward) and slightly undulating terrain having ox-bow lakes, back swamp and paleo-channels. This unit is called as Yamuna Khader lying east of river Yamuna.

e. Older Alluvial Plain:

Older alluvial plain may be Tract between Krishni and Yamuna rivers:

This area lies between the Khadar of Yamuna and Krishni rivers. Topography along the rivers is uneven due to poor soil character. This area is drained by Yamuna Canal and Katha Nala flows through it forming a depression along the tract with development of reh all along the course.

Land Forms:

Palaeo-channels: In the western part of the district, cut-off meanders forming oxbow lakes suggest the buried paleo-channels along the Yamuna riverin the younger alluvial plains.

REGIONAL GEOLOGY:

The Study area forms a part of Ganga basin as Yamuna is the largest tributary of river ganga. Alluvium in the area is found in the extreme northern part and on either side of the river yamuna. It is also found locally in scattered patches throughout the area. Alluvium of the area comprises clay, silt, Sand/Morrum and occasionally, kankar. The entire Shamli district is a flat terrain falling in middle Yamuna plain. The highest point in the district is 265.00 m (amsl) in the

north and the lowest 230.00 m (amsl) in the south, giving rise to an average slope of about 0.40 m/ km towards south.

Table: Probable Geological Succession of the study area

Quaternary Alternate bed of sand and clay with occasional beds of concrete
~~Unconformity~~~~~~~~~~~~~~~~~~~~~~~~~
Upper Proterozoic Vindhyan Super Group
~~Unconformity~~~~~~~~~~~~~~~~~~~~~~~~~
Middle Protoerozoic Delhi Super Group
~~Unconformity~~~~~~~~~~~~~~~~~~~~~~~~~
Aravali's and Archean to Bundelkhand Granitoids

It appears from the above sequence that the area is underlain by the bundelkhand Granitoids which forms the Basement complex. It appears that a very long period of erosion preceded the deposition of the Delhi group of rocks on the eroded and upturned surface of the Bundelkhand Granitoids. Sediments in Yamuna basin were deposited and are youngest in geo-chronology.

Local/ Mine Geology –

The local area consists of alluvium sediments (sand) deposited in Yamuna Basin consisting of a) Sand Bars: It occurs along the courses of Yamuna river, the characteristic sand bars are changing dynamically during the floods; b) Flood Plain: It is a flat, low lying poorly drained area adjacent to river Yamuna forming the flood plains and gets flooded during monsoon season; c) Ravines: In the western part of the district, this unit is characterized by the deep gullies along the river Krishni. This is probably due to the erosion of unconsolidated material by localized surface run off forming channels and ultimately giving rise to undulating topography and hence the formation of ravines; d) Younger Alluvial Plains: This unit occupies the eastern bank of Yamuna river, gently sloping (southward) and slightly undulating terrain having ox-bow lakes, back swamp and paleo-channels. This unit is called as Yamuna Khader lying east of river Yamuna; e) Older Alluvial Plain: Older alluvial plain may be Tract between Krishni and Yamuna rivers:

This area lies between the Khadar of Yamuna and Krishni rivers. Topography along the rivers is uneven due to poor soil character. This area is drained by Yamuna Canal and Katha Nala flows through it forming a depression along the tract with development of reh all along the course

2.4 Demands-Supply Gap

In India sand is extensively used in construction and infrastructure developments. Hence with the advent of growth and development of infrastructural projects in the state of Uttar Pradesh the demand of sand is on a high-rise. The local region demand is increasing; hence newer areas for sand reserves are approached. Hence the proposed project aims to fill the

demand – supply gap through optimum allocation and excavation of natural resources required to meet the demand effectively in the local region.

Sand has become a very important mineral for the expansion of society. With the increase of urbanization the demand for sand is growing in infrastructure sector in our country. The mineral is used for making concrete, filling roads, building sites, brick making, making glass, floor tiles, sandpapers, reclamations etc. Individual and private companies are increasingly demanding sand for construction purposes and this has immense pressure on sand resources. This increasing demand makes this an environmental issue. Sand is one of the most plentiful natural resource having the ability to replenish itself. The demand of sand is directly proportional to the supply.

2.5. Imports vs Indigenous production

There is abundance of sand in the area; it had become a major source of economy in the area/region hence no imports required.

2.6 Export Possibility

The Sand/morrum produced from mine will be used for construction of buildings & making of roads and can be used in different form of different construction jobs and road projects. The sand will be used in buildings, bridges & infrastructure etc. The sand of lease area is medium to fine grained brown in color. Sand is an essential minor mineral used extensively across the country for construction purposes. Sand is used in building construction activities. The mineral is being used in making Hume Pipe. The sand can be used as die-casting and molding material. There is large demand of sand for construction activities in the region. Demand of the sand if fulfilled by this project of the desired grade will be used for various end users in the open market. Presently there is huge shortage of Sand/morrum in the State so no need to explore export potential.

2.7 Domestic/ Export Markets

Achieving a huge infrastructure demand, as being envisaged by Government of India and state governments particularly in road and housing sector, requires basic building materials. The sand/morrum, bajri and stone are primary building material required for the purpose. The mining activities are the backbone of all construction and infrastructure projects as such raw material for construction is available only from mining of this nature. Due to the increased industrial and infrastructural growth of the rural and urban areas demand of sand is very high. Construction companies and local vendors in the nearby town and cities are the potential market for the minerals.

2.8 Employment Generation

The proposed project will generate direct /indirect employment to the local people residing in nearby villages. During the operational phase 50 semi skilled and non skilled workers will be hired.

3.0 PROJECT DESCRIPTION

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

This is an independent new RBM mining project. The proposed project is for the extraction of sand form the riverbed by manual and opencast, mechanized means.

3.2 Location (map showing general location and project boundary and project site specific layout) with coordinates.

The mining lease area is located at Gata No 553, 554 at Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P. The proposed project activity will be carried out in the allotted mining lease area only. Google map/Toposheet showing location of proposed project site and general features within 5.0 km radius is attached as **Plate 02**.

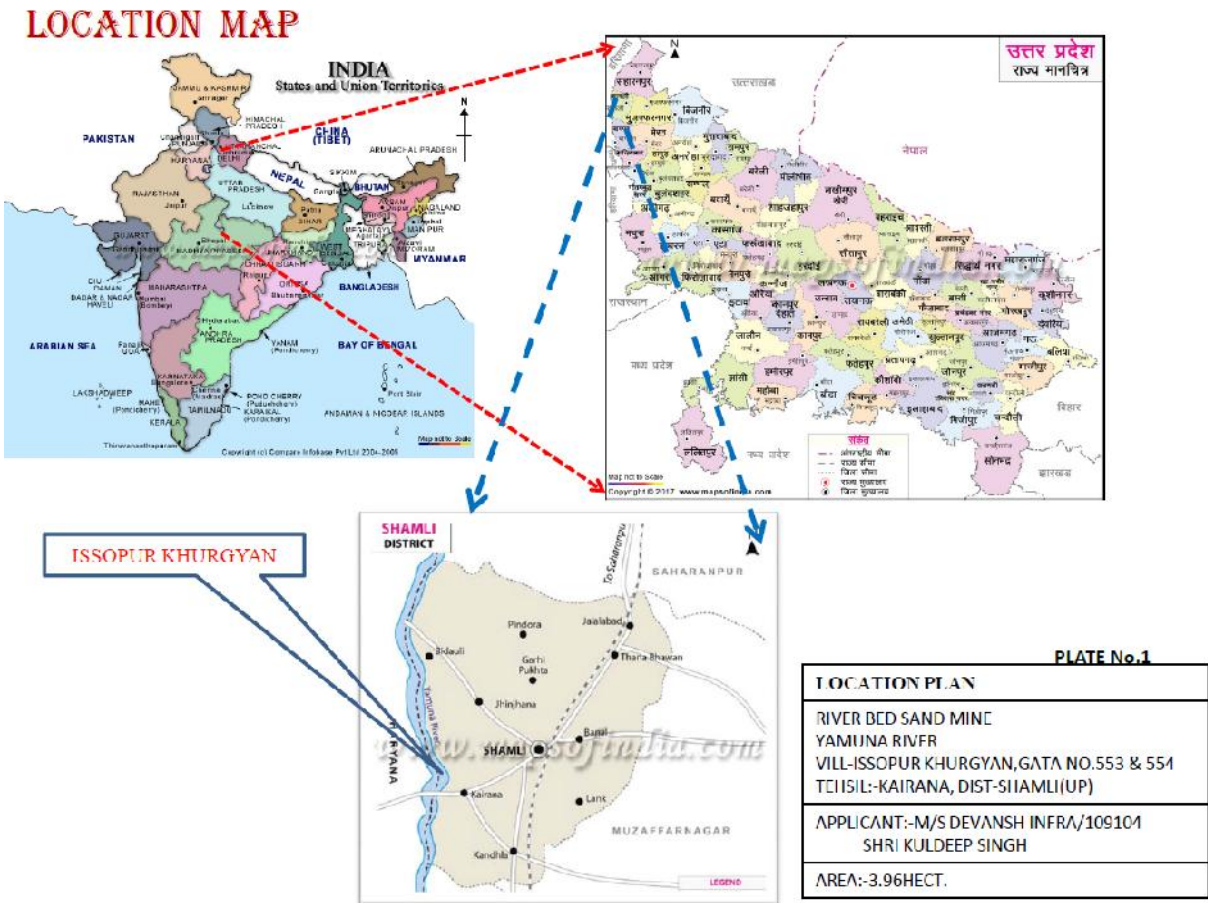


Figure: Location of the project

3.3 Details of alternate sites considered

No, alternative sites are considered.

3.4 Size or magnitude of operation

Mining lease has been approved for the proposed mine area of Area: 3.96 ha (9.78 acre), and sand/morrum is proposed to be extracted as per UPMMCR-1963.

3.5 Project description with process details

The proposed project is to mine out sand/morrum, sustainably and scientifically from the proposed, slightly undulated to plain mine lease area in river bed. It will be opencast surface mining where all the mining operations will be carried out as per mining acts and rules. Following geo-scientific methods are proposed to carry out the activity:

- Mining will be confined to extraction of sand/morrum in its existing form from proposed mining lease area lying seamlessly in mixed state in slightly undulated to plain river bed area.
- Mining of sand from proposed mining lease area will be restricted to the granted mining area only.
- Mining will be carried out as per UPMMCR-1963.
- In order to avoid environmental pollution or any accidental hazards, the mining activity will be restricted to only daytime only.
- Mining operations will confine to 250 days/year in dry season only.
- No mining activity will be undertaken during the monsoon season. So the river bed material will be replenished during the monsoon season every year.
- No storage of mined minor mineral is proposed at mine site.

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

The operation involves the extraction of sand/morrum in its existing form in the river bed and loaded into trucks/trolleys and will transport the material to its destination directly. The existing highways/MDR and village roads will be utilized for the transport of sand from mine site to market.

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

There will be very little requirement of water. The water will be required either for drinking purposes or for dust suppression and plantation. It is projected that approx 50 laborers will be required for the proposed project. For site workers, the drinking water requirement will be 1.5 KLD (@30 lpcd), which will be met through nearby existing dug wells or borewells and will be brought to the project site through private water tankers. Apart from that 1.5 KLD water will also be required for dust suppression which will also be taken from the nearby existing surface water or dug wells/borewells. For plantation water use near about 2.5KLD. The total water requirement of water for the proposed project has been estimated to be 5.5 KLD.

All the activities will be carried out in day time; hence there is no power requirement for the project at site.

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

The entire mineral extracted is saleable. The laborers from nearby villages will be hired to carry out work in day time only, hence there will be no or very less waste is expected to generate. No liquid effluents will be generated at site.

4. SITE ANALYSIS

4.1 Climatic conditions (Shamli, District)

The average annual rainfall in the district is 869 mm. About 80% of rainfall takes places from June to September. During monsoon surplus water is available for deep percolation to ground water. The climate is sub humid and it is characterized by general dryness except in the brief period during the monsoon season. Summer is hot and winter is pleasant cold season. There is a meteorological observatory at Meerut, which may be taken as representative of meteorological condition. May is the hottest month. The mean daily maximum temperature is about 40°C, mean daily minimum temperature is about 24°C and maximum temperature some time rises to 44°C. With the onset of southern monsoon by the end of June, there is appreciable drop in temperature. January is the coldest month with mean daily temperature at about 20°C and mean daily minimum at 7°C.The air is dry during the major parts of the year. In southwest monsoon season, the air is very humid and April and May are usually driest months. The mean monthly relative humidity is 67%. The mean wind velocity is 6.70 Km.p/h. The potential evapotranspiration is 1545.90 mm.

4.2 Topography

The proposed mine lease area is largely flat with slight undulation in river bed and banks. The Land profile adjoining the river bank is slightly undulating. Google map on 5 km radius showing project site and general features around site is attached as **Plate 2**.

4.3 Existing land use pattern

There is no forest or agricultural land in the mine lease area. The mine lease area is slightly undulated to plain river bed. The mined pits will reclamated by flooding.

4.4 Soil classification

The proposed mine lease area fall in river bed largely flat and plane with no or little soil cover at places which is granular and sandy loam in texture.

4.5 Land form, land use and land ownership

Land Form: The proposed mine lease area is non forest river bed govt. land.

Land Use: Largely flat and plain, undeveloped and slightly elevated with no vegetation waste

land.

Land Ownership: Govt land**.** The proposed activity is to take place in the proposed mine lease area only, without effecting adjacent area.

4.6 Existing Infrastructure and Connectivity of site

In order to identify the connectivity and existing infrastructure nearby the proposed site, a study has been carried out within the buffer zone of 10 km radius from the proposed project site. The site has a good connectivity with existing routes of roads as well as railways and airways. The existing network of State Highways and Major District roads along with their distance and direction from proposed project site is given below:

Nearest Railway	Shamli – 17.0 Km (E), Balwa – 16.0 Km (E)
Nearest Airport	Karnal Airport – 30.0 Km (N)
Nearest Village	Issapur Khurgyan – 2.24 Km (E), Mandawar – 1.46 Km (NE), Rana Majra – 3.31 Km (W), Kundla – 2.94 Km (SW)
Nearest Roads	NH1 -16.67 Km (W), SH12 (Shamli – Kairana Road) – 6.67 Km (S), MDR 22W – 9.0 Km (SE), SH82 (Merrut Karnal Road) – 10.0 Km (NE), Naunangli - Shamli Road – 5.50 Km (E)
Nearest City	Shamli – 17.00 Km (E) Panipat – 18.00 Km (W) Karnal – 33.0 Km (NW) Mujaffar Nagar – 55 Km (E)
Nearest Town	Saloni Khurd – 7.50 Km (SW), Kairana – 7.80 Km (SE), Bhura – 6.5 Km (E)
Hospital	Hospitals: Allkalan Colony, Kairana, Uttar Pradesh 247774 8.03 km (SE)
School/college	Schools: Public Inter College – 7.45 Km (E), Islamia School Kairana - 8.6 Km (SE), Roorkee Engineering and Management Technology Institute -10.0 Km (E) Sanjeevani Hospital Kairana – 8.5 Km (SE), City Hospital Kairana – 9.0 Km (SE)
Place of Worship	Parshuram Madir – 8.5 Km (SE), Noorani Masjid, Idgah and Jama Masjid at Kairana is about- 8.5 km (SE)

5. PLANNING BRIEF

5.1 Planning concept

The mineral will be directly transported to the nearby markets in towns and cities. Mining will be done in day time only. So, no any power supply and shelters are required in proposed mine lease area. No mining activity will be undertaken during the monsoon season. So the river bed material will be replenished during the monsoon season every year. Mining will be carried out in proposed mine lease area only as per UPMMCR-1963 without effecting the adjoining area.

5.2 Population projection

No permanent influx of the population is anticipated, as the workers will be hired locally from

nearby villages.

5.3 Land use planning

The land use of the mine lease area is the river bed of River Yamuna and there will be no change in land use after operation. The sand/Morrum will be replenished every year during the monsoon season. The ultimate land use of the mine lease area will not change.

5.4 Assessment of Infrastructure Demand

Extracted mineral will be transported directly to the markets, no stock yard required for storage, also the workers will be hired locally and temporarily, no housing facility will be required.

5.4 Amenities/facilities

Normal amenities like temporary rest shelters, drinking water and first aid facility will be made available to the mine workers.

6.0 PROPOSED INFRASTRUCTURE

6.1 Industrial area (Processing Area)

The mined out Sand/morrum found in mixed state will be dispatched in original state, no industrial area is proposed.

6.2 Residential area (Non Processing Area)

Laborers/workers will be hired from nearby villages, no housing facility is required.

6.3 Green belt

Plantation of trees on buffer zone and along the haulage roads will be taken care in consultation with the Government agencies and local agency.

6.4 Connectivity

The lease area is approachable & located at 17 Km (E) from District Shamli and 7.80 km (E) from Kairana connected with SH12 (Shamli–Kairana Road) – 6.67 Km (S), MDR 22W – 9.0 Km (SE), SH82 (Merrut Karnal Road) – 10.0 Km (NE), Naunangli - Shamli Road – 5.50 Km (E). The area is well connected by local bus services up to village & taxies are operated through this road. The nearest Railway Station is Shamli – 17.0 Km (E), Balwa – 16.0 Km (E) and nearest Airport is in Karnal Airport – 30.0 Km (N)

6.5 Social Infrastructure

Temporary rest shelters, drinking water and first aid facility will be made available to the mine workers.

6.6 Drinking Water Management

In order to meet the drinking water requirement for site workers, water from dugwells/borewells will be brought to the site through private water tankers.

6.7 Sewerage System

No sewerage system is required, no proposed at the mine site.

6.8 Industrial Waste Management

Not applicable.

6.9 Solid Waste management

No solid waste generation is expected from the mining operation.

6.10 Power Requirement & Supply/ Source

All the activities will be carried out day time only; hence there is no power requirement for the project at site.

7.0 REHABILITATION AND RESETTLEMENT (R&R) PLAN

Not Applicable

8.0 PROJECT SCHEDULE & COST ESTIMATES

The total cost of project would be approx Rs. **50.00 Lac/annum**

S. No	Particular	Cost (Rs.)
1	Cost of excavation (labour & transportation)	40,00,000
2	EMP & Plantation	3,00,000
3	Occupational Health Measures	3,50,000
4	Miscellaneous (Site development/ site services/ manual equipments)	3,50,000
	Total	**50,00,000**

9.0 ANALYSIS OF PROPOSAL (FINAL RECOMMENDATION)

Overall the project will have positive and long term impact on environment. The project will also bring positive changes in terms of socio economic development by way of generating direct and indirect employment opportunities to the people of vicinity. The project will also bring economic benefit to the state in terms of revenue generation.

The project will also help to clear the sediment in the form of deposited river bed material (RBM), may otherwise lead to change the shape of the river bed from a valley to a raised land making area vulnerable to flooding or other natural hazards. Because of the proposed sand mining, removal of sediments/sand will be possible will help the river to get channelized and restore the main river course of the water

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