COPY FOR LESSEE

3.1.19

MINING PLAN
WITH
PROGRESSIVE MINE CLOSURE PLAN

(Submitted Under Rule(s) 34 of U.P. Minor Mineral Concession Rule 1963)

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.

Lease Area- 3.96ha (9.78 acre)
(**Forest** –Nil, **Non-Forest** – 3.96 ha)

Period of Mining Plan/ PMCP
(From the date of Lease Deed)
Five Years

APPLICANT/LESSEE:

Directorate of Geology and Mining, U.P.
APPROVED
with / condition vide letter
2346/MP/17 dated 08/01/19
DIRECTOR

M/s Devansh Infra/109104
Sri Kuldeep Singh s/o Sri Chand Singh
R/o 143, Udpur, P.O. Udpur, Shamli U. P.

(अनिल कुमार शर्मा)
मुख्य खान अधिकारी
भूतत्व एवं खनिकर्म निदेशालय
उ०प्र०, लखनऊ

SAVE EARTH

PREPARED BY:
R B Chaudhary
RQP/JABAL/169/2015/A

RB Chaudhary RQP/JAB/169 2015 A

प्रेषक,

निदेशक,
भूतत्व एवं खनिकर्म निदेशालय, उ0प्र0,
खनिज भवन, लखनऊ।

सेवा में

जिलाधिकारी
शामली ।

संख्याः– 2346 / मा0 प्लान / 2017 दिनांक 08/01/2019

विषयः– पट्टाधारक Devansh Infra के पक्ष में स्वीकृत जनपद–शामली में तहसील–कैराना, ग्राम–इस्सोपुर खुरगान, गाटा संख्या– 553, 554, क्षेत्रफल– 3.96 हे0 में उपखनिज साधारण बालू/मौरम के खनन पट्टे हेतु प्राप्त खनन योजना का अनुमोदन के संबंध में।

महोदय,

उपर्युक्त विषय के संदर्भ में सूचित करना है कि उक्त संदर्भित क्षेत्र के संबंध में पट्टाधारक Devansh Infra द्वारा प्रस्तुत खनन योजना का अनुमोदन उत्तर प्रदेश उप–खनिज (परिहार) नियमावली, 1963 के नियम–34 के उपनियम (4) के अधीन प्रदत्त अधिकारों का प्रयोग करते हुये दिनांक 08.01.2019 को कर दिया गया है।

1– "खनन योजना" का अनुमोदन निम्नलिखित शर्तों के अधीन किया गया हैः–

(अ) "खनन योजना" का अनुमोदन खनन पट्टा विलेख निष्पादन के दिनांक से आगमी 05 वर्ष की अवधि के लिए किया जाता है। खनन क्षेत्र से 95040 घन मी0 प्रति वर्ष खनिज का उत्पादन अनुमन्य किया गया है।

(ब) अनुमोदित अवधि में किये गये खनन कार्य के निरीक्षण के उपरान्त यदि खनन योजना में संशोधन हेतु आदेश दिये जाते है, तब संशोधित खनन योजना प्रस्तुत करने का पूर्ण उत्तरदायित्व पट्टेदार का होगा।

(स) आबद्ध नियोजित श्रमिकों को सुरक्षात्मक उपकरण प्रदान करने तथा सुरक्षित खनन कार्य करने हेतु सभी आवश्यक सावधानियां बरतने का दायित्व पट्टेदार का होगा।

(द) अनुमोदित खनन योजना की एक–एक प्रमाणित प्रति संबंधित जिलाधिकारी कार्यालय एवं निदेशालय के क्षेत्रीय कार्यालय में अभिलेखार्थ यथाशीघ्र प्रस्तुत करने का दायित्व भी पट्टेदार का होगा।

(च) अनुमोदित खनन योजना में विनिहित प्रकिया के अनुसार पट्टेदार द्वारा खनन कार्य न किये जाने के पाये जाने पर पट्टेदार के विरूद्ध पट्टे की शर्त का उल्लंघन माना जायेगा और तद्नुसार कार्यवाही की जायेगी।

(छ) खनन योजना को निम्नलिखित अतिरिक्त शर्तो के साथ अनुमोदित किया जाता हैः–

1. बेंच की ऊँचाई अधिकतम 01 मी0 एवं बेंच की चौडाई न्यूनतम 10 मी0 होनी चाहिए।
2. खनन कार्य अधिकतम 03 मी0 की गहराई तक या पानी निकलने के तल, जो भी कम हो तक किया जायेगा।
3. खनन कार्य जीरो (0) लेवल से ऊपर की ओर किया जायेगा।
4. खनन पट्टा स्थल पर फर्स्ट एड बॉक्स व स्ट्रेचर रखे जायें।
5. श्रमिकों के लिये श्रमिक विश्राम गृह उनके पीने के पानी आदि की समुचित व्यवस्था की जायें।

MP-letter

6. खनन क्षेत्र से मुख्य मार्ग तक जाने वाले पहुँच मार्ग (कच्चे मार्ग) पर नियमित रूप से जल का छिड़काव किया जायेगा, ताकि वाहनों के आवागमन से उत्पन्न धूल को उड़ने से रोका जा सके।
7. नदी के तटबन्ध से नदी की ओर न्यूनतम 50 मी0 तक खनन कार्य किया जाना वर्जित होगा। जहॉ तक व्यवहारिक हो नदी से तटबन्ध की ओर खनन किया जायेगा।
8. खनन कार्य से निकाले गये मलवे खास कर टॉप स्वायल को व्यवस्थित रूप से एकत्रित कर रखा जायेगा।
9. पर्यावरण स्वच्छता के संबंध में भारत सरकार/राज्य सरकार द्वारा समय–समय पर जारी दिशानिर्देशों एवं माननीय न्यायालय के आदेशों का अनुपालन पट्टाधारक द्वारा किया जायेगा।

2– अस्तु आपसे अनुरोध है कि अनुमोदित खनन योजना की संलग्न मूल प्रति सम्बन्धित पट्टेदार को अनुपालन हेतु उपलब्ध करा कर उनसे प्राप्ति रसीद प्राप्त कर निदेशालय को भिजवाने का कष्ट करें ।

संलग्नकः यथोपरि ।

भवदीय,

(अनिल कुमार शर्मा)
मुख्य खान अधिकारी
कृते निदेशक।

संख्याः (1)/मा0 प्लान/2017 तद् दिनांक ।

प्रतिलिपिः–निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :–

1–खान अधिकारी, भूतत्व एवं खनिकर्म विभाग, उ0प्र0, जनपद– शामली ।
2–पट्टाधारक Devansh Infra / 109104 address- VPO udpur near mobile tower shamli contact person- Kuldeep singh Tel.no. 9518710000
3–खनन अनुभाग, भूतत्व एवं खनिकर्म निदेशालय, उ0प्र0, लखनऊ।

(अनिल कुमार शर्मा)
मुख्य खान अधिकारी
कृते निदेशक

MINING PLAN
WITH
PROGRESSIVE MINE CLOSURE PLAN

(Submitted Under Rule(s) 34 of U.P. Minor Mineral Concession Rule 1963)

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.

Lease Area- 3.96ha (9.78 acre)
(**Forest** –Nil, **Non-Forest** – 3.96 ha)

Period of Mining Plan/ PMCP
(From the date of Lease Deed)
Five Years

APPLICANT/LESSEE:

M/s Devansh Infra/109104
Sri Kuldeep Singh s/o Sri Chand Singh
R/o 143, Udpur, P.O. Udpur, Shamli U. P.

PREPARED BY:
R B Chaudhary
RQP/JABAL/169/2015/A

SAVE EARTH

To, Date: ……./……/2018

The Director,
Directorate of Geology & Mining
Uttar Pradesh, Lucknow

Sub: Proposed River Bed Sand/Morrum Mining having lease area 3.96 ha (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**.

Sir,

Please, find herewith two copies of Mining Plan with Progressive Mine Closer Plan 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 through its Proprietor Sri Kuldeep Singh S/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P.

Kindly approve the Mining Plan as earliest.

Thanking You

(Authorised Signatory)

M/s Devansh Infra/109104
Sri Kuldeep Singh s/o Sri Chand Singh
R/o 143, Udpur, P.O. Udpur,
Shamli U. P

CONTENTS

Introduction:

Mining is a major contributor (2'nd) to the national GDP (4%) occupying about 0.11% of total land area (329 m ha) and providing employment generation to 1.1 million people (4 %) of the country **(Saviour, M.N)**

Mining is essentially a destructive development activity where ecology suffers at the altar of economy and development but scientific mining operations accompanied by ecological restoration and regeneration of mined wastelands and judicious use of geological resources, with search for eco-friendly substitutes and alternatives must provide sensational revelation to the impact of mining on human ecosystem.

Sand is a naturally occurring granular material composed of finely divided rock and mineral particles. River sand has the ability to replenish itself. The composition of sand is highly variable, depending on the local rock sources and conditions, but the most common constituent of sand in inland continental settings and non-tropical coastal settings is silica (silicon dioxide, or SiO_2), usually in the form of quartz which because of its chemical inertness and considerable hardness, is the most common mineral resistant to weathering.

Mining of Sand is the process of removal of sand and gravel. This practice is now becoming an environmental issue as the demand for sand increases in industry and construction. The role of sand is very vital with regards to the protection of the coastal environment.
Although Sand is required for development of Human being, but at the same time the damages due to sand mining can't be ignored. Hence an environment friendly mining is necessary to collect the sand from the river beds, without disturbing the environment.

District Magistrate Banda invited e-tenders for granting mining lease of sand areas by way of e-tender, cum-e-auction vide **notification no 2188/e-ni-aa-su/kh v-2018-19, dated 17.10.2018.** Accordingly the proponent took part in the process and **LoI** was issued in his favour vide DM's Office letter **no 2313/e-ni sah e-ni-Sahmati-Patra/Issospur Khurgan, dated 05.12.2018** and also directed the proponent to get "Approved Mining Plan" from concerned Authority and "Environmental clearance certificate" from MoEF&CC .

This EC proposal is being prepared for 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 through its Proprietor Sri Kuldeep Singh S/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Tehsil - Kairana, District - Shamli U. P. who intends to mine out the riverbed sand from this area. The applicant authorized us to develop a scientific, environment friendly mine plan to work in this area.

The aim and object to carry-on mining operations within the region as well as in mining leases in the vicinity thereof happens to be imperative. According to DSR, experience and rough estimation of the State Government whatever quantity of minor minerals is extracted from the allotted leases during one year, almost full or part of the extracted quantity is automatically replenished every year by the river Yamuna itself on account of its flow velocity and sediments brought along from upstream side. Besides above, the process of mining of minor minerals (Sand, Morram Bajri and Boulders; in mixed state) is a constant source of revenue generation to the State Government. It also not only ensures constant supply of building material to the society but also creates opportunities of employment to the locals who are largely dependent on this activity.

Mining Plan with Progressive Mine Closure Plan is being submitted under Amended Rule 34(2), Rule 34 (6) & (7) of UP Minor Mineral (Concession) Rule 1963).

- Under Rule 34 (2) of amended rules of U.P. Minor Mineral (Concession) Rules 1963, Mining operation shall in respect of in-situ rock deposits and sand or morrum or bajari or boulder or any of these in mixed state exclusively found in river bed be undertaken in accordance with the mining plan including progressive mine closer plan duly approved by the Director.
- As per Ministry of Environment Forest Climate Change (MOEF&CC Govt. of India), the monsoon period has been considered for three months July to Sept and no mining & allied activities shall be carried out during monsoon period. The mining activity shall recommence during post monsoon period.
- The authorization to prepare Mining Plan including progressive mine closer plan by applicant is enclosed as **Annexure No 01;** RQP certificate is enclosed as **Annexure No 02;** undertaking by lease regarding in Mines Act is enclosed as **Annexure No 03** & declaration by lessee in **Annexure No. 4**.
- The boundary pillars shall be erected under rule 35 of the said Rules 1963 by the lessee at the corners of the lease area after execution of Lease Deed and demarcation of the lease area by Directorate of Geology & Mining, U.P. under rule 17 of MMCR Rules 1963 U.P. The pillars shall be pyramid shape having dimension of 1.0m x 1.20m & 0.80m. All pillars shall be serially encumbered & latitude & longitude shall be marked on all pillars.

1.0 GENERAL:

A. NAME OF THE APPLICANT WITH COMPLETE ADDRESS:

Sri Kuldeep Singh S/o Sri Chand Singh R/o H. No. 143, Udpur, P.O. Udpur, Tehsil - Kairana, District - Shamli U. P.

B. STATUS OF APPLICANT : Private Individual

C. MINERAL OCCURRING IN THE AREA & WHICH APPLICANT INTENDS TO MINE: Sand, River Bed Minor Mineral.

D. Period of mining lease Five years from the date of execution of lease deed.

E. Name of R.Q.P. preparing the mining plans: R B Chaudhry

Address – 58 Mini MIG Govindpur, Allahabad - 211004

Phone- 07706077778; 7007142807; Email: chaurb@gmail.com

Registration No: RQP/JABAL/169/2015/A

Copy of RQP registration is enclosed.

F. Name of prospecting agency:

The lease area was prospected by the office of the District Magistrate (DSR Committee) on the basis of which mineral zone area was delineated and Sand/Morrum quantity was assessed as contained in E-tender cum E-auction notice annexed as **Annexure No. 5.** The lease area was prospected also by the RQP himself and proponent under the guidance of Mr. R B Chaudhary (RQP). The depth extension is more than 5m as judged from trail pit

G. Reference no & date of consent letter from the State Govt.

Office of the District Magistrate, Banda vide **LoI letter no. 2313/e-ni sah e-ni-Sahmati-Patra/Naaglarai Ahtmal, dated 05.12.2018** and directed the lessee to obtain “Mining Plan with Mine Closer Plan” and “Environmental Clearance Certificate” form MoEF under rule 34 for the further action towards execution of lease deed.

2.0 LOCATION AND ACCESSIBILITY

a) Details of area (*with location map*)

i. Lease-hold area	:	24.92ha (64.07 acre)
ii. Mining Lease Map	:	Map **(Annex-6)**
iii. District & State	:	Shamli, Uttar Pradesh
iv.Tehsil	:	Kairana
v. Village	:	Issospur Khurgan
vi. Khasra/gata numbers	:	553 & 554
vii. Latitude	:	29°26’56.56”N to 29°27’6.19”N
viii. Longitude	:	77°8’28.25”E to 77°8’36.28”E

b) Whether the area is recorded to be in forest (please specify whether protected, reserved etc.)

The lease area is free from forest land.

c) Ownership/Occupancy

Total lease area belongs to Govt. and lies completely outside any restricted or protected area declared by State or Central Government.

d) Existence of public road/railway line, if any nearby and approximate distance

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).

e) Toposheet No. with latitude and longitude

The boundary points have been demarcated with the help of GPS & coordinates of all corner pillars have been marked and shown in Khasra map **(Annexure No. 06)**. The GPS reading of four corner pillars are given below;

Place	Latitude	Longitude
A	29°26’56.56”N	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

f) Land use Pattern (Forest agricultural Barren, Barren etc.):

The area is barren waste land and proposed land use of area is given below;

Sr. No.	**Land use**	**Agricultural land (Ha)**	**Forest Land (Ha)**	**Waste land (Ha)**	**Grazing Land (Ha)**
1	Mining pits Quarry	-	-	-	-
2	Haul Road	-	-	0.0200	-
3	Dumps	-	-	-	-
4	Office, Resht Shelter etc.	-	-	-	-
5	Balance undisturbed land	-	-	3.94	-
	Total			**3.96**	

INFRASTRUCTURAL – FACILITIES:

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)

PART - A

3.0 GEOLOGY AND EXPLORATION:

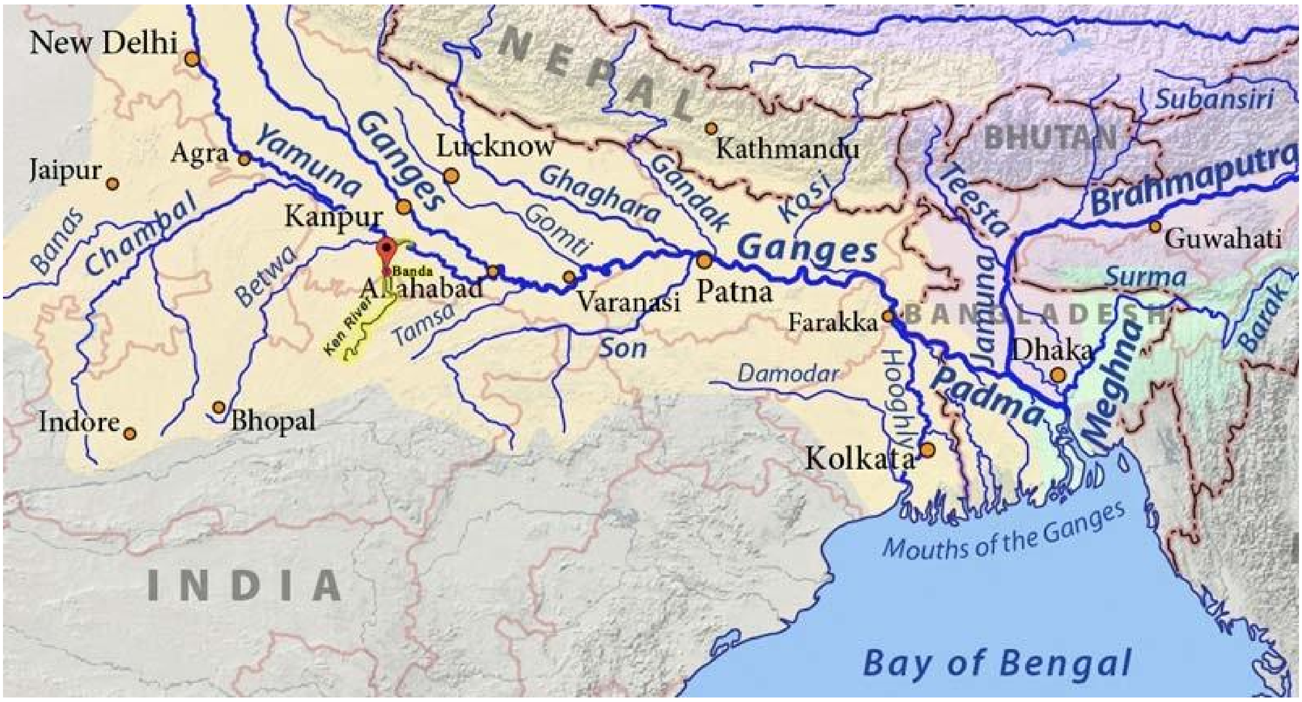
A) Briefly describe the topography & general geology & local/ mine geology of the mineral deposit including draining pattern.

3.1 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.

3.2 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.

3.3 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.

3.4 GEO-TECHNICAL ASPECT:

Nature of river bed and alluvial Sand/Morrum:

The area lies within the regular course of the Yamuna River, gets flooded in the rainy season. The deposit comprises Sand/Morrum with some grit/bajri, small pebbles in mixed state at the upper most layer; with some top soil at places in the area. Thickness of the deposit varies from 1 to 5m above water level. Moreover, these sediments are replenished every year during rainy season by river-waters to almost equal to extracted level and sometimes little more or less depending on the intensity of rains on the upstream side and may deplete in the years with scanty rain in the catchment area.

3.5 DETAILS OF EXPLORATION:

a) Already carried out in the area:

Mining of Sand/morrum is being done since long time therefore no specific method of exploration is required as the RBM are deposited all along the river-bed and are very well exposed on the surface. Moreover, these sediments are accumulated/ replenished every year during rainy season by river-waters to almost equal to extracted level and sometimes more or less depending on the intensity of rains in the catchment area and may deplete in the years with scanty rain in the catchment area. Adequate quantity of Sand/morrum reserves in mixed state is available as of now.

b) Proposed to be carried out:

The existence of Sand/morrum is already established in the area & depth persistency has been already proved in the area as contained in DSR. **Annexure – 6.**

3.6 METHOD OF ESTIMATION OF RESERVE:

The reserve estimation has been done by cross-sectional method. Cross-sections are drawn and the average surface areas of two cross-sections are multiplied by the average cross-sectional depth to get the volume.

GEOLOGICAL RESERVES:

The geological reserves estimated by cross-sectional method:

Proved Reserves (111):

All the Quantities estimated as of Sand/Morrum occurring up to 4.0m below from surface have been considered as under proved category.

The summary of reserves is as below:

GEOLOGICAL RESERVE				
Proved Reserves (111)				
Section Line	**SECTIONAL Area m2**	**Strike Influence**	**Volume (cum)**	**Quantities in (Tonnes)**
1-1'	409	100	40900	73620
2-2'	331	101	33431	60176
3-3'	288	100	28800	51840
Total			103131	185636

Probable Reserves (122)				
Section Line	**SECTIONAL Area m2**	**Strike Influence**	**Volume (cum)**	**Quantities in (Tonnes)**
1-1'	269	100	26900	48420
2-2'	278	101	28078	50540
3-3'	279	100	27900	50220
Total			82878	149180
G Total	(111+122)		186009	334816

MINEABLE RESERVE:

Mineable reserves have been calculated with in limitation of 3m working depth. Bench height 1m and width 12m has been drawn in geological sections to calculate the mineable reserves. The area of each bench level has been calculated & multiplied by its average bench height to get the volume using AutoCAD. Bulk density of Sand/Morrum has been taken 1.8 for tonnage factor. The mineable reserve is tabulated as bellow which shall repeat after replenishment of the area in every monsoon season.

MINABLE RESERVE				
Bench Level (mRL)	**AREA**	**Depth (m)**	**Volume (cum)**	**Tonnes**
1SLICE	36237	1	36237	65227
2SLICE	29021	1	29021	52238
3SLICE	27113	1	27113	48803
Total			**92371**	**166268**

LoI to mine out about ***95040 m³/year*** *mineral is granted.*

The total calculated mineable reserve using AutoCAD comes to **92371m³/166268 tons** per annum but **Environmental Clearance** is sought for only the annual permitted/granted production of **95040m³ /171072 tons** as per LoI which can be achieved if zero water level goes down during summers.

Lease Area	Area (Ha)	Average Depth Extraction (m)	Targeted Volume as per LoI (m³)
Gata No 553, 554 at Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P	3.96	3.00	**95040**

4.0 MINING:

A) Briefly describe the existing/proposed method for developing/working the deposit with all design parameters:

(i) Existing Method of mining: At present no mining is being carried out.

(ii) Proposed method of mining:-

Considerations:

- Lease area is situated well within braided bar on concave side of the meandering corridor on the north bank of river Yamuna.
- The workability is suggested by keeping in the mind possible effect on the meandering of the River. The mining on the concave bank is most suitable than convex bank. Hence year wise mining is suggested in a way that is will get replenished during monsoon.
- Only 250 days have been considered for mining of RBM (River born minerals).
- Mining for each successive year is proposed to 3m depth along slope of mineral bed according to bench parameters (1.0m height).
- Whole of the area shall be mined out with permitted production target of **95040m^3 /171072 tons per annum** during consecutive five years on rotation basis, leaving 7.5m safety barrier all along the river bank and downstream side. The basis/ methodology is suggested in such a way that pit of previous year will act as depository during the monsoon season by reducing the velocity and carrying capacity of the stream thus depositing the mineral transported by the river. In totality the principal of Braided/Placer Deposit is adopted.
- The sand/morrum will be exploited by bar scalping/trenching or skimming method and mining operation shall be semi–mechanized/mechanised (OTFM) using scrapers/ excavators, chain/tyre mounted bulldozers for rescue & salvage (as per SSMG 2016 and NGT order passed in Gurpreet Singh Bagga vs MoEF & ors). Sand/Morrum shall be loaded manually/using loaders in to dumpers, trucks, tippers/tractor trolleys & dispatched to various parties. The height & width of benches shall be kept 1.0 m & 12.0m & over all pit shape shall be maintained less than 20^0. Ultimate depth of pit shall be kept 3.0m from the surface.
- Conventionally the river-bed mining of minor minerals in U P were carried-out in semi-mechanised but current in scenario of demand, supply of huge quantity (380 m^3/day, i.e. > 30 vehicles/day) required by Government agencies/public are to be affected and other requisite parameters of need and requirement**,** mechanized mining operations shall be resorted to (as per SSMG 2016 and NGT order passed in Gurpreet Singh Bagga vs MoEF & ors). In spite of handling huge quantities of minor minerals in mixed form the mine has clean atmosphere and no dust can be seen polluting the air. Environment and ecology of the area remains undisturbed.

- Excavation of river bed minerals will commence from dip towards rise side along slope by removing the minerals in 1.0m slice at a time up to 3 such slices only from a view point not to reach river bed water level. Therefore mining will be restricted up to 3.0 m depth only and above 1m ground water level in river bed. Thus dry pit mining is practiced so that mining will not intersect river bed flowing water level.
- The whole lease area shall be mine out as per bench parameters to maximize the RBM production/extraction. Sequence of mineral excavation will be same in successive years, repeated till the completion of the lease period. Change in the proposed sequence may be allowed depending on the position of river water flow.
- Mining shall be started from its centre and advance toward the banks across the river uniformly. In order to maintain safety and stability of river banks a barrier of minimum 7.5m up to 10% of the width whichever is more will be left intact. However systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon. The mineral extraction will be done for a period of 250 days in a year. During this period it is expected that the areas of RBM quarry will be free from submergence. During mining operation the river water flow will be away from lot or below river bed water level to enable dry pit mining.
- In the lease area the velocity & river water flow on concave side being less, the sediment load get deposited. During Monsoon season, the lot area gets replenished with sediments to be lifted in subsequent years.

The guidelines of the Ministry of Environment and Forests as also of the Geological Survey of India will be followed, the most important areas under:-

(a) Dry pit mining will be adopted which means mining at all times will be above flowing river bed water level with no mining when water is above bed level and also if water level encounters during 0.5 meter slice operation.

(b) Sand/Morrum/ Gravel if any will be collected in slices of 1.0 m thickness up to a depth of 3 m or 1m above River bed water level, thus if the available depth is less than prescribed 3 m, maximum depth as per model guidelines.

(c) Stream will not be diverted to form inactive channel.

(d) Mining at the convex side of the river channel should be avoided to prevent bank erosion; rather a thick barrier will be left this side.

(e) Mining will be restricted minimum 7.5 m away (inward) from river bank but up to 10% of width of river whichever is higher as a safety barrier to minimize effect of river bank erosion and to avoid consequent channel migration. Plantation will be done on side of bank along side of lot area to prevent soil erosion and to get as a noise/dust arresters.

(f) Area of mining lease will be demarcated by pillars prior to start of mining for sustainable development limiting with working within lease lot.

(g) No mining operations shall be carried out in proximity (200 m) of any bridge and/ or embankment. However this is not applicable in this case.

B) MINERAL PRODUCTION

The production is generally in the mixed form. Although, Sand and Silt –Clay (soil) mixture can't be separated during mining and shall be mined out in mix form but, if possible shall be transported directly. Therefore quantity of each item cannot be estimated on logical parameters, the figures given here above are only tentative. The Year wise development has been enclosed.

Before start of mining 7.5m barrier along the river bank side shall be marked as non mining zone. Mining shall be started from middle part by slicing out benches from dip towards rise side by removing the minerals in 1.0m slice along the slope. Haul roads of 6m wide and 1:16 gradient shall be provided to each mining faces. Thus dry pit mining is practiced so that mining will not intersect river bed flowing water level.

Mining faces will advance in all directions and **95040m^3 /171072 tons per annum** of sand/morrum shall be exploited as permitted by LoI. Although, Sand/Morrum and Silt –Clay mixture can't be separated during mining and shall be mined out in mix form but if possible shall be transported directly to the plantation site. The pit position showing the advancement of faces & section is shown in **plate No.5**. Tentative production of R.O M. from each slice is tabulated as below:

C) PRODUCTION & DEVELOPMENT IN Ist Year:

Year	Bench Levels (mRL)	Depth (m)	Rom Volume (m^3)
IST	231, 232, 233	3.0	95040
TOTAL			**95040**

The production and development plane during first year will get repeated during successive years of lease period since whatever quantity of minor minerals are extracted from the area during first year; all or mostly equal to extracted quantity are replenished automatically every year in the lease area by the River itself on account of its flow and velocity, and sediments carried along from upstream side so the voids created gets filled up.

D) Attach supporting composite plan & section showing pit layout, dumps, stacks of sub grade mineral, if any etc. :

Whole of the area shall be mined out completely leaving the previous one open for replenished during monsoon. Conceptual /composite plan have been prepared showing position of lease area fully replenished. The composite & conceptual plan & section, showing lay out faces is shown in Conceptual Plan, **Plate no 6.**

E) Indicate proposed rate of production when the mine is fully developed & the expected life of mine & the year from which effected:

At this stage the total extractable reserves of river Sand/Morrum in mixed form in the area is **95040m³ /171072 tons per annum** with same proposed rate of production in subsequent years. There is no specific life of the mine. The life of mine is unlimited as the area under reference is open and barren river bed and whatever quantity of minor minerals are extracted from the area during one year; all or mostly equal to extracted quantity are replenished automatically every year in the lease area by the River itself on account of its flow and velocity, and sediments carried along from upstream side so the voids created gets filled up.

F) Attach a note furnishing a conceptual mining plan up to life of mine based on geological, mining & environmental considerations.

CONCEPTUAL PLAN:

Time Frame of Completion of Exploration:

(i) Exploration as on date:

Mining of Sand/morrum is being done since long time therefore No specific method of exploration is required as the river born sediments are deposited all along the river-bed and are very well exposed on the surface

(ii) Exploration during plan period:

The depth persistency & strike continuity & grade of Sand/Morrum have been already established in DSR & area is too small therefore no future exploration is proposed.

(iii) Conceptual Period:

The area is small & depth persistence, grade & strike continuity has been established (DSR). Mining shall be carried out up to 3.0m depth from surface according to bench parameters along its topographical slope, therefore, no future exploration shall be carried out at the end of conceptual stage.

(iv) Ultimate shape & size of pit:

Whole of the area shall be mined out completely, a conceptual /composite plan have been prepared showing position of excavated area which will get fully replenished. Mining will be restricted minimum 7.5m away (inward) from river bank but up to 10% of width of river whichever is higher as a safety barrier to minimize effect of river bank erosion and to avoid consequent channel migration. Plantation will be done on side of bank along side of area and the roads joining the village to prevent soil erosion and to get as noise/dust arresters.

(v) Conceptual Development:

Mining will be by opencast mechanised means confined within ultimate pit limit. Road, habitation etc, if any will require diversion from mining area for the safety of workings.

(vi) Anticipated life of mine:

At this stage the total extractable reserves of river Sand/Morrum in mixed form in the area is **95040m³ /171072 tons per annum** with same proposed rate of production in subsequent years. The expected life of mine depends upon replenishment of deposit each year. There is no specific life of the mine. The life of mine is unlimited as the area under reference is open and barren river bed of the river and whatever quantity of minor minerals are extracted from the area during one year; all or mostly equal to extracted quantity are replenished automatically every year in the lease area by the River itself on account of its flow and velocity, and sediments carried along from upstream side so the voids created gets filled up.

(vii) Waste Management:

Top soil existing within the area will be used/stored in the 10m safety bund along river bank and downstream side using machines, therefore, no additional proposal has been given for its managements.

(viii) Reclamation/Rehabilitation: The mined out area & reclamation/ rehabilitation as on date, at the end of plan period & at the end of conceptual period is as below.

Period	Area broken (ha)	Area replenished (ha)	Quantities of waste to be used in backfilling (cum)
As on date	-	**3.96**	Nil
End of plan period	3.62	3.62	-
End of conceptual period	3.62	3.62	-

(ix) Post Mining Land use:

The land use at present, at the end of plan period & at the end of conceptual period is given below:

Sl. No	Head	At present (ha)	At the end of plan period (ha)	At the end of conceptual period of mine (ha)
a)	Total area excavated (broken)	-	3.62	3.62
b)	Total Area fully mined out	Nil	3.62	3.62
c)	Total Area replenished	Nil	3.62	3.62

(x) Dump area: No dump area is required as the total mined out sand/morum is directly dispatched to the destination, therefore, no proposal of Dump management neither required nor shall be proposed.

Sl. No	Head	At present (Ha)	At the end of Plan period (Ha)	At the end of conceptual period of mine (Ha)
a)	Total area under dump	Nil	-	Nil
b)	Area under active dump	Nil	-	Nil
c)	Dump area fully rehabilitated	Nil	Nil	Nil

By the end of conceptual period, mining pit shall reach to ultimate pit limit & depth, therefore mined out area shall be replenished during monsoon period & this process will continue.

(xi) Others:

Sl. No	Head	At present (Ha)	At the end of Plan period (Ha)	At the end of conceptual period of mine (Ha)
a)	Area under mineral stack	Nil	Nil	Nil
b)	Area under haul road	Nil	0.0200	0.0200
c)	Area under green belt (ie. plantation along the road outside lease area)	Nil	1.0	1.0

G) Open Cast Mines:

(i) Describe briefly giving salient features of the mode of working (mechanized, manual):

The sand/morrum will be exploited by bar scalping/trenching or skimming method and mining operation shall be semi-mechanized/mechanised (OTFM) using scrapers, excavators, chain/tyre mounted bulldozers for rescue & salvage. Sand/Morrum shall be loaded manually/using loaders in to dumpers, trucks, tippers/tractor trolleys & dispatched to various parties. The height & width of benches shall be kept 1.0 m & 12.0m & overall pit slope shall be maintained less than 20^0. Ultimate depth of pit shall be kept 3.0m from the surface.

It will be an opencast semi-mechanized/mechanised with human interface mine and excavation of river bed minerals will commence from dip towards rise side along slope by removing the minerals in 1.0 m slice at a time up to 3 such slices only from a view point not to take even river bed water level. The height of benches shall be kept 1.0m, ultimate pit slope shall be less than 20^0. Haul roads & approach road having width 6m & gradient 1:16 shall be provided to join the mining faces.

(ii) Haulage and Surface Transport: Mode of transportation of the mixed material is by trucks/dumpers of 12- 24 tones capacity. Trucks of larger size may also be used where the material is to be carried to a long distance for out-bound transportation. Mining area is connected with a 'Kucha' road of say 350m up to the nearest pucca road and thereafter it is metalled road up to destination. The approach road is adequate to permit easy maneuverability of trucks and it also provides cross- over and changing points. Water will be sprayed regularly by tractor mounted water sprinklers to suppress fugitive dust generation.

(iii) Mine Machinery:

- Tractor trolleys - 15
- Trucks/dumpers/tippers - 10
- Excavators/scrapers - 02
- Earthmovers (chain & tyre mounted) - 01
- Water sprinkler - 02
- Hand implements - As required
- Machines for mining and loading - 02

(iv) Describe briefly the layout of mine working, layout mine faces & sites for disposal of overburden/waste: Excavation of river bed minerals will commence from dip towards rise side by removing the minerals in 1.0 m slice at a time up to 3 such slices only from a view point not to take even river bed water level. Mining faces shall be opened from top to down word. It will advance towards all directions. Approach & Haul roads of 6m wide and 1:16 gradient shall be provided to each mining faces for transportation of mineral. Top soil and silt/clay, calcareous deposit (Kankar) existing within the area shall be store/used to form safety barrier on the river bank and downstream side of the lease area, therefore, no proposal has been given for waste management.

5.0 BLASTING:

No drilling & blasting shall be required/ undertaken for Sand/Morrum mining.

6.0 MINE DRAINAGE:

a) Likely depth of water table based on observations from nearby wells and water bodies: On the basis of the past data river Yamuna retains the water table 3-4m below in river bed. The top level of the river bed surface is 235.5mRL & water level encountered in the bed is at about 231.5 mRL. Generally depth of water level in the wells of region is about 2.7-26mbgl. During summers the water table further goes down by about 1.0 m.

b) Working expected to be 1m above the water table during next five years: During next five years, the mine working will be confined above 230.0mRL. Water table will not be interested by mining operations.

c) Quantity and quality of water likely to be encountered, the pumping arrangement and places where the mine water is finally proposed to be discharged: The mining operations will be limited in the upper levels & the lowest bench will be formed at 231.5mRL, hence water table will not be encountered by mining activities during next five years.

7.0 STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE:

a) Indicate briefly the nature and quantity of top soil, overburden/waste and mineral rejects likely to be generated during the next three years: Existing soil and overburden etc within the area if any shall be used in formation of 10m width safety barrier along the river bank and downstream side of the leas area and no waste & mineral rejects will likely to be generated as sand/ morrum, grit produced in mixed state will be directly dispatched to destination, therefore, no proposal has been given for its separate stacking.

b) Land chosen for disposal of waste with proposed justification: No proposal has been given for disposal of waste stacking because no waste or rejects are likely to be generated.

c) Attach a note indicating the manner of disposal, and configuration, sequence of buildup of dumps along with the proposals for the stacking of sub-grade ore, to be indicated item wise: Sand/morrum, grit produced in mixed state will be directly dispatched to destination so waste and mineral rejects are not likely to be generated therefore, no proposal has been given for its separate stacking.

8.0 USE OF MINERAL:

(a) The Sand/Morrum will be sold to intermediary parties and finally to be used in buildings, bridges & infrastructure etc.

(b) The Sand/Morrum of lease area is medium to fine grained brown in color. Sand/Morrum is an essential minor mineral used extensively across the country for construction purposes. Sand/Morrum is used in building construction activities. The mineral is being used in making Hume Pipe and can be used as die-casting and molding material

(c) Sand/morrum, Bajri, boulder and silt found in mixed state in river bed are directly dispatched to the intermediaries as per market demand, therefore no blending is required.

9.0 OTHER:

9a) Site Services

The following site services will be provided at mine site

- Office 1
- Drinking water shed 2
- Rest shelter 1
- First Aid Centre 1
- Store 1

9b) Employment Potential

Thus category-wise employments will be as below:

- Mines Manager/Overman 1
- Certified Mines Mate - 2
- Supervisors- 2
- Semi skilled/ unskilled persons- 45

Total – 50

10.0 MINERAL PROCESSING:

a) If processing / beneficiation of the ore or minerals mined is planned to be conducted on site or adjacent to the extraction area, briefly describe the nature of the processing/ beneficiation. This should indicate size and grade of feed material and concentrate (finished marketable product): The entire area consists of Sand/Morrum in mixed form & it is ready to market therefore, no beneficiation or mineral processing will be required. No

Mineral beneficiation is involved within the lease area as it will be transported in the mixed form.

b) **Explain the disposal method for tailing or waste from the processing plant (quantity and quality of tailings proposed to be discharged, size and capacity of tailing pond, toxic effect of such tailing, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailing dam):** As stated above that no beneficiation is required therefore no tailing or waste disposal from processing plant will be undertaken.

c) **A flow sheet or schematic diagram of the processing procedure should be attached:** No beneficiation studies will be required or carried out therefore no flow sheet of processing process is attached.

d) **Specify quantity and type of chemicals to be used in the processing plant:** No chemicals are required.

e) **Specify quantity and type of chemicals to be stored on site/plant:** No chemical will be stored on the site/plant.

f) **Indicate quantity (m^3/day) of water required for mining and processing and sources of supply or water. Disposal of water and extent of recycling.** The entire area consists of Sand/Morrum in mixed form & it is ready to market therefore, no beneficiation or mineral processing will be required.

Total water requirement for other purposes of the project is 5.50 KLD, it shall be supplied from the nearby villages & its breakup is as under:

S.No.	Purpose	Water Requirement (KLD)
1.	Dust Suppression	1.50
2.	Plantation	2.50
3.	Drinking and other	1.50
Total		**5.50**

However, No water is required for mining and processing hence, no disposal of water and extent for recycling is required.

PART - B

11. ENVIRONMENTAL MANAGEMENT PLAN:

(A) Attach a note on the status of base line information with regard to the following:

(i) Land Use: The existing land use of the area is waste lands. The existing land use is given in tabular form:

Sr. No.	Land use	Agricultural land (Ha)	Forest Land (Ha)	Waste land (Ha)	Grazing Land (Ha)
1	Mining pits Quarry	-	-	-	-
2	Haul Road	-	-	0.0200	-
3	Dumps	-	-	-	-
4	Office, Resht Shelter etc.	-	-	-	-
5	Balance undisturbed land	-	-	3.94	-
	Total			**3.96**	

(ii) Water Regime:

The river Yamuna, a perennial water body flows in west of the area towards almost north. The depth of water table is about 4-5 m. below general ground level. The streams in the neighborhood are small & seasonal which join the river Yamuna.

(iii) Flora and Fauna:

Flora:

The main forest species found in the districts are: Teak, Kardhai, Dhou, Tendu, Khair, Palash, Bamboo, Medicinal Shrabs, Herbs and trees like Amla, Bahera, Bel, Arjun, Mahua, Seja, Chironji, etc.

Fauna:

Animals depend on forest not only of food but also for habitat. The diversity of fauna are found in the State. Since their list is long, mention shall be made here
only of important species mainly found in the district:

Fish: Mahaser, Hilsa, Saul, Tengan, Parthan, Rasela, Vittal, Rohu, Mirgal,Kata, Labi, Mangur, Cuchia, Eel, Einghi, Mirror Carp, Trout.

Amphibia: Frog and Toad

Reptiles: Bamania, Pit-viper, Lizard, Goh, Cobra,Tortoise, Krait, Dhaman and
Crocodile.

Aves: Cheel, Vulture, Peacock, Nightingale, Pigeon, Parrot, Owl, Nilkanth and Sparrow.

Mammals: Shrew, Porcupine, Sqirrel, Hare,Mongoose, Cow, Buffalo and Mouse.

Other common species found here are Panther, Sambhar, Cheetal, Kastura, Chinkara, Black Deer, Nilgai, Back-brown Bear, Mountain Goat, Hyena, Hill Dog, Elephant etc. Among the birds Fowl, Pheasant, Partridge, Florican, Duck, Goose and Wader are common.

(iv) Quality of ambient air noise level and water:

The proposed site is located in the remote area having a clean atmosphere. Therefore the quality of ambient air will be as good and clean. SPM, SO_2, NOX will be either below permissible limits or close to threshold limits. Therefore the background ambient air quality of the area is recorded as PM_{10} – 39.4 µg /m^3, SO_2 – 8.31µg/m^3 NO_2 - 8.6 µg/m^3 . Similarly ambient noise level is as low as of any standard place.

Ground water in phreatic aquifer in general, is colourless, odourless and slightly alkaline in nature. The specific electrical conductance of ground water in phreatic aquifer ranges from 510 – 1270 micro siemens/cm at 25°C. Fluoride ranges from 0.01 – 01.12 mg/l, which is within permissible limit. It is observed that all the constituents like Chloride, Nitrate, Sulphate, Total Hardness, Calcium, Magnisium and trace elements like Copper, Mangnise, Zinc, Silver are within permissible limit except iron. Iron concentration showing above permissible limit of about 50% water samples. In general ground water is suitable for drinking and domestic purposes. Phosphate is not found in ground water. The Arsenic content is within limit of permissibility of BIS

(v) Climatic Conditions:

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

vi) Human Settlement:

Human settlements are distributed in fringes of core zone. The inhabitants belong to all castes. The main occupation in buffer zone is farming and mining. The agriculture alone does not appear to be sufficient to sustain the population. Poor literacy conditions prevail in the surrounding of lease area & condition of literacy is more pathetic in females. Older generation wear Dhoti Kurta while younger generation is adopting dresses like pant, shirts etc.

Occupation: Agricultural remains the main occupation in this area. Study reveals that within 10 Km. radius of lease each, 70% to 85% population is engaged in agriculture. Percentage of females engaged in agriculture is higher than males. Disparity in agricultural land holding is less. But yield of agricultural produce is very poor to sustain the available hands. Consequently problem of unemployment and frustration amongst youth can be noticed in the area.

(vii) Public building, places of worship and monuments: None of the above important features are within the lease hold or in close proximity of lease hold.

(viii) Plan showing the locations of sampling stations:

Sampling stations for air, noise, vibration and water quality will be located as shown in Plate**- 7**

(ix) Does area (partly or fully) falls under notified area under water (Prevention & control of Pollution) Act 1974:

The lease hold has not been notified under water (Prevention & control of pollution) Act 1974.

(B) Attach an Environmental impact Assessment statement describing the impact of mining and beneficiation on the following over the next five years.

(i) Land use: The impact on the land form or physiography will be limited to the modification of the slope. The landscape and land use will not undergo a radical change due to open cast mining. The impact during next five years is limited as benches will be formed and will be replenished during monsoon. Besides these benches, roads will also not modify the Physiography.

Mining activity causes impact on flora and fauna due to land degradation, deforestation, etc. however as the mining is restricted to very small area in the river bed in dry condition. There is no likelihood of any land degradation or deforestation being caused.

The impact on land use will also be limited. The mining activity is restricted along the river bed only. Since the site is government owned waste land therefore no impact on existing land use is anticipated, also the mined area would get replenished on arrival of monsoon every year itself.

The various modifications due to mining allied & activities during next three years is given below:

Activity	Area Occupied (Ha) During next five years	At the end of conceptual period (Ha)
Mining and Existing pits	**3.96**	**3.96**
Waste dumps	-	-
Haul Road	0.02	0.02
Reclamation/Replenished	3.94	3.94
Forestation (outside the lease)	0.90	0.90

(ii) Air Quality:

- It has already been explained that mining will be in a very small scale with out of adopting of drilling and blasting. One of the most crucial element for air pollution is gaseous pollutants (SO_2 & NO_2) are anticipated due to use of scraper, excavator, earthmovers, loader, truck & tractors etc. Particulate matter will also arise. Therefore periodical monitoring of AAQ shall be analyses.

- Proper mitigation measures like water sprinkling on haul roads will be adopted to control dust emissions.
- Plantation will be carried out on approach roads & nearby vicinity of river bank.
- To control the emissions regular preventive maintenance of equipments will be carried out on contractual basis.
- It will be ensured that all transportation vehicles carry a valid PUC certificate.
- During Transportation vehicles will be covered with tarpaulin sheets.

However, if required, water sprinkling on dry months may be undertaken on the haul road where the maximum traffic will be observed.

(iii) Water Quality

- The working during next five years will be confined up to 3.0 m below the surface level moreover, dry pit mining will be done which shall have no impact on surface and ground water. Therefore no impact on water quality will be observed.
- No waste water will be generated from the mining activities as the project only involves lifting of Sand/Morrum, Bajri & sand silt –clay mixture from river bed in dry state.
- Mining in the area will be done above the river bed water level therefore water regime is not disturbed.
- The mining from river bed does not have any impact on natural drainage of surrounding area as it is not disturbing any tract of land anywhere.
- It is only lifting of Sand/Morrum in slices with uniform thickness and will not pose any hindrance in flow of water during monsoon.

(iv) Noise Level:

- It has been explained earlier that proposed mining is of open cast manually/semi-mechnised without drilling & blasting. Exploitation of Sand/Morrum shall be carried out manually with conventional hand tools. Therefore noise level too will not show any significant increase. Transportation vehicles used for dispatch of RBM (River Born Mineral) are source of noise pollution at mine site. Hence periodical noise monitoring will be done.
- Proper maintenance of all machines shall be carried out, which help in reducing generation of noise during operations.
- Cushioned pad at foundation helps reduction in noise generation.
- No other equipments except the Transportation vehicles, Excavator and Loaders etc (as & when required) for loading is allowed.
- Noise generated by these equipments is intermittent and does not cause much adverse impact.
- Periodical monitoring of noise will be done to adopt corrective actions wherever needed.
- Plantation will be taken up along the approach roads and on river bank. The plantation minimizes propagation of noise and also arrests dust.

Periodical monitoring location has been shown in Environment management Plan

(v) **Vibration level:** It has been mentioned that Mining shall be carried out without adoption of drilling & blasting therefore no impact on vibration level shall be envisaged.

(vi) **Water Regime**: The mining shall not cause any change or diversion of any source of water in the area or any drainage pattern.

(vii) **Socio-Economics:** Though employment potential is not very high but whatever employment will be generated will be available to surrounding. It has been mentioned that there is a serious problem of migration it this region for the need of livelihood, any attempt of generating employment will be important contribution to this area and should be welcomed.

(viii) **Historical Monuments etc**.: No historical monument exists surrounding the lease hold.

(C) **Attach an Environmental Management Plan supported by appropriate plans and sections dealing the time bound action proposed to be taken with sequence and timing in the following areas (or diagram should be added).**

i **Temporary storage and utilization top soil:** Existing soil and overburden within the area if any shall be used in formation of 10m width safety barrier along the river bank and downstream side of the leas area, therefore no proposal has been given for its separate stacking.

ii **Year wise proposal for reclamation of land affected by abandoned quarries and allied mining activities during next five years period:** Through the mining activity involves removal of minerals thereby creating depressions in the area but as the mining operation involves riverbed and mined out pit will be completely filled up and replenish during floods in rainy season hence, there would be no change in the topographical features and land use pattern.

iii **Program of afforestation year wise for the initial three year indicating number of plants with name of species, afforested under different areas in ha.**

- The lease area is marked by waste land. Plantation will be carried out on:
- Riparian fringe- All along the river bank
- 200 nos of sapling shall be planted during the first three year along the approach roads and in the nearby villages i.e. all along the way from mine to nearest village in consultation with the Gram Panchayats and maintenance of plants during last two years.
- Trees growing up to 5 m. or more in height will be planted within the riparian fringe, such that there is no impediment to seasonal movement of water and general hydrodynamics.
- Plantations of adequate density serve as vertical screen of Biomass, screening the dispersion of air borne pollutants and attenuating noise as well.
- Local species will be planted as per the CPCB guidelines and in consultation with local forest office. Species to be planted will be the trees like Teak, Kardhai, Dhou, Tendu, Khair,

Palash, Bamboo, Medicinal Shrabs, Herbs and trees like Amla, Bahera, Bel, Arjun, Mahua, Seja, Chironji, etc.

- Fast growing trees with thick perennial foliage will be grown, as otherwise it may take many years for trees to grow to their full height.
- Dalbergia sissoo, known as Shisham, is an erect deciduous tree, native to the Indian Subcontinent. This tree is known to favour river banks.
- Planting should be done in 90 cm x 90cm size pit duly filled in advance and about 50 days before planting. The plantation raised earlier should be carefully maintained. Mortalities should be replaced by fresh planting.
- Year wise no of saplings to be planted is as below: Along the approach roads and in the nearby villages i.e. all along the way from mine to nearest village in consultation with the Gram Panchayats

Year	Area (ha)	No. of Saplings
Ist	0.30	50
IInd	0.30	50
IIIrd	0.30	50
IVth		maintenance
Vth	-	maintenance
Total	**0.90**	**150**

Post Plantation Care:

- Following precaution to be undertaken for survival of plants*:*
- The samplings will be undertaken for survival of plants.
- Plants will be taken care by applying fertilizers and proper wedding etc.
- Healthy tree species will be recommends for plantation.
- Fatal saplings will be replaced with new healthy saplings.
- Every sapling will be covered by tree guard to avoid damage through cattle grazing.
- A Gardner or mazdoor should be employed for care.
- Necessary arrangement will be provided for watering tree species planted at different parts.

iv **Stabilization and vegetation of dumps along with inter burden dumps management year wise for initial three years:** Existing soil and overburden within the area shall be used in formation of 10m wide safety barrier along the river bank and downstream side of the leas area side of the leas area, therefore, no proposal has been given for its separate stacking.

v **Measures to Control erosion/sedimentation of water courses:** No drainage or water course will be disturbed due to mining. The area consists of waste land & rain water will accumulate in the mining pits percolate through voids & recharge the ground water.

vi Treatment and disposal of water from mine: Mining shall be carried out up to depth of 3.0 m from surface & shall be replenished during monsoon. No waste shall be generated during course of mining therefore no question arises for its treatment and disposal of waste.

vii Measures for minimizing adverse effects on water regime: It has already been stated that mining will not interfere with the surface and underground water however to take care of eventualities.

viii Protective measures for ground vibration/air blast caused by blasting: As the proposed method of mining is manual/semi-mechanized open cast without adoption of drilling & blasting. The impact on this aspect is negligible.

xi Measure for protecting historical Monuments and for rehabilitation of human settlement likely to be disturbed due to mining activity: No such feature exists within the lease area.

x Socio-economic beneficiate out of mining: In general, socio-economic environment will have positive impact due to the Sand/Morrum mining project in the area. The employed laborers will be from nearby villages only as these people are mainly dependent upon such mining activities. In order to further improve the socio-economic conditions of the area, the management will contribute for development works in consultation with local bodies. Periodical medical checkup will be conducted.In order to further improve the socio-economic conditions of the area; the management will contribute for development works in consultation with local bodies Rs. 1, 00,000/- will be incurred on the socio economic welfare measures.The scale of operation is limited with 90% local employment. Hence some benefit to the local community will occur on this aspect. Besides the direct employment, indirect employment will include tractor owners, shop keepers, Dhaba walas etc.

(D) **Monitoring schedule for different environmental components after the commencement of mining and other related activities. (for 'A' category mine only)**

N A as it is a 'B' category project of 3.96 ha area only.

PROGRESSIVE MINE CLOSURE PLAN

1.0. Introduction

a) Name & address of applicants:

Sri Kuldeep Singh s/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P**.**

b) Location:

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).

c). Extent of Lease area: 3.96ha (9.78 acre)

d). Type of lease area: Total area is waste land of alluvial deposit & it is free from forest land.

e). Present land use pattern: The existing land use is given below:

Type of land use	Area (Ha)	Ownership/ occupancy	Village, Tehsil, District State
1. Agricultural land 2. Gazing land 3. Waste land & Others	- - - 3.96	The land is owned by State Govt. & state Govt. has given its consents for the exploitation of Sand/Morrum	Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P.
Total	**3.96**		

The existing land use & given below:

Sr. No.	Land use	Agricultural land (Ha)	Forest Land (Ha)	Waste land (Ha)	Grazing Land (Ha)
1	Mining pits Quarry	-	-	-	-
2	Haul Road	-	-	0.0200	-
3	Dumps	-	-	-	-
4	Office, Resht Shelter etc.	-	-	-	-
5	Balance undisturbed land	-	-	3.94	-
	Total			**3.96**	

f). Method of mining and mineral processing:

Proposed Method of Mining:

Considerations:

- Lease area is situated well within braided bar on concave side of the meandering corridor on the north bank of river Yamuna.

- The workability is suggested by keeping in the mind possible effect on the meandering of the River. The mining on the concave bank is most suitable than convex bank. Hence year wise mining is suggested in a way that is will get replenished during monsoon.
- Only 250 days have been considered for mining of RBM (River born minerals).
- Mining for each successive year is proposed to 3m depth along slope of mineral bed according to bench parameters (1.0m height).
- Whole of the area shall be mined out with permitted production target of 95040m^3 /171072 tons per annum during consecutive five years on rotation basis, leaving 7.5m safety barrier all along the river bank and downstream side. The basis/ methodology is suggested in such a way that pit of previous year will act as depository during the monsoon season by reducing the velocity and carrying capacity of the stream thus depositing the mineral transported by the river. In totality the principal of Braided/Placer Deposit is adopted.
- The sand/morrum will be exploited by bar scalping/trenching or skimming method and mining operation shall be semi–mechanized/mechanised (OTFM) using scrapers/ excavators, chain/tyre mounted bulldozers for rescue & salvage (as per SSMG 2016 and NGT order passed in Gurpreet Singh Bagga vs MoEF & ors). Sand/Morrum shall be loaded manually/using loaders in to dumpers, trucks, tippers/tractor trolleys & dispatched to various parties. The height & width of benches shall be kept 1.0 m & 12.0m & over all pit shape shall be maintained less than 20^0. Ultimate depth of pit shall be kept 3.0m from the surface.

➢ Conventionally the river-bed mining of minor minerals in U P were carried-out in semi-mechanised but current in scenario of demand, supply of huge quantity (380 m^3/day, i.e. > 30 vehicles/day) required by Government agencies/public are to be affected and other requisite parameters of need and requirement, mechanized mining operations shall be resorted to (as per SSMG 2016 and NGT order passed in Gurpreet Singh Bagga vs MoEF & ors). In spite of handling huge quantities of minor minerals in mixed form the mine has clean atmosphere and no dust can be seen polluting the air. Environment and ecology of the area remains undisturbed.

1.1. Reasons for Closure:

At present there is no foreseeable reason regarding closure of mine. The progressive mine closure plan is being submitted, under Rule 34 (6) & (7) of amended rules of U. P. Minor Mineral (Concession) Rules 1963.

1.2. Statutory Obligations:

As per amended rule Rule 34 (6) & (7) of amended rules of U. P. Minor Mineral (Concession) Rules 1963 for every fresh grant and renewal of mining lease, a progressive mine closure plan is required to be submitted .

1.3. Closure plan preparation:

a). Name and address of the Applicant:

Sri Kuldeep Singh s/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P.

b). Name, address & Registration No. of R. Q. P.

Name **-** R B Chaudhry

Address – 58 Mini MIG Govindpur, Allahabad - 211004

Phone- 07706077778 Email: chaurb@gmail.com

Registration No: RQP/JABAL/169/2015/A

Copy of RQP registration is enclosed

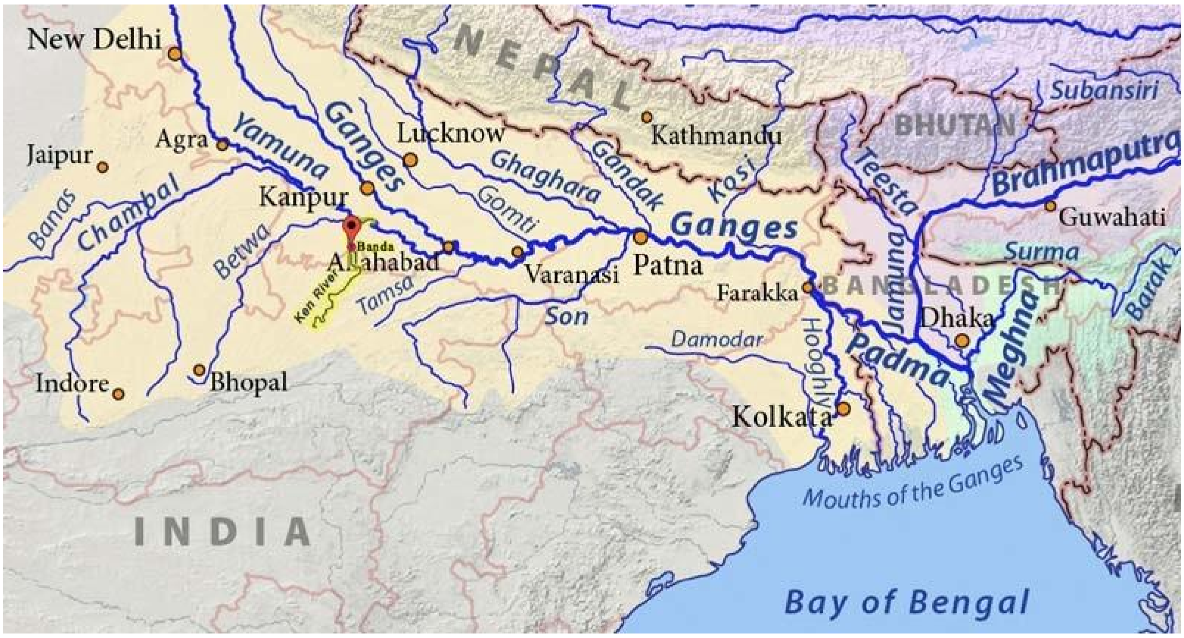
c). Name of the executing agency:

The applicant shall execute himself the provision of mine closure plan.

2.0 Mine Description:

2.1 Topography and 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.

2.2 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.

2.3 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 DETAILS OF EXPLORATION:

a) Already carried out in the area:

Mining of Sand/morram is being done since long time therefore no specific method of exploration is required as the RBM are deposited all along the river-bed and are very well exposed on the surface. Moreover, these sediments are accumulated / replenished every year during rainy season by river-waters to almost equal to extracted level and sometimes more or less depending on the intensity of rains in the catchment area and may deplete in the years with scanty rain in the catchment area. Adequate quantity of Sand/morram reserves in mixed state is available as of now for meeting consumer demand. Since regular Sand/Morrum lifting is practiced along the river course, and more or less same level is seen after rains, so it is understood that sediments load carried is near equal to what is lifted.

b) Proposed to be carried out:

The existence of Sand/morrum is already established in the area & depth persistency has been already proved in the area as contained in DSR. **Annexure – 6**.

2.5 METHOD OF ESTIMATION OF RESERVE:

The reserve estimation has been done by cross-sectional method. Cross-sections are drawn and the average surface areas of two cross-sections are multiplied by the average cross-sectional depth to get the volume.

GEOLOGICAL RESERVES:

The geological reserves estimated by cross-sectional method:

Proved Reserves (111):

All the Quantities estimated as of Sand/Morrum occurring up to 4.0m below from surface have been considered as under proved category.

The summary of reserves is as below:

GEOLOGICAL RESERVE				
Proved Reserves (111)				
Section Line	**SECTIONAL Area m2**	**Strike Influence**	**Volume (cum)**	**Quantities in (Tonnes)**
1-1'	409	100	40900	73620
2-2'	331	101	33431	60176
3-3'	288	100	28800	51840
Total			103131	185636

Probable Reserves (122)				
Section Line	**SECTIONAL Area m2**	**Strike Influence**	**Volume (cum)**	**Quantities in (Tonnes)**
1-1'	269	100	26900	48420
2-2'	278	101	28078	50540
3-3'	279	100	27900	50220
Total			82878	149180
G Total	(111+122)		186009	334816

MINEABLE RESERVE:

Mineable reserves have been calculated with in limitation of 3m working depth. Bench height 1m and width 12m has been drawn in geological sections to calculate the mineable reserves. The area of each bench level has been calculated & multiplied by its average bench height to get the volume using AutoCAD. Bulk density of Sand/Morrum has been taken 1.8 for tonnage factor. The mineable reserve is tabulated as bellow which shall repeat after replenishment of the area in every monsoon season.

MINABLE RESERVE				
Bench Level (mRL)	**AREA**	**Depth (m)**	**Volume (cum)**	**Tonnes**
1SLICE	36237	1	36237	65227
2SLICE	29021	1	29021	52238
3SLICE	27113	1	27113	48803
Total			**92371**	**166268**

LoI to mine out about ***95040 m^3/year*** *mineral is granted.*

The total calculated mineable reserve using AutoCAD comes to **92371m^3/166268 tons** per annum but **Environmental Clearance** is sought for only the annual permitted/granted production of **95040m^3 /171072 tons** as per LoI which can be achieved if zero water level goes down during summers.

Lease Area	**Area (Ha)**	**Average Depth Extraction (m)**	**Targeted Volume as per LoI (m^3)**
Gata No 553, 554 at Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P	3.96	3.00	**95040**

2.6 Mining Method:

Proposed method of Mining:

Considerations:

- Lease area is situated well within braided bar on concave side of the meandering corridor on the north bank of river Yamuna.
- The workability is suggested by keeping in the mind possible effect on the meandering of the River. The mining on the concave bank is most suitable than convex bank. Hence year wise mining is suggested in a way that is will get replenished during monsoon.
- Only 250 days have been considered for mining of RBM (River born minerals).
- Mining for each successive year is proposed to 3m depth along slope of mineral bed according to bench parameters (1.0m height).
- Whole of the area shall be mined out with permitted production target of **95040m^3 /171072 tons per annum** during consecutive five years on rotation basis, leaving 7.5m safety barrier all along the river bank and downstream side. The basis/ methodology is suggested in such a way that pit of previous year will act as depository during the monsoon season by reducing the velocity and carrying capacity of the stream thus depositing the mineral transported by the river. In totality the principal of Braided/Placer Deposit is adopted.
- The sand/morrum will be exploited by bar scalping/trenching or skimming method and mining operation shall be semi–mechanized/mechanised (OTFM) using scrapers/ excavators, chain/tyre mounted bulldozers for rescue & salvage (as per SSMG 2016 and NGT order passed in Gurpreet Singh Bagga vs MoEF & ors). Sand/Morrum shall be loaded manually/using loaders in to dumpers, trucks, tippers/tractor trolleys & dispatched to various parties. The height & width of benches shall be kept 1.0 m & 12.0m & over all pit shape shall be maintained less than 20^0. Ultimate depth of pit shall be kept 3.0m from the surface.
- Conventionally the river-bed mining of minor minerals in U P were carried-out in semi-mechanised but current in scenario of demand, supply of huge quantity (380 m^3/day, i.e. > 30 vehicles/day) required by Government agencies/public are to be affected and other requisite parameters of need and requirement**,** mechanized mining operations shall be resorted to (as per SSMG 2016 and NGT order passed in Gurpreet Singh Bagga vs MoEF & ors). In spite of handling huge quantities of minor minerals in mixed form the mine has clean atmosphere and no dust can be seen polluting the air. Environment and ecology of the area remains undisturbed.
- Excavation of river bed minerals will commence from dip towards rise side along slope by removing the minerals in 1.0m slice at a time up to 3 such slices only from a view point not to reach river bed water level. Therefore mining will be restricted up to 3.0 m

depth only and above 1m ground water level in river bed. Thus dry pit mining is practiced so that mining will not intersect river bed flowing water level.

- The whole lease area shall be mine out as per bench parameters to maximize the RBM production/extraction. Sequence of mineral excavation will be same in successive years, repeated till the completion of the lease period. Change in the proposed sequence may be allowed depending on the position of river water flow.
- Mining shall be started from its centre and advance toward the banks across the river uniformly. In order to maintain safety and stability of river banks a barrier of minimum 7.5m up to 10% of the width whichever is more will be left intact. However systematic plantation will be made in the area outside the river bank to protect the banks from erosion in monsoon. The mineral extraction will be done for a period of 250 days in a year. During this period it is expected that the areas of RBM quarry will be free from submergence. During mining operation the river water flow will be away from lot or below river bed water level to enable dry pit mining.
- In the lease area the velocity & river water flow on concave side being less, the sediment load get deposited. During Monsoon season, the lot area gets replenished with sediments to be lifted in subsequent years.

2.7 Mineral beneficiation:

The entire area consists of Sand/Morrum in mixed form & it is ready to market therefore, no beneficiation or mineral processing will be required. No Mineral beneficiation is involved within the lease area as it will be transported in the mixed form.

3.0 Review of implementation of mining plan / scheme of mining including five years progressive closure plan up to the final closure of mine:

It shall be a case of granting fresh mining lease, therefore, it is premature to make any comments about review of implementation.

4.0 Closure Plan:

4.1 Mined out land:

The mining will commence from the upper level and advance towards lower level as well as in horizontal extent. As the pit shall reach the maximum depth (3.0m) from surface so that mined out area shall be left open for replenishment during monsoon. The reclamation will be occurring naturally in such a manner that original topography will be restored.

The area already degrades due to mining & likely to be used during next five years
is given below:

Activities	Area already used (Ha)	Area likely to be used during next five years (Ha)
Pits & quarries	-	3.96
Approach road	-	0.020
Top soil Stack	-	-
Interburden dump	-	Nil
Backfilled pit/Replenished pit	-	3.94
Undisturbed land		-

The year wise mined out activities is given below:

(A) Mining:

Sl.No.	Activities	Area (Ha)
1.	Area already broken up	-
2.	Area already backfilled /reclaimed	-
Sl.No.	**Activities**	**Area(Ha)**
1.	Additional area proposed to be broken during next five years	3.96
2.	Area to be Replenished during monsoon.	3.96

(B) Dump:

Sl.No.	Activities	Area(Ha)
1.	Area already covered by dump	Nil
2.	Additional area to be covered by soil stack	-
3.	Additional area to be covered by interburden dump.	Nil
4.	Dump area to be covered by protective measures	-

(C) Plantation:

Sl.No.	Activities	Area(ha)
1.	Area already covered under plantation	-
2.	Area proposed to be covered under plantation in next five years (along the approach roads outside the area)	0.90
	Total	**0.90**

4.2 Water Quality Management:

The area lies in river Yamuna, a tributary of river Ganga which flows west to east direction & during monsoon period, the applied area shall be submerged with water & mining operations shall be temporarily suspended during this period. Therefore no question arises for water management.

The material exposed will be Sand/Morrum which is very feebly react with water that too when water becomes acidic. Even of reaction takes place it gives arise to increased temporary hardness of water.

The water quality will not be affected as mining is restricted to above ground level. Drinking water is being taken from the hand pumps, which is situated near the mining area. Number of hand pumps is dug in the villages.

4.3. Air Quality Management:

The mining shall be carried out without adoption of drilling & blasting & mining shall be carried out in shallow depth. The proposed site is located in the remote area having a clean atmosphere. No doubt the mining in this remote area will deteriorate the air quality. The base line values are too low due to remoteness of the area. Air quality monitoring shall be conducted once in a year as per CCOM'S circular No 3/92.

4.4. Waste management:

The mined out sand/morrum, gritt in mixed state will be dispatched to destination so no waste will be generated and top soil existing within the area will be used/stored in the 10m safety bund/burm along river bank side using machines, therefore, no additional proposal has been given for its managements.

4.5 Top Soil Management:

Top soil and silt/clay existing within the area will be used/stored in the 10m safety bund/burm along river bank side using machines, therefore, no additional proposal has been given for its managements.

4.6. Tailing Dam Management:

No tailing dam is proposed for Sand/Morrum mining.

4.7. Infrastructure:

No infrastructure facilities like road, aerial ropeway, convey or belts, power lines, buildings, structure, water treatment plant, transport & water supply sources are present with in the applied area. Therefore no utilization & their physical stability & maintenance will be required. Also no such infrastructure facilities like electric transmission, telephone line, water pipe line, sewer line, gas pipe line, electrical cables, culvert, bridges etc. exist within the lease area, so question does not arise for the restriction.

4.8. Disposal of Mining Machinery:

The Sand/Morrum mine is manual open cast. No mechanization, drilling and blasting will be carried out in future. Hence disposal of mining machineries are not required.

4.9. Safety and Security:

1. Each worker shall be provided with helmets & safety shoes.
2. Safety belt shall be provided to workers an working the top benches.
3. Hanging of loose boulders shall be removed from mine faces.
4. The mining area shall be properly fenced to avoid any inadvertent entry in to mining pit.
5. Working hours shall be displaced at conspicuous places.
6. Mining shall be carried out thought the formation of benches maintaining overall pit slope > 10deg.

4.10 Disaster Management and risk assessment:

The mining is proposed in a gentler flood plain of river Yamuna. The mining will go up to a depth of 3m in a slice wise manner from the surface parallel to original topography in the respective year and thereafter excavated area shall be left open and vacant for replenishment during monsoon to restore the topography of the area. The mining faces shall be dressed properly because any hanging boulders/loose material may create fatal accidents to the laborers while working in the pit.

The mining will discontinue during rainy season from end of June to end of September. Before the temporary discontinuance, the exposed mining pits will be submerged with rain water. The area shall be properly fenced to avoid any inadvertent entry of any live stock.

5.0. Economic repercussions of closure of mine and manpower retrenchments:

All the workers being employed are contractor labors. An industry will provide direct and indirect employment. The local residents will earn tremendous amount of money due to mining activities. It will change their life style. Due to closure of mine, it will create very negative impact on the economy of the workers for their survival. Those earning good money will get some occupation for survival of their families. The literate workers will move here and there for the search of job. In the overall view the closure of mine will give bad impact on the society and surrounding areas.

5.1 Local residents of near by villages will be employed in the mine. The family occupation is mostly farming. Few of them have occupation like carpentry & masonry.

5.2 The applicant pay each year about 5,000 to 10,000 as a compensation for the sustenance of the few workers family.

5.3 About 30% of the workers employed in mine are independent but they are controlled and depended by their family members.

5.4 The local residents will be employed in the mining operations, and allied activities related to mining operations.

5.5 During mining operations the nearby land owners & society of the area shall earn lucrative amount of money from direct & indirect activities. Individual land owners shall also earn good amount of money in terms of royalty. Most of them will spend money to establish other business also. After mining, the total land shall be replenished naturally during monsoon. No repercussion should be observed during the closure of mine.

6.0 Time Scheduling for abandonment:

It is proposed in the mining plan that mining will open from lower levels and subsequently advance towards higher elevations so that concurrent reclamation will be under taken to restore the topography of area. The mining will go up to a depth of 3m in a slice wise manner from the surface parallel to original topography in the respective year and thereafter excavated area shall be left open and vacant for replenishment during monsoon to restore the topography of the area.

The year wise schedule of completion of quantities is given below:

Activities	YEAR				
	I	II	III	IV	V
Toe wall along Soil stack	Nil	Nil	Nil	Nil	Nil
Backfilling (Cum)	Nil	Nil	Nil	Nil	Nil
Plantation (No. of sampling, outside lease area)	200	200	200	200	200
Wire Fencing in three rows(819 x 3)	2457M		Maintained		Maintained

7.0 Any other information:

Community Development: The expenses to be incurred towards the socio-economic development are given below:

Corporate Environment Responsibility:

In the past, it has been observed that different Expert Appraisal Committee/ State Expert Appraisal Committee (EACs/SEACs) has been prescribing different formulation of the Corporate Environment Responsibility (CER). As per Office Memorandum of MoEF&CC dated 01.05.2018 the fund allocation, 2% of project cost, for CER shall be deliberated for different cases/usage. The total project cost is estimate as 40.0 Lac/annum. The CER cost of the project is Rs. 80000.00. Some of the activities which can be carried out in CER are as follows:

Proposed Action Plan Towards socio economic development regarding CER	one years plan period	
	Expenditure proposed (Rs.)	Expenditure incurred (Rs.)
Drinking Water Supply	10000	-
Sanitation	10000	-
Solar Lantern (Rs. 1000/- per lantern)	10000	-
Plantation	15000	-
Toilet	35000	-
Total	80000	-

8.0 Financial Assurance:

The financial assurance has been calculated on the basis of following parameters:

Sl. No.	Head	Area put on use at start of plan (In Ha)	Additional requirement during plan period. (In Ha)	Total (in Ha)	Area considered as fully replenished & rehabilitated (In Ha)	Net area considered for calculation (In Ha)
1.	Area under mining	-	**3.96**	**3.96**	**3.96**	**3.96**
2.	Storage for top soil	-	-	-	-	-
3.	interburden/ dump	-	-	-	-	-
4.	Mineral storage	-	-	-	-	-

5.	Infrastructure (Workshop, administrative building etc.)	-	-	-	-	-
6.	Approach Road	-	0.020	0.020	0.020	-
7.	Railways	-	-	-	-	0
8.	Green Belt	-	0.90	0.90	-	-
9.	Tailing pond	-	-	-	-	-
10.	Effluent Treatment Plant	-	-	-	-	-
11.	Mineral Separation Plant	-	-	-	-	-
12.	Township area	-	-	-	-	-
13.	Others to specify (undisturved)	-	-	-	-	
	Grand Total					**3.96**

Area to be considered for financial assurance = 3.96ha (9.78 acre)

Financial assurance@Rs.25,000/- per acre will be applicable.

9.78 X 25,000 = Rs 2,44,500/-.

(Two Lac Forty Four Thousand Five Hundred only)

However, under Rule 34 (6) & (7) of amended rules of U.P. Minor Mineral (Concession) Rules 1963 the minimum amount as a Financial assurance will be Rs Two Lac.

The lessee will submit financial assurance in the form of bank guarantee of Rs2.00 Lac. (Rupees Two lac only) to The Directorate, Geology & Mines Lucknow, U.P. at the time of granting the permission.

9.0 Certificate:

Given separately.

10.0 Plans and Sections:

All the plans and sections are enclosed.

Date:

Place: Lucknow

Annexure -1

AUTHORISATION LETTER BY THE LESSEE

I, Kuldeep Singh s/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P.hereby authorise R B Chaudhary, RQP No. RQP/JABAL/169/2015/A to prepare the Mining Plan with Mine Closer Plan under rule 34(2) of amended rules of U.P. Minor Mineral Concession Rule 1963 in respect of 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**.**

I, request, the Director, Directorate of Geology & Mining, Lucknow to make further correspondence regarding modification and to collect the approved copies of the aforesaid Scheme of Mining, the said recognized person on his following address:,

R B Chaudhry
Address – 58 Mini MIG Govindpur
Allahabad - 211004
Phone- 07706077778
Registration No: RQP/JABAL/169/2015/A

Place-
Date:

Lessee

M/s Devansh Infra/109104
Sri Kuldeep Singh s/o Sri Chand Singh
R/o 143, Udpur, P.O. Udpur,
Shamli U. P

Annexure -2

CERTIFICATE

I R B Chaudhry hereby certify that-

1. It is certified that the provisions of Mines Act, Rules and Regulations made there under have been observed in the aforesaid Mining Plan and wherever specific permissions are required the lessee will approach the Director General of Mines Safety (DGMS).

2. It is further certified that the aforesaid Mining Plan is prepared as per the copies of the records and documents provided by lessee and information given as per discussions held with lessee and his representative.

3. It is also certified that the information's furnished in the aforesaid Mining Plan are true and correct to the best of my knowledge & belief and in case of default the approval would be withdrawn.

Place: Lucknow
Date:

R B Chaudhry
Address – 58 Mini MIG Govindpur
Allahabad - 211004
Phone- 07706077778
Registration No: RQP/JABAL/169/2015/A

भारत सरकार
खान मंत्रालय
भारतीय खान ब्यूरो
क्षेत्रीय खान नियंत्रक का कार्यालय

खनन योजना बनाने हेतु मान्यता प्राप्त योग्य व्यक्ति को जारी

(CERTIFICATE OF RECOGNITION AS RECOGNISED PERSON)

प्रमाणपत्र

(खनिज रियायत नियमावली, 1960 के नियम 22 'सी' के अंतर्गत)

श्री **राम भवन चौधरी, एम०एससी0 (जियोलाजी)**, पुत्र स्व0 **राम अवध चौधरी** निवासी मकान नं0 58, मिनी एमआईजी, गोविन्दपुर कालोनी, पो0आ0–तेलियारगंज, इलाहाबाद जिला इलाहाबाद (उ0प्र0) 211004 जिनका फोटोग्राफ एवं हस्ताक्षर इस प्रमाणपत्र में संलग्न किया गया है के द्वारा अपनी योग्यता एवं अनुभव के संबंध में संतोषजनक प्रमाण प्रस्तुत करने के फलस्वरुप खनिज रियायत नियमावली, 1960 के नियम 22 'सी' के अंतर्गत खनन योजना/खनन स्कीम/प्रोग्रेसिव माइन क्लोजर प्लानस तैयार करने हेतु योग्य व्यक्ति के रूप में मान्यता प्रदान की जाती है।

उनका पंजीयन क्रमांक : **आर0क्यू0पी0/जबल/169/2015/ए**

यह मान्यता दस वर्ष की अवधि के लिए दि. 05/11/2025 तक वैध है। खनन योजना/खनन स्कीम /प्रोग्रेसिव माइन क्लोजर प्लानस में गलत जानकारी के दिये जाने पर एतद्द्वारा प्रदान की गयी मान्यता रदद् की जा सकती है।

स्थान : जबलपुर
दिनांक : 06/11/2015

(एस0 आर0 रॉय)
क्षेत्रीय खान नियंत्रक
भारतीय खान ब्यूरो

Annexure -3

CERTIFICATE

It is certified that the provisions of Mines Act, Rules and Regulations made there under have been observed in the Mining Plan with Mine Closer Plan in respect of 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 through its Proprietor Sri Kuldeep Singh s/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P., and wherever specific permissions are required, the Lessee will approach the Director General of Mines Safety. Further, the standards as prescribed by DGMS in respect of miner's health will be strictly implemented.

Place-

Date:…..

Lessee

M/s Devansh Infra/109104
Sri Kuldeep Singh s/o Sri Chand Singh
R/o 143, Udpur, P.O. Udpur,
Shamli U. P

Annexure -4

DECLARATION

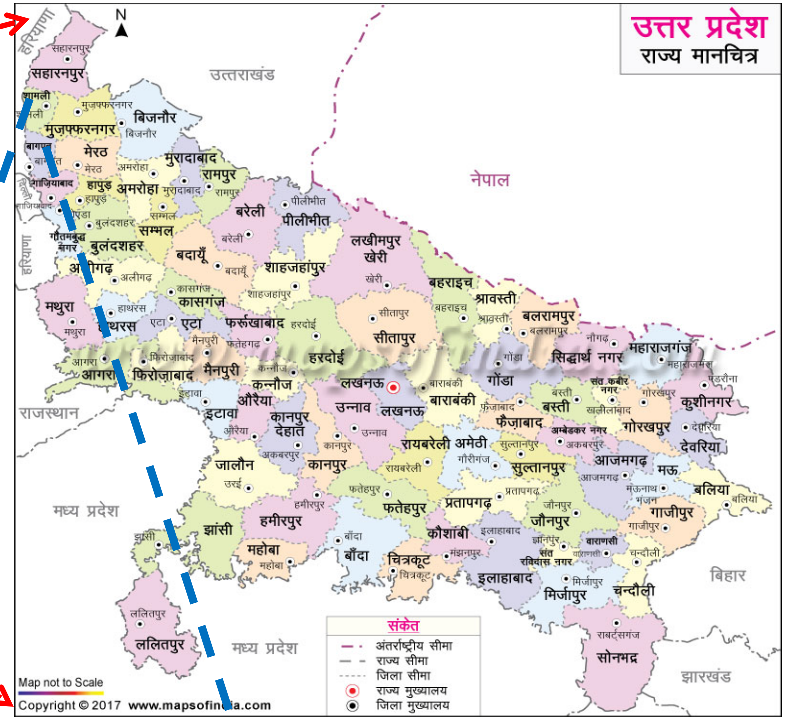
Mining Plan with Mine Closer Plan in respect of Sand/Morrum Mining having lease area 3.96ha (9.78 acre) along River Yamuna in Gata No 553, 554 at Village – Issospur Khurgan, Tehsil- Kairana, District- Shamli, U. P. of M/s Devansh Infra/109104 through its Proprietor Sri Kuldeep Singh s/o Sri Chand Singh R/o 143, Udpur, P.O. Udpur, Shamli U. P. has been prepared in full consultation with me and I understand its contents and agree to implement the same in accordance with law and in case of default the approval may be withdrawn.

Place-
Date…

Lessee

M/s Devansh Infra/109104
Sri Kuldeep Singh s/o Sri Chand Singh
R/o 143, Udpur, P.O. Udpur,
Shamli U. P

LOCATION MAP



ISSOPUR KHURGYAN

PLATE No.1

LOCATION PLAN
RIVER BED SAND MINE YAMUNA RIVER VILL-ISSOPUR KHURGYAN,GATA NO.553 & 554 TEHSIL:-KAIRANA, DIST-SHAMLI(UP)
APPLICANT:-M/S DEVANSH INFRA/109104 SHRI KULDEEP SINGH
AREA:-3.96HECT.

KEY PLAN

RIVER BED SAND MINE
YAMUNA RIVER
VILL-ISSOPUR KHURGYAN,GATA NO.553 & 554
TEHSIL:-KAIRANA, DIST-SHAMLI(UP)

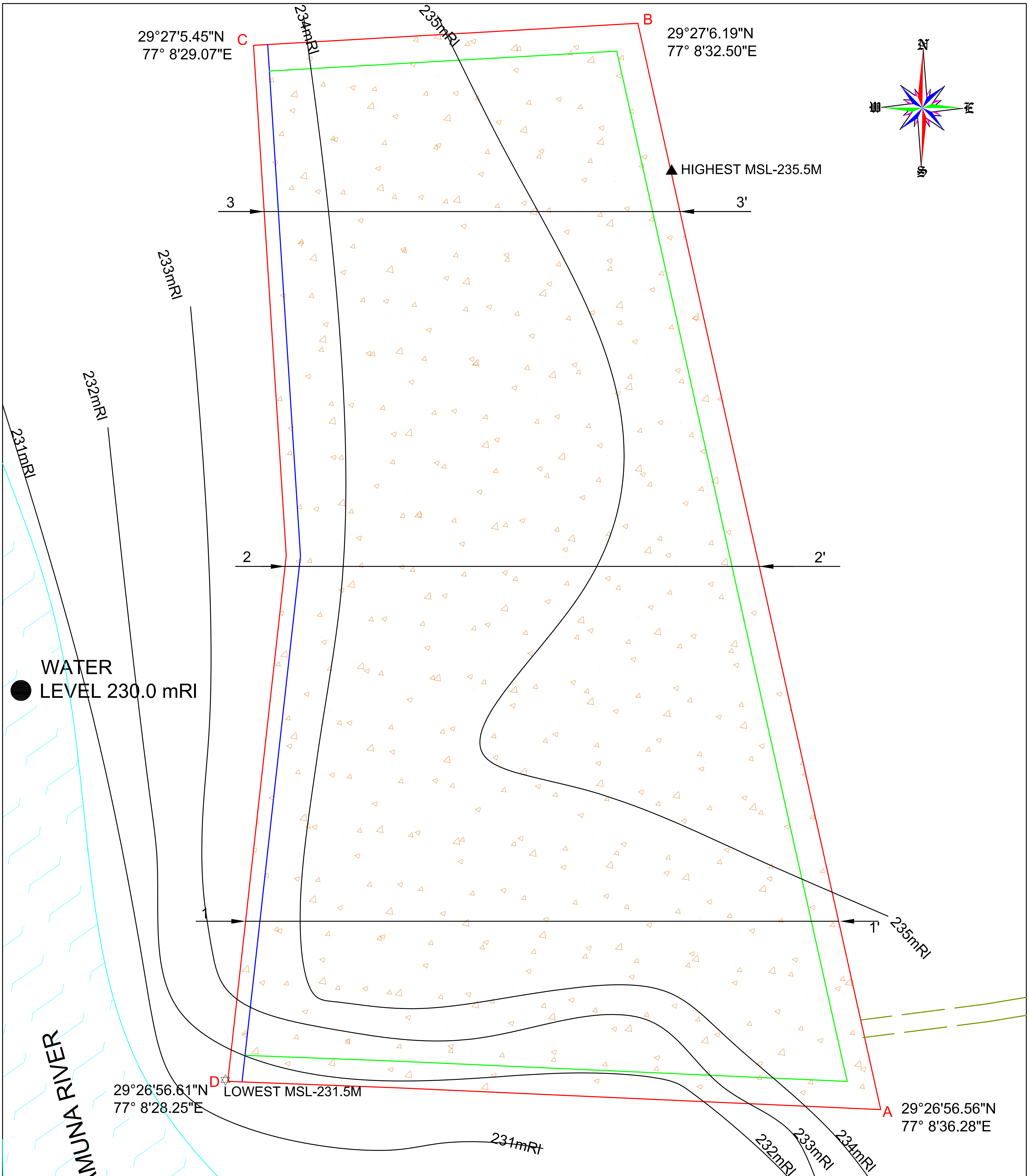
APPLICANT:-M/S DEVANSH INFRA/109104
SHRI KULDEEP SINGH

AREA:-3.96HECT.

PREPARED BY :- R.B. CHAUDHARY
RQP/JABAL/169/2015/A

SIGNATURE

PLATE NO.-2



LEGEND

1		LEASE BOUNDARY
2		7.5M SAFETY ZONE
3		3.0M RIPARIAN ZONE
4	232	CONTOUR(1M INTERVAL)
5	29°26'56.33"N 77° 8'35.09"E	GPS READING
6		HAUL ROAD
7	▲	HIGHEST MSL-235.5M
8	✡	LOWEST MSL-231.5M

GEOLOGY

1		SAND

SURFACE / GEOLOGICAL PLAN

RIVER BED SAND MINE
YAMUNA RIVER
VILL-ISSOPUR KHURGYAN,GATA NO.553 & 554
TEHSIL:-KAIRANA, DIST-SHAMLI(UP)

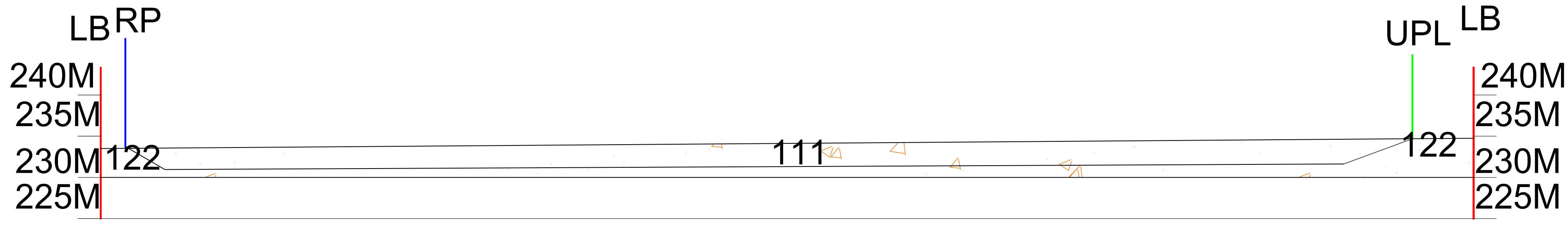
APPLICANT:-M/S DEVANSH INFRA/109104
SHRI KULDEEP SINGH

AREA:-3.96HECT.

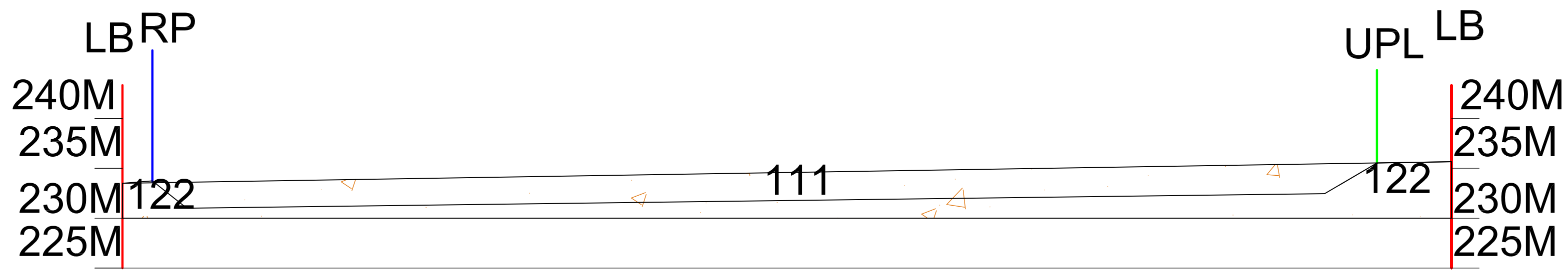
PREPARED BY :- R.B. CHAUDHARY
RQP/JABAL/169/2015/A

SIGNATURE

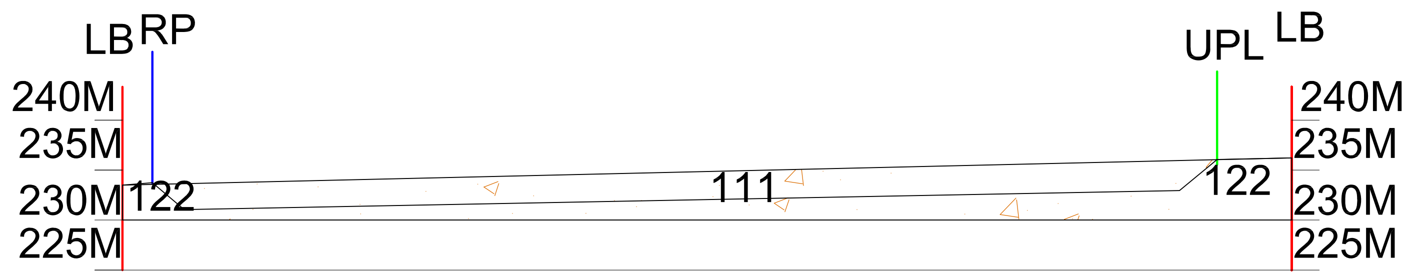
PLATE NO.-3



SECTION ALONG 1-1'



SECTION ALONG 2-2'



SECTION ALONG 3-3'

SCALE
(VERTICAL-1: 1000,
HORIZONTAL-1:1000)

1		LEASE BOUNDARY(LB)
2		7.5 M BARRIER
3		UPL
4	RP	3.0M RIPARIAN ZONE
5	111	PROVED RESERVE(111)
6	122	PROBABLE RESERVE(122)
7		

GEOLOGICAL SECTIONS

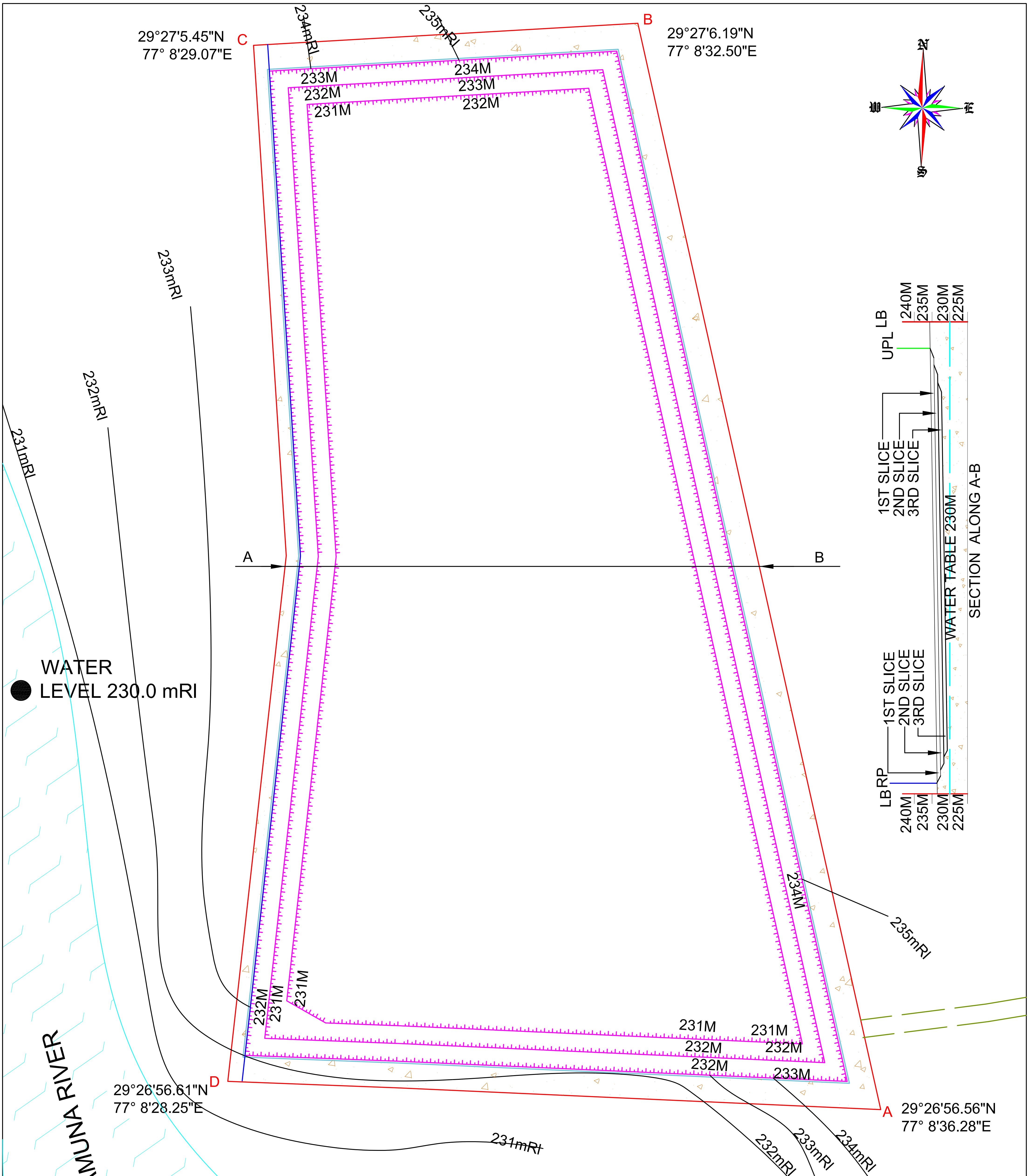
RIVER BED SAND MINE
YAMUNA RIVER
VILL-ISSOPUR KHURGYAN,GATA NO.553 & 554
TEHSIL:-KAIRANA, DIST-SHAMLI(UP)

APPLICANT:-M/S DEVANSH INFRA/109104
SHRI KULDEEP SINGH

AREA:-3.96HECT.

PREPARED BY :- R.B. CHAUDHARY
RQP/JABAL/169/2015/A

SIGNATURE	PLATE NO.-4



LEGEND

1		LEASE BOUNDARY
2		7.5M SAFETY ZONE
3		UPL
4		3.0M RIPARIAN ZONE
5	232	CONTOUR(1M INTERVAL)
6	29°26'56.33"N 77° 8'35.09"E	GPS READING
7		HAUL ROAD
8	232m	BENCH RL

GEOLOGY

1		SAND

DEVELOPMENT PLAN

RIVER BED SAND MINE
YAMUNA RIVER
VILL-ISSOPUR KHURGYAN,GATA NO.553 & 554
TEHSIL:-KAIRANA, DIST-SHAMLI(UP)

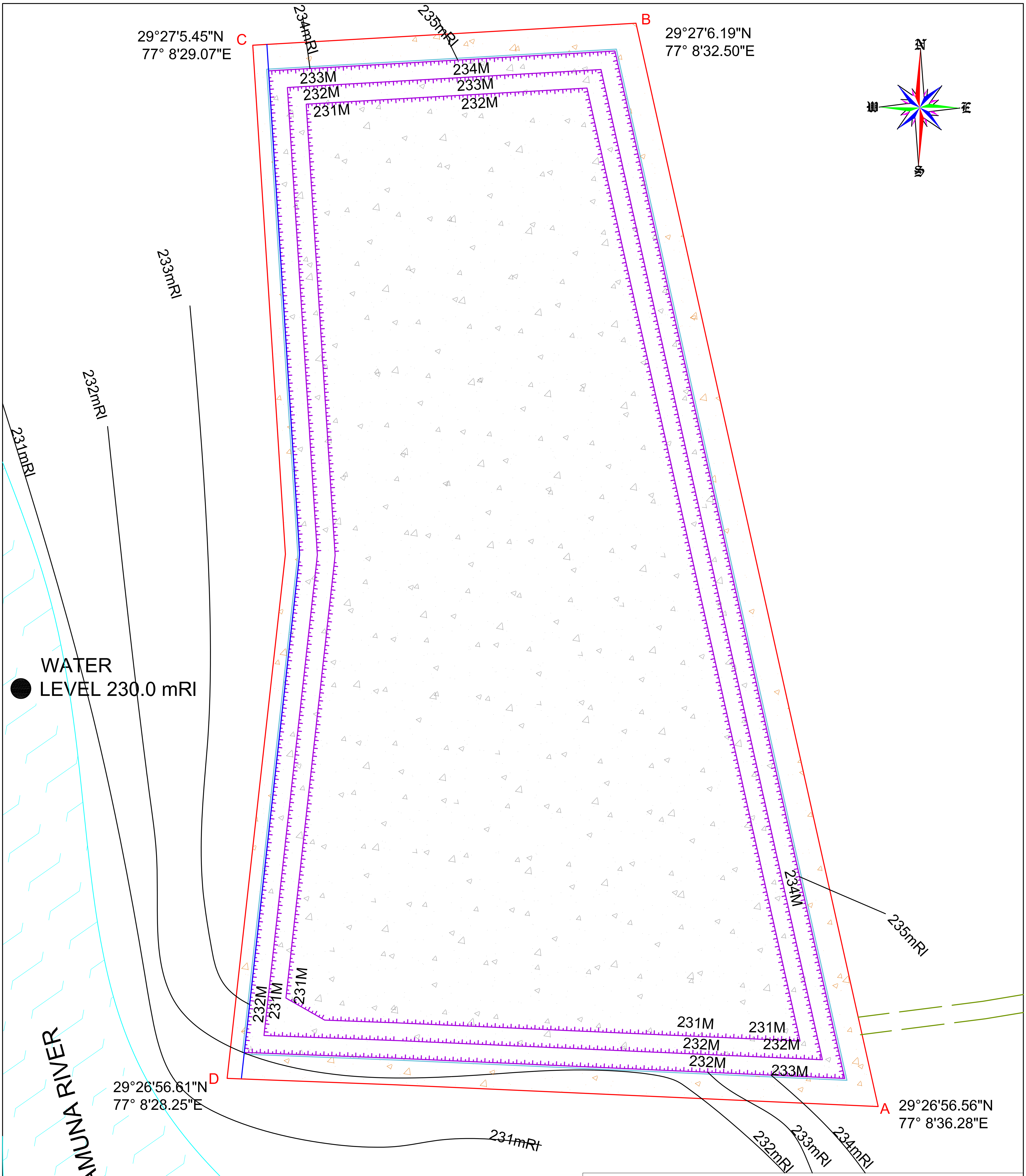
APPLICANT:-M/S DEVANSH INFRA/109104
SHRI KULDEEP SINGH

AREA:-3.96HECT.

PREPARED BY :- R.B. CHAUDHARY
RQP/JABAL/169/2015/A

SIGNATURE

PLATE NO.-5



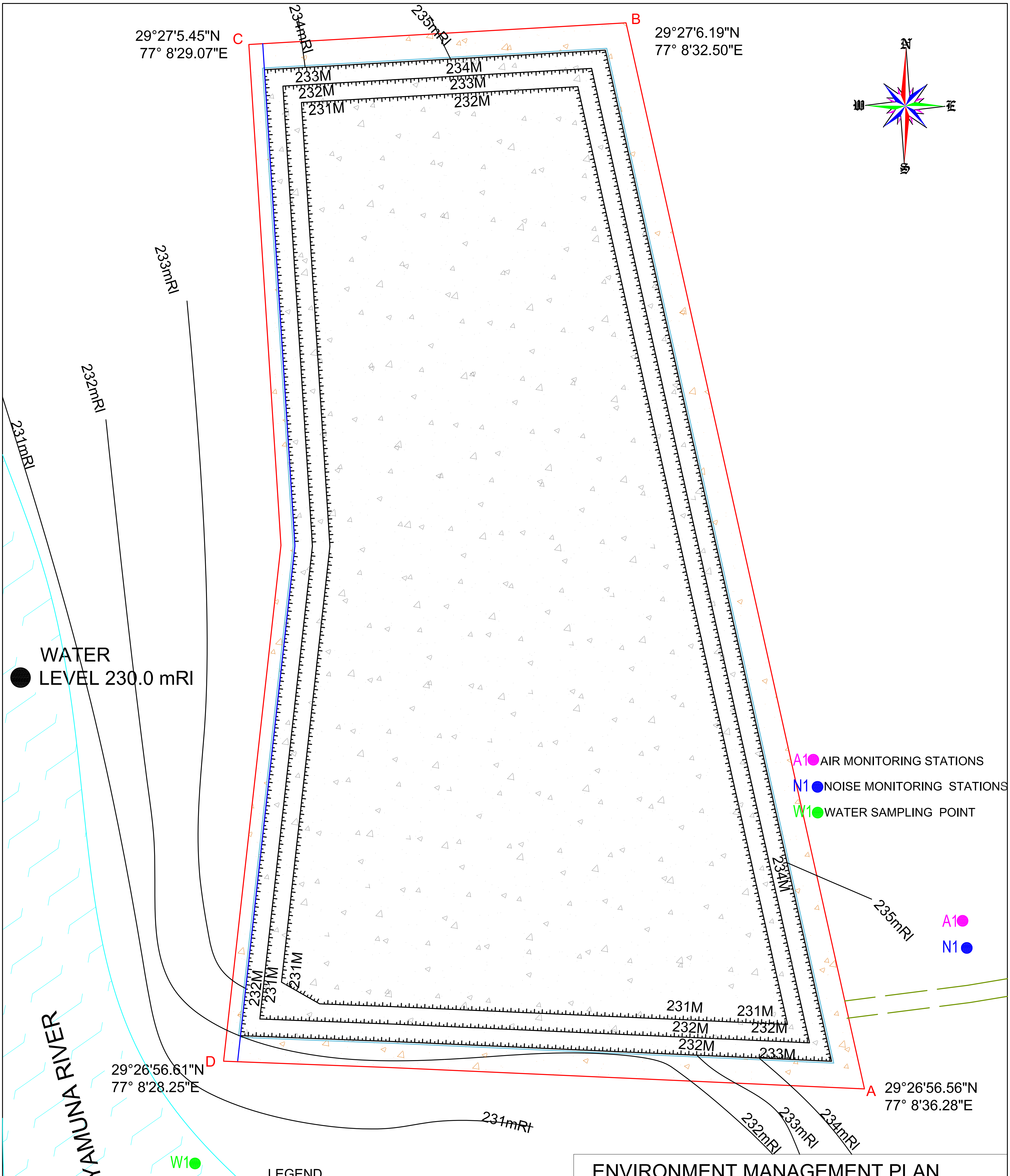
LEGEND

1		LEASE BOUNDARY
2		7.5M SAFETY ZONE
3		UPL
4		3.0M RIPARIAN ZONE
5	232	CONTOUR(1M INTERVAL)
6	29°26'56.33"N 77° 8'35.09"E	GPS READING
7		HAUL ROAD
8	232m	BENCH RL

GEOLOGY

1		SAND

CONCEPTUAL PLAN
RIVER BED SAND MINE YAMUNA RIVER VILL-ISSOPUR KHURGYAN,GATA NO.553 & 554 TEHSIL:-KAIRANA, DIST-SHAMLI(UP)
APPLICANT:-M/S DEVANSH INFRA/109104 SHRI KULDEEP SINGH
AREA:-3.96HECT.
PREPARED BY :- R.B. CHAUDHARY RQP/JABAL/169/2015/A
SIGNATURE — PLATE NO.-6



LEGEND

1		LEASE BOUNDARY
2		7.5M SAFETY ZONE
3		UPL
4		3.0M RIPARIAN ZONE
5	232	CONTOUR(1M INTERVAL)
6	29°26'56.33"N 77° 8'35.09"E	GPS READING
7		HAUL ROAD
8	232m	BENCH RL

GEOLOGY

1		SAND

ENVIRONMENT MANAGEMENT PLAN

RIVER BED SAND MINE
YAMUNA RIVER
VILL-ISSOPUR KHURGYAN,GATA NO.553 & 554
TEHSIL:-KAIRANA, DIST-SHAMLI(UP)

APPLICANT:-M/S DEVANSH INFRA/109104
SHRI KULDEEP SINGH

AREA:-3.96HECT.

PREPARED BY :- R.B. CHAUDHARY
RQP/JABAL/169/2015/A

SIGNATURE

PLATE NO.-7