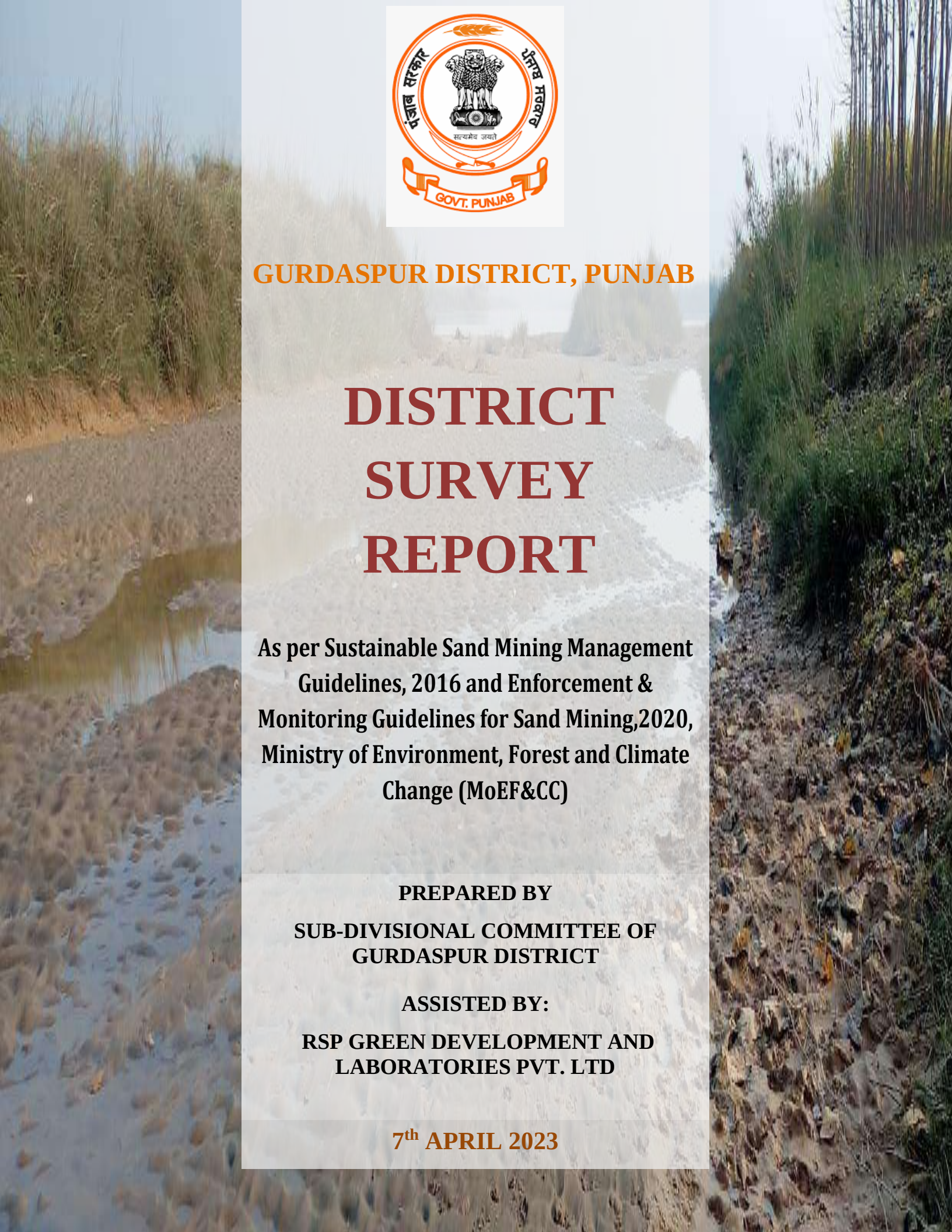

GURDASPUR DISTRICT, PUNJAB

DISTRICT SURVEY REPORT

As per Sustainable Sand Mining Management Guidelines, 2016 and Enforcement & Monitoring Guidelines for Sand Mining,2020, Ministry of Environment, Forest and Climate Change (MoEF&CC)

PREPARED BY

SUB-DIVISIONAL COMMITTEE OF GURDASPUR DISTRICT

ASSISTED BY:

RSP GREEN DEVELOPMENT AND LABORATORIES PVT. LTD

7th APRIL 2023

DISTRICT SURVEY REPORT OF GURDASPUR DISTRICT, PUNJAB

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ABBREVIATIONS AND SYMBOLS USED

ABBREVIATIONS &SYMBOLS USED	:	FULL FORMS
%	:	Percent
′	:	Minute
″	:	Second
<	:	less than (strict inequality)
=	:	Equal to (strict equality)
>	:	greater than (strict inequality)
≈	:	approximately equal
°	:	Degree
°C	:	Degree Centigrade
°F	:	Degree Fahrenheit
ArcGIS	:	ArcGIS is a GIS for working with maps and geographic information maintained by the ESRI.
CD blocks	:	Community development blocks
cm	:	Centimeter
cum	:	Cubic meter
Dec	:	December
DEIAA	:	District Level Environment Impact Assessment Authority
DSR	:	District Survey Report
E	:	East
e.g.,	:	*'exempli gratia'*(Latin phrase) means 'for example'
EC	:	Environmental Clearance
et.al.,	:	*'et alia'* (Latin phrase) means 'and others'
G:2 stage	:	General Exploration (stage of exploration as per UNFC norms)
G:3 stage	:	Prospecting (stage of exploration as per UNFC norms)
GIS	:	Geographic Information System
Govt.	:	Government
GPS	:	Global Positioning System
Ha	:	Hectare
i.e.,	:	*'id est'* (Latin phrase) means 'that is'/'in other words'

ABBREVIATIONS &SYMBOLS USED	:	FULL FORMS
ICAR	:	Indian Council of Agricultural Research
Inch	:	inches
kg/ha	:	Kilogram per hectare
km	:	kilometer
km/ hour	:	Kilometer per hour
km^2	:	kilometer square
LANDSAT	:	Land Satellite stands for Low Altitude Satellite
LULC	:	Land use and land cover
m	:	Meter
Mar	:	March
Max.	:	Maximum
mbgl	:	Meter Below Ground Level
Min.	:	Minimum
mm	:	Millimeter
MoEFCC	:	Ministry of Environment, Forest and Climate Change
MT	:	Metric Ton
N	:	North
NH	:	National Highways
No.(s)	:	Number(s)
RI value	:	River Index value
S	:	South
SEIAA	:	State Environment Impact Assessment Authority
Sept	:	September
sp.	:	species
sq.km	:	Square kilometer
Temp	:	Temperature
viz.,	:	Latin phrase *'videre licet'*, and is used as a synonym for "namely",
W	:	West

PREFACE

The Ministry of Environment, Forest and Climate Change (MoEF & CC) has several policy initiatives and enacted environmental and pollution control legislations to prevent indiscriminate exploitation of natural resources and to promote integration of environmental concerns in developmental projects. One such initiative is the Notification on Environmental Impact Assessment (EIA) of developmental projects issued on 14th September,2006 under the provisions of Environment (Protection) Act,1986, making EIA mandatory for certain categories of developmental projects.

Minerals are classified into two groups, namely (i) Major minerals and (ii) Minor minerals. Amongst these two groups, minor mineral has been defined under section 3(e) of Mines and Minerals (Regulation and development) Act, 1957. The minor minerals are further governed by Punjab Minor Mineral Rules, 2013 in this report.

On mining of minor mineral, it is mandatory to have District Survey Report (DSR) by MoEF & CC vide their Notification No. 125 (Extraordinary, Part II Section 3, Sub-section ii), S.O. 141 (E), dated 15th January 2016. This will ensure environmentally sustainable mining for minor mineral under close supervision of district authorities. The notification was made to bring certain amendments with respect to the EIA notification 2006 and in order to have a better control over the legislation, district level committee's for introduced in the system. Preparation of District Survey Reports has been introduced as a part of the above notification. Subsequently, MOEF & CC has published Notification No. 3611 (E), dt. 25th July, 2018 regarding inclusion of the "Minerals Other than Sand" and specified the format of the DSR. Monitoring Guidelines for Sand Mining (EMGSM) January 2020, Issued by Ministry of Environment, Forest and Climate Change is prepared in consideration of various orders/directions issued by Hon'ble NGT in matters pertaining to illegal sand mining and also based on the reports submitted by expert committees and investigation teams. This DSR has been prepared in conformity with the S O 141 (E), S O 3611 (E) and other sand mining guidelines published by MOEF & CC time to time.

A detailed procedure and format for preparation of District Survey Report (DSR) has been discretely discussed under Para 7(iii) (a) and Annexure (x) of the notification issued by Ministry of Environment, Forest and Climate Change, Government of India on 15th January, 2016. In sort, the purpose is to ensure that mining of minor mineral is done in environmentally sustainable and socially responsible manner. It also helps to identify the areas of deposition where mining can be permitted and also, to identify the areas of aggradation & erosion, to monitor river equilibrium and helps to protect and restore the ecological system. The DSR would also help to calculate the total amount of replenishment, where ever applicable.

Preparation of this DSR required both primary and secondary data generation. The primary data has been generated by the site inspection, ground truthing, survey etc. while secondary data has been generated through various authenticated sources and satellite imagery studies. District survey report also covers the area of General information of the district, Demography, Geomorphology, topography, Forest and Agricultural information, climate condition, rainfall details, Land use pattern, cropping pattern. The DSR would also help to calculate the total amount of replenishment, where ever applicable.

Disclaimer: The data may vary due to flood, heavy rains and other natural calamities.

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PREPARED BY: **SUB-DIVISIONAL COMMITTEE OF GURDASPUR DISTRICT**
ASSISTED BY: **RSP GREEN DEVELOPMENT AND LABORATORIES PVT. LTD.**

CHAPTER 1: INTRODUCTION

1.0 BACKGROUND AND GENERAL INFORMATION

1.1 BACKGROUND

Whilst sand is a vitally important and essential requirement for all construction work and several other industries, its injudicious mining can lead to severe environmental problems. The deleterious effects of indiscriminate sand and gravel mining include the following:

1. Extraction of bed material in excess of replenishment by transport from upstream causes the bed to lower (degrade) upstream and downstream of the site of removal.
2. In-stream habitat is impacted by the increase in river gradient, suspended load, sediment transport, and sediment deposition. Excessive sediment deposition for replenishment increases turbidity which prevents penetration of light required for photosynthesis and reduces food availability of aquatic fauna.
3. Riparian habitat including a vegetative cover on and adjacent to the river banks controls erosion, provides nutrient inputs into the stream, and prevents intrusion of pollutants in the stream through runoff. Bank erosion and change of morphology of the river can destroy the riparian vegetative cover.
4. Bed degradation is responsible for channel shifting, causing loss of properties and degradation of the landscape; it can also undermine bridge supports, pipelines or other structures.
5. Degradation may change the morphology of the riverbed.
6. Degradation can deplete the entire depth of gravelly bed material, exposing other substrates that may underlie the gravel, which could in turn affect the quality of aquatic habitat. Lowering of the ground water table in the flood plain because of lowering of riverbed level as well as river water level takes place because of extraction and draining out of excessive ground water from the adjacent areas. So, if a floodplain aquifer drains into the stream, groundwater levels can be lowered as a result of bed degradation.
7. Lowering of the water table can destroy riparian vegetation.
8. Excessive pumping of ground water in the process of mining in abandoned channels depletes ground water causing scarcity of irrigation and drinking water.
9. Un-scientific and unregulated sand and gravel mining tends to increase channel bank scouring and erosion. This causes a large degree of meandering of rivers.
10. Rapid bed degradation may induce bank collapse and erosion by increasing the heights of banks.
11. Polluting ground water by reducing the thickness of the filter material especially if mining is taking place at top of recharge fissures.
12. Choking of the sand layer which acts as a filter for ingress of ground water from the river by dumping of finer material, compaction of filter zone due to movement of heavy vehicles. It also reduces the permeability and porosity of the filter material.
13. Removal of sand and gravel from bars may cause downstream bars to erode if they subsequently receive less bed material than is carried downstream from them by fluvial transport.

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14. Ecological effects on bird nesting, fish migration, angling, etc.
15. Indiscrete mining activities lead to increased concentration of suspended sediments in the river which in turn causes siltation of water resources projects.
16. Un-scientific and unregulated sand and gravel mining lead to severe health hazards like air quality degradation and dust fog.
17. Direct destruction from heavy equipment operation; discharges from equipment and refueling.
18. Biosecurity and pest risks.

1.2 GENERAL INFORMATION

The District Survey Report of Gurdaspur District has been prepared as per the guide line of Ministry of Environment, Forests & Climate Change (MoEF&CC), Government of India vide Notification S.O.-1533(E) dated 14th Sept, 2006 and subsequent MoEF& CC Notification S.O. 141(E) dated 15th Jan, 2016. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Further, MoEF& CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report.

The main objective of DSR is to identify the areas of aggradations or deposition where mining can be allowed; and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and estimation of annual rate of replenishment and allowing time for replenishment after mining in that area. The DSR would also help to calculate the annual rate of replenishment wherever applicable and allow time for replenishment. Besides the sand mining, the DSR also include the potential development scope of in situ minor minerals.

The objectives of the District Survey Report are as following:

1. Identification and Quantification of Mineral Resource and its optimal utilization.
2. To regulate the Sand Mining in the district, identification of site-specific end-use consumers and reduction in demand & supply gaps.
3. Use of information technology (IT) & latest scientific method of mining for surveillance of the sand mining at each step.
4. District Survey report shall enable appraisal and grant Environmental Clearance for cluster of Sand and Gravel Mines. It shall assist concern Department during post Environmental Clearance Monitoring.
5. To check and control the instance of illegal mining.
6. To control the flood in the area.
7. To maintain the livelihood of aquatic habitat.
8. To protect the incursion of ground water in the area. Limiting extraction of material in floodplains to an elevation above the water table generally disturbs more surface area than allowing extraction of material below the water table.
9. To keep accumulated data records viz. details of Mineral Resource, potential area, lease, approved mining plan, co-ordinates of a district at one place.
10. To maintain the records of revenue generation.

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The following principles have been kept in view whilst identifying the areas and extent of mining leases:

1. In-stream extraction of RBM from below the water level of a stream generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the water level.
2. In-stream extraction of RBM below the deepest part of the channel generally causes more changes to the natural hydrologic processes than limiting extraction to a reference point above the thalweg.
3. Excavating sand from a small straight channel with a narrow floodplain generally will have a greater impact on the natural hydrologic processes than excavations on a braided channel with a wide floodplain.
4. Extracting sand and gravel from a large river or stream will generally create less impact than extracting the same amount of material from a smaller river or stream.

1.3 STATUTORY FRAMEWORK

Requirement of the District Survey Report and the year-wise modification of decisions and Guidelines are furnished in Table No 1 below:

Table No.1: Requirement of District Survey Report and the year-wise modification of Decisions/Guidelines

Year	Particulars
1994	The Ministry of Environment, Forest & Climate Change (MoEF&CC) published Environmental Impact Assessment Notification 1994 which is only applicable for the Major Minerals more than 5 ha.
2006	In order to cover the minor minerals also into the preview of EIA, the MoEF&CC has issued EIA Notification SO 1533 (E), dated 14th September 2006, made mandatory to obtain environmental clearance for both Major& Minor Mineral more than 5 Ha.
2012	Further, Hon'ble Supreme Court wide order dated the 27th February, 2012 in I.A. No.12- 13 of 2011 in Special Leave Petition (C) No.19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc., ordered that "leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from MoEF".
2015	Hon'ble National Green Tribunal, order dated the 13th January, 2015 in the matter regarding sand mining has directed for making a policyon environmental clearance for mining leases in cluster for minor Minerals.
2016	The MoEF&CC in compliance of above Hon'ble Supreme Court's and NGT'S order has prepared "Sustainable Sand Mining Guidelines (SSMG), 2016" in consultation with State governments, detailing the provisions on environmental clearance (EC) for cluster, creation of District Environment Impact Assessment Authority, preparation of District survey report and proper monitoring of minor mineral. There by issued Notification dated 15.01.2016 for making certain amendments in the EIA Notification, 2006 and

	made mandatory to obtain EC for all minor minerals. Provisions have been made for the preparation of District survey report (DSR) for River bed mining and other minor minerals.
2018	MoEF& CC published a notification S.O. 3611(E) Dated 25th July, 2018 and recommended the format for District Survey Report. The notification stated about the objective of DSR i.e., "Identification of areas of aggradations or deposition where mining can be allowed and identification of areas of erosion and proximity to infrastructural structures and installations where mining should be prohibited and calculation of annual rate of replenishment and allowing time for replenishment after mining in that area".
2020	Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020 has been published modifying Sustainable and Mining Guidelines, 2016 by MoEF&CC for effective enforcement of regulatory provisions and their monitoring. The EMGSM 2020 directed the states to carry out river audits put detailed survey reports of all mining areas online and in the public domain, conduct replenishment studies of river beds, constantly monitor mining with drones, aerial surveys, and ground surveys and set up dedicated task forces at district levels. The guidelines also push for online sales and purchase of sand and other riverbed materials to make the process transparent. The guidelines propose night surveillance of mining activity through night-vision drones.
June, 2022	Hon'ble Supreme Court of India vide its orders dated 03.06.2022 in IA No 1000 of 2003 that Each protected forest, that is national park or wildlife sanctuary must have an ESZ of minimum one kolimeter measured from the demarcated boundary of such protected forest in which the activities proscribed and 53 prescribed in the Guidelines of 9th February 2011 shall be strictly adhered to. For Jamuna Ramgarh wildlife sanctuary, it shall be 500 meters so far as subsisting activities are concerned.
	Source: *MoEF & CC time-to-time amendment regarding Preparation of DSR*

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1.4 METHODOLOGY ADOPTED FOR DSR PREPARATION

The District Survey report (DSR) is comprised of primary data and secondary data published and endorsed by various departments and websites in respect of the geology of the area, mineral resources, climate, topography, landform, forest, rivers, soil, agriculture, road, transportation, irrigation, etc. Data on lease and mining activities in the district, revenue, etc. are collected and collated from the concerned District Mining Office. All the data has been reviewed, selected, and collated in order to prepare an authentic and reliable District Survey Report. Besides this, procedure as defined in the MoEF&CC Notification dated 25.07.2018 has been followed for preparing the various chapters of this Districts Survey Report.

1.4.1 IDENTIFICATION OF DATA SOURCES

District Survey Report has been prepared based on the Primary database through field surveys and Secondary data base collected from different sources. It is critical to identify the authentic data sources before collating the data set. The secondary data sources which are used in DSR are mostly Government published data or scientific reports published in reputed journals. The district profile has been prepared on the basis of the District Statistical Handbook published by the Punjab Government as well as the District Census Report, 2011. Potential mineral resources have been identified based on DGPS field survey. Mining lease details and the revenue generated from the mining of minor minerals have been determined on the basis of available data from the Mining and Revenue Departments of the district. Satellite datasets have been used for map preparation related to physiography and land utilization pattern of the district.

1.4.2 DATA ANALYSIS AND MAP PREPARATION

Dataset to be used for the report preparation has been selected after detailed analysis. District Survey Report involves robust data analysis and map generation for clear understanding. The methodology adopted for the preparation of relevant maps is explained below.

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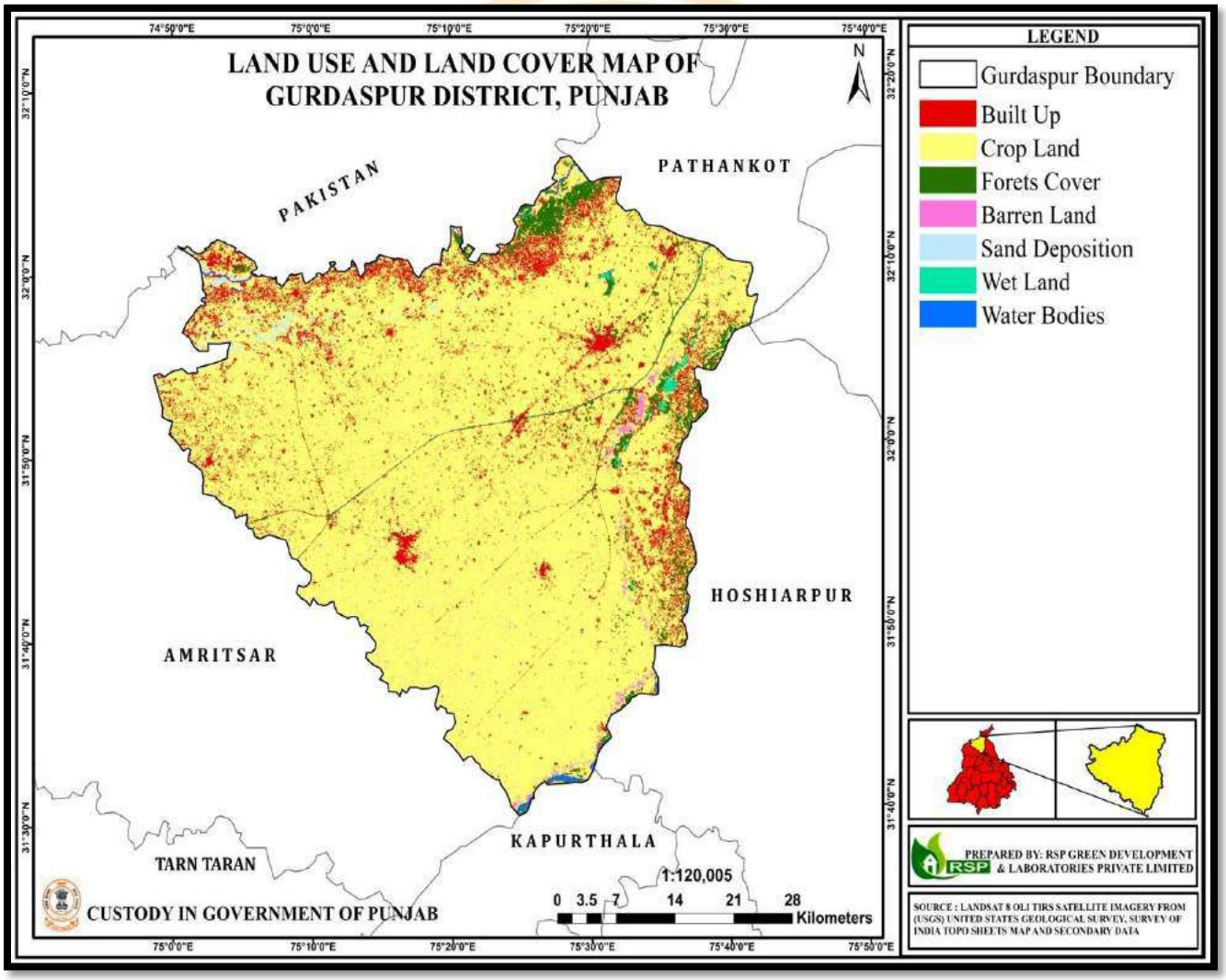
1.4.2.1 LAND USE AND LAND COVER MAP

Land Use and Land Cover classification is a complex process and requires consideration of many factors. The major steps of image classification include the determination of a suitable classification system via Visual Image Interpretation, selection of representative samples, Satellite Image (FCC-False Colour Composition) pre-processing, selection of suitable classification approaches, post-classification processing, and accuracy assessment.

FIGURE 1: LAND USE AND LAND COVER MAP OF THE DISTRICT



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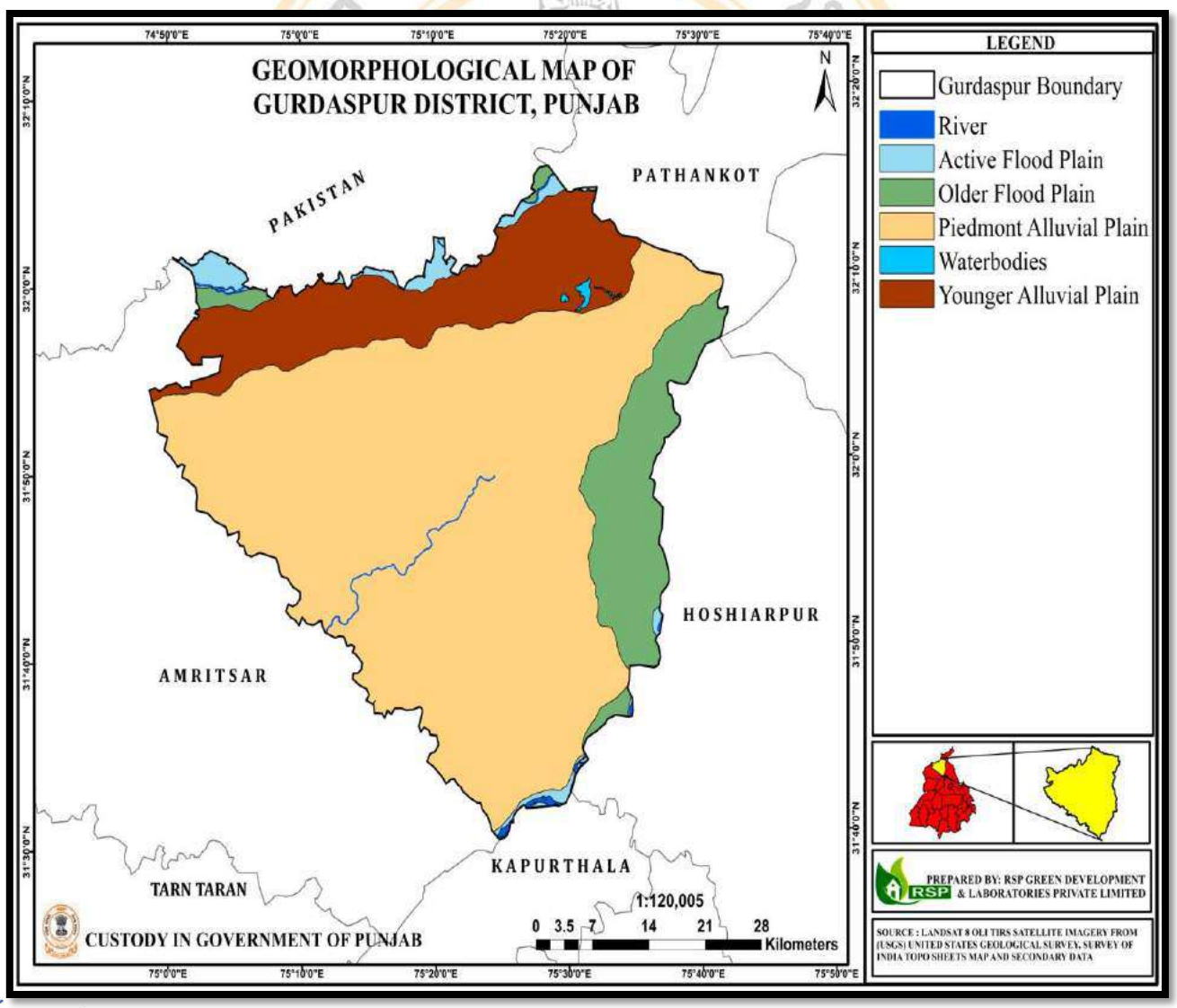
01.4.2.2 GEOMORPHOLOGICAL MAP

The major step for preparing Geomorphological Maps is identifying important features like Alluvial Fans, Alluvial Plains, Hilly Regions, etc. from Satellite Imagery (FCC False Colour Composition) via Visual Image Interpretation and then digitization for preparation of map including all the features according to their location.

Raw Data collection from Ministry of Earth Sciences; data geo-referencing using GIS software; digitization of block boundary, district boundary, state boundary, international boundary, and district headquarter, sub-district headquarter, places, road, railway, river, nala etc.; road name, River name, Railway name has been filled in the attribute table of the layers; Final layout map is prepared after including scale, legend, north arrow, etc.

FIGURE 2: GEOMORPHOLOGICAL MAP OF THE DISTRICT



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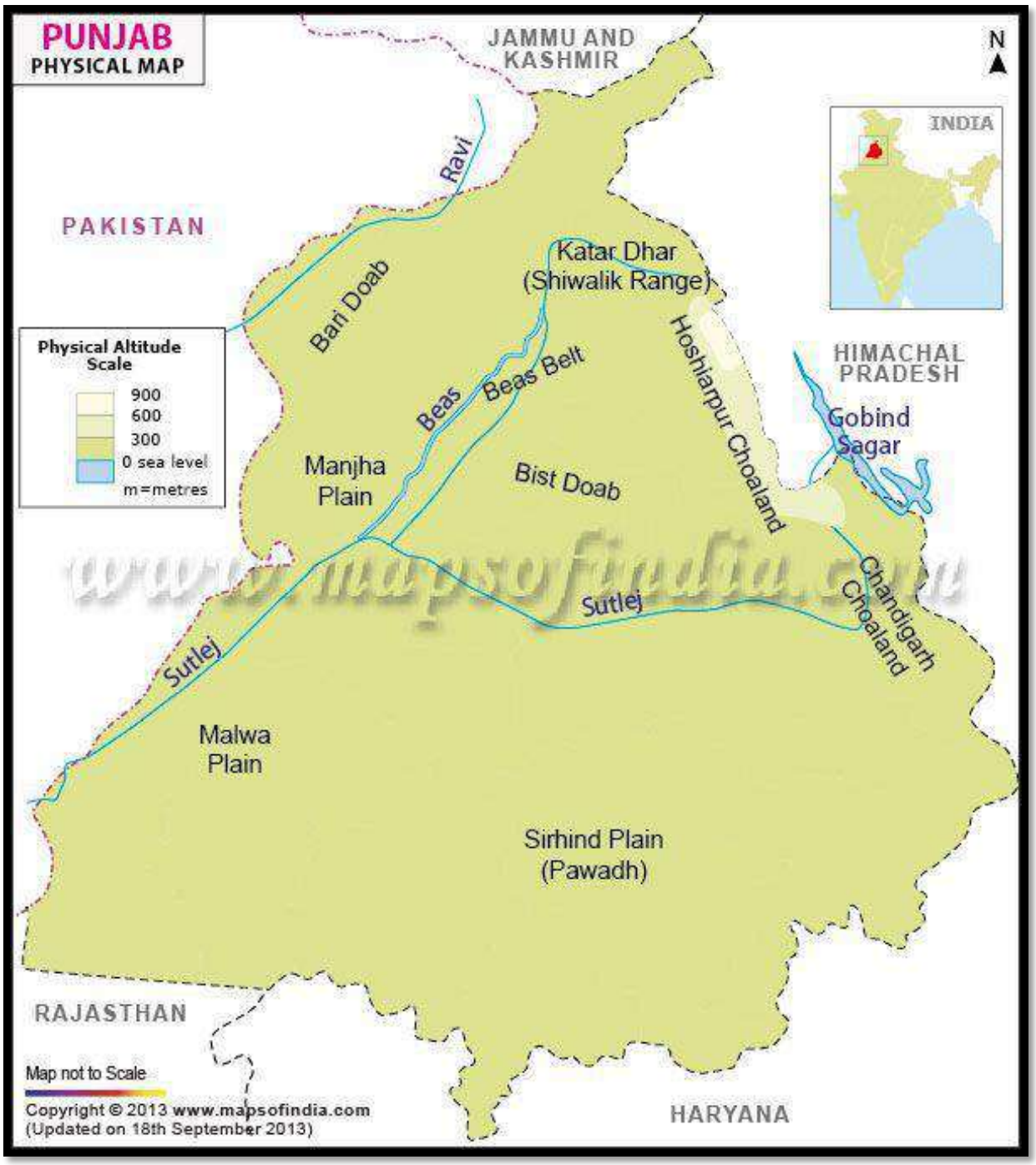
1.4.2.3 PHYSIOGRAPHICAL MAP

The major step of preparing a Physiographical Map is generating contours at specific intervals to show the elevation of the area using Satellite datasets along with groundtruthing through field surveys.

FIGURE 3: PHYSIOGRAPHICAL MAP OF PUNJAB



Source: *www.mapsofindia.com*

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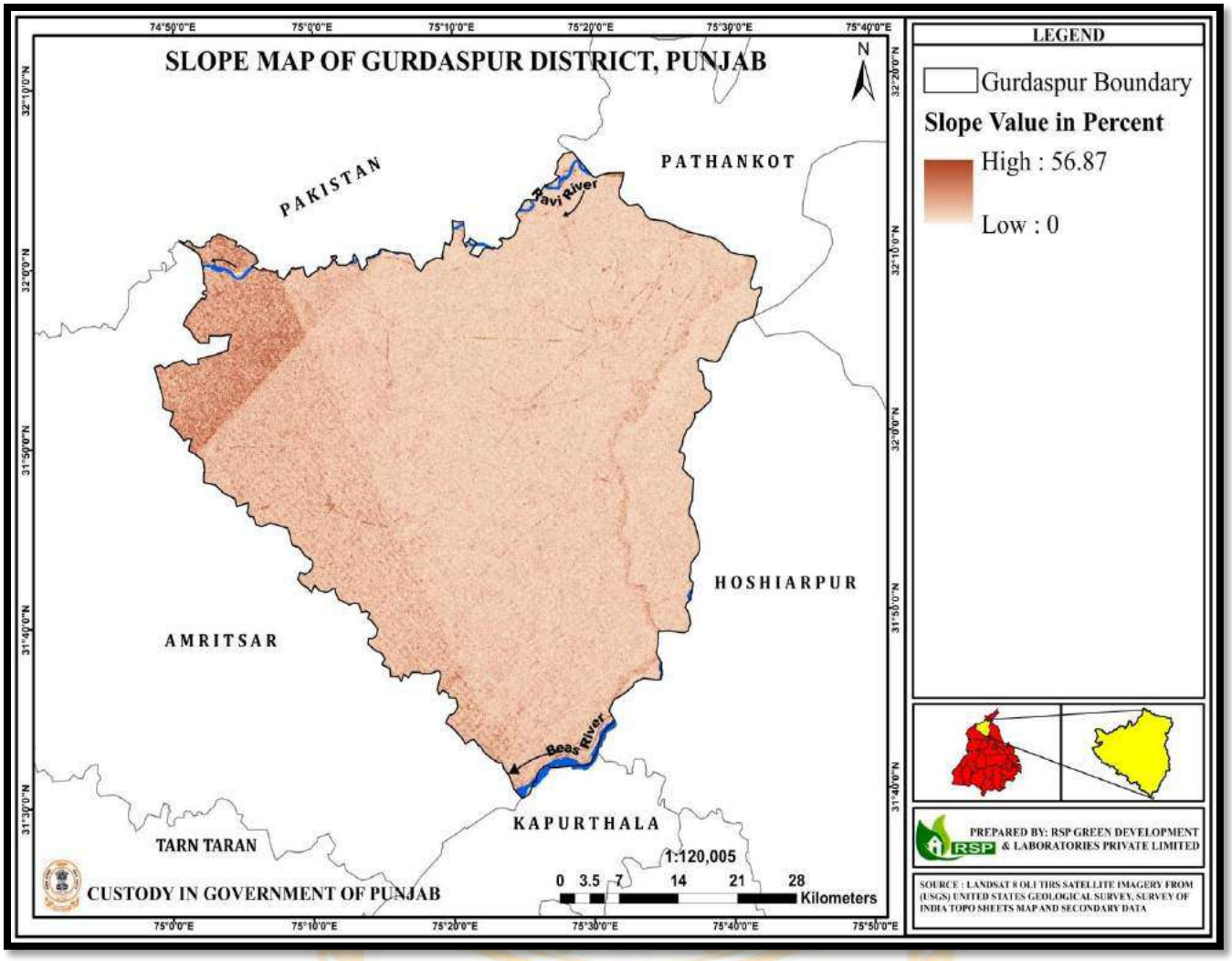
FIGURE 4: SLOPE MAP OF THE DISTRICT



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1.4.2.4 BLOCK MAP, TRANSPORTAION MAP AND DRAINAGE MAP

Block, Transportation, and Drainage Maps are prepared after Raw Data collection from National Informatics Centre (NIC Website), data geo-referencing using GIS software; digitization of block boundary, district boundary, state boundary, international boundary, and district headquarters, sub-district headquarters, important places, roads, railways, rivers, nalas etc. Thereafter the road names, River names, Railway names, etc., are filled in the attribute table of the layers and the Final layout Block, Transportation and Drainage Maps are prepared after providing the scale, legend, north arrow, etc.

FIGURE 5: LOCATION MAP OF THE DISTRICT

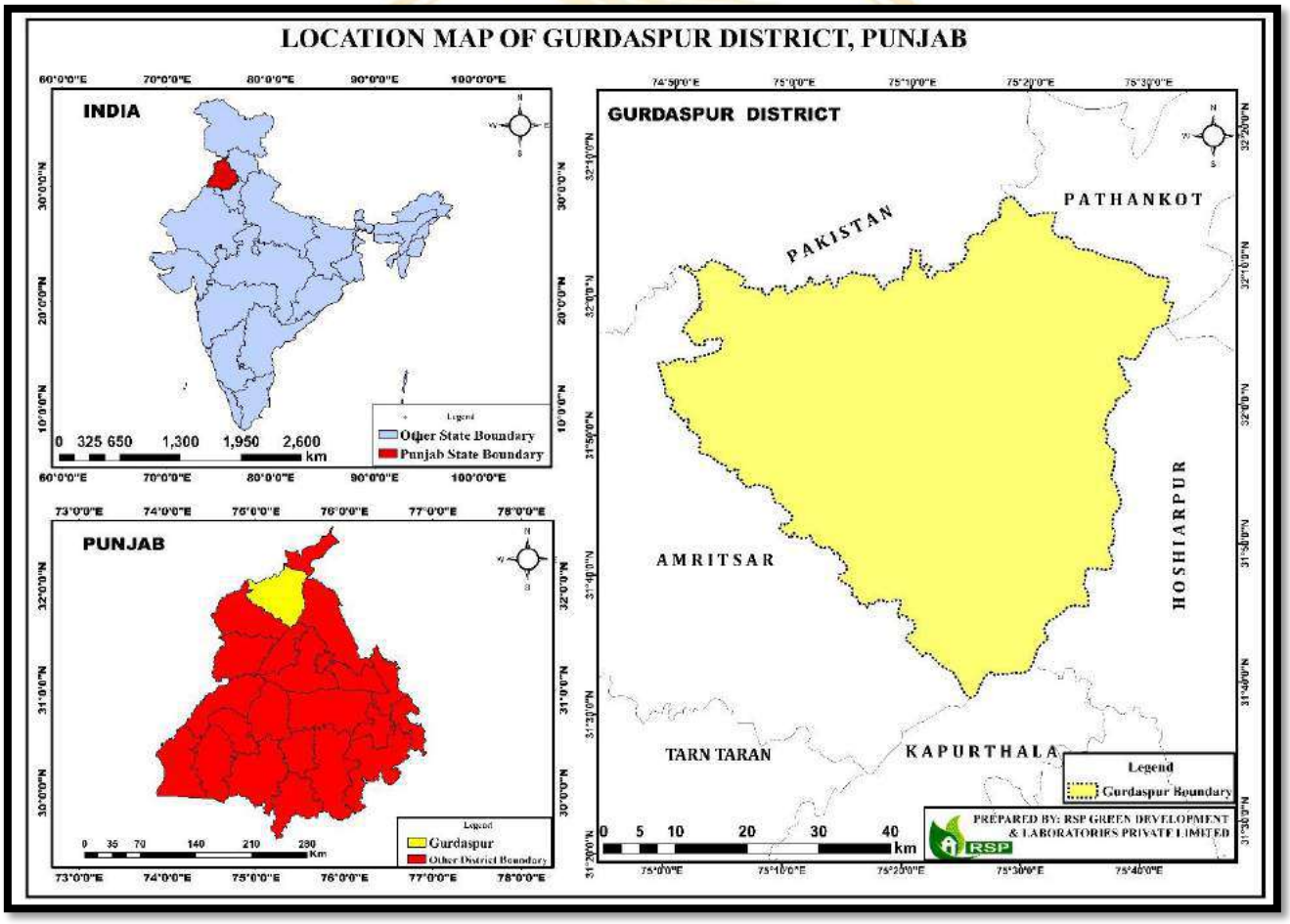

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FIGURE 6: BLOCK MAP OF THE DISTRICT

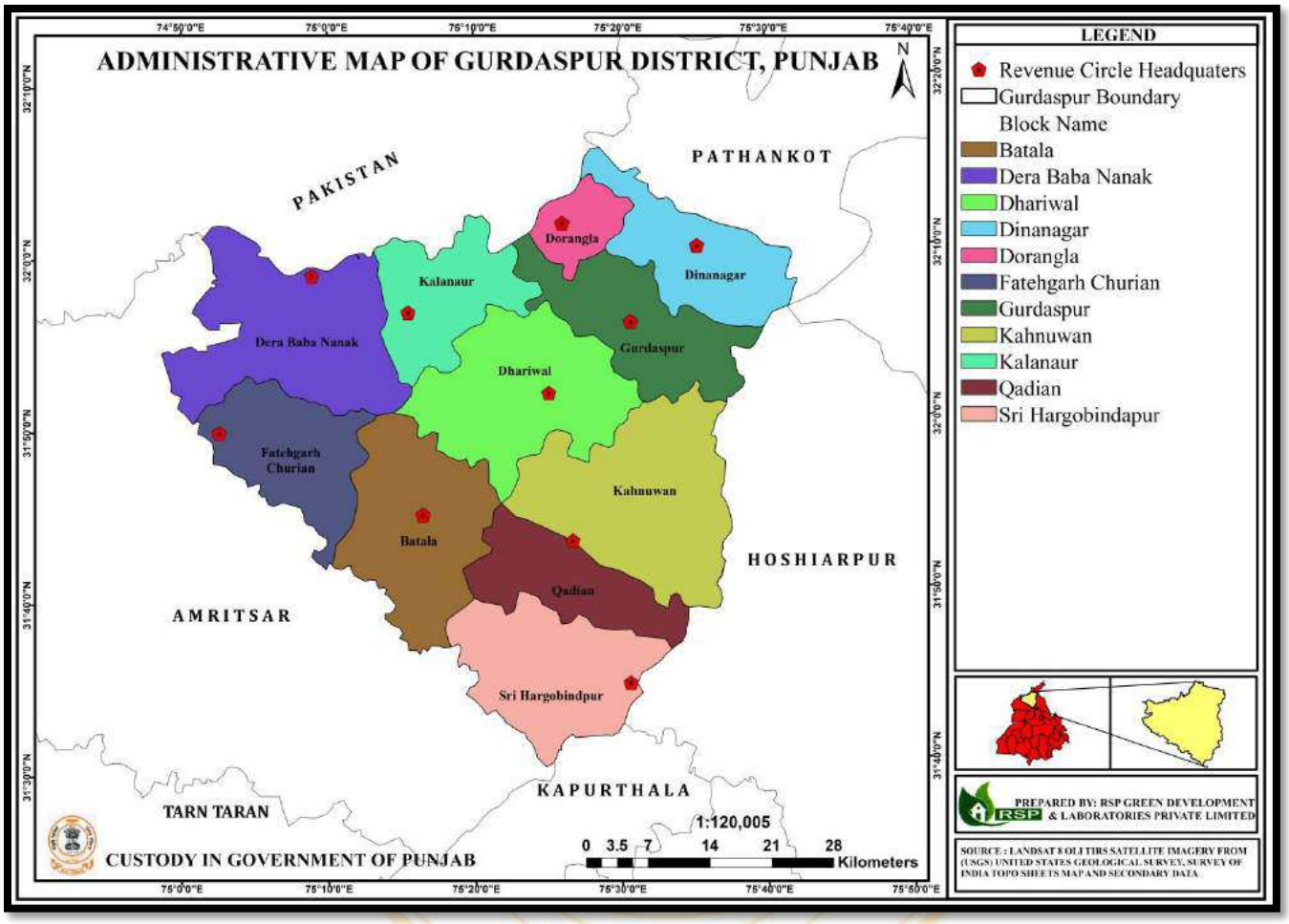

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FIGURE 7: TARANSPORT MAP OF THE DISTRICT

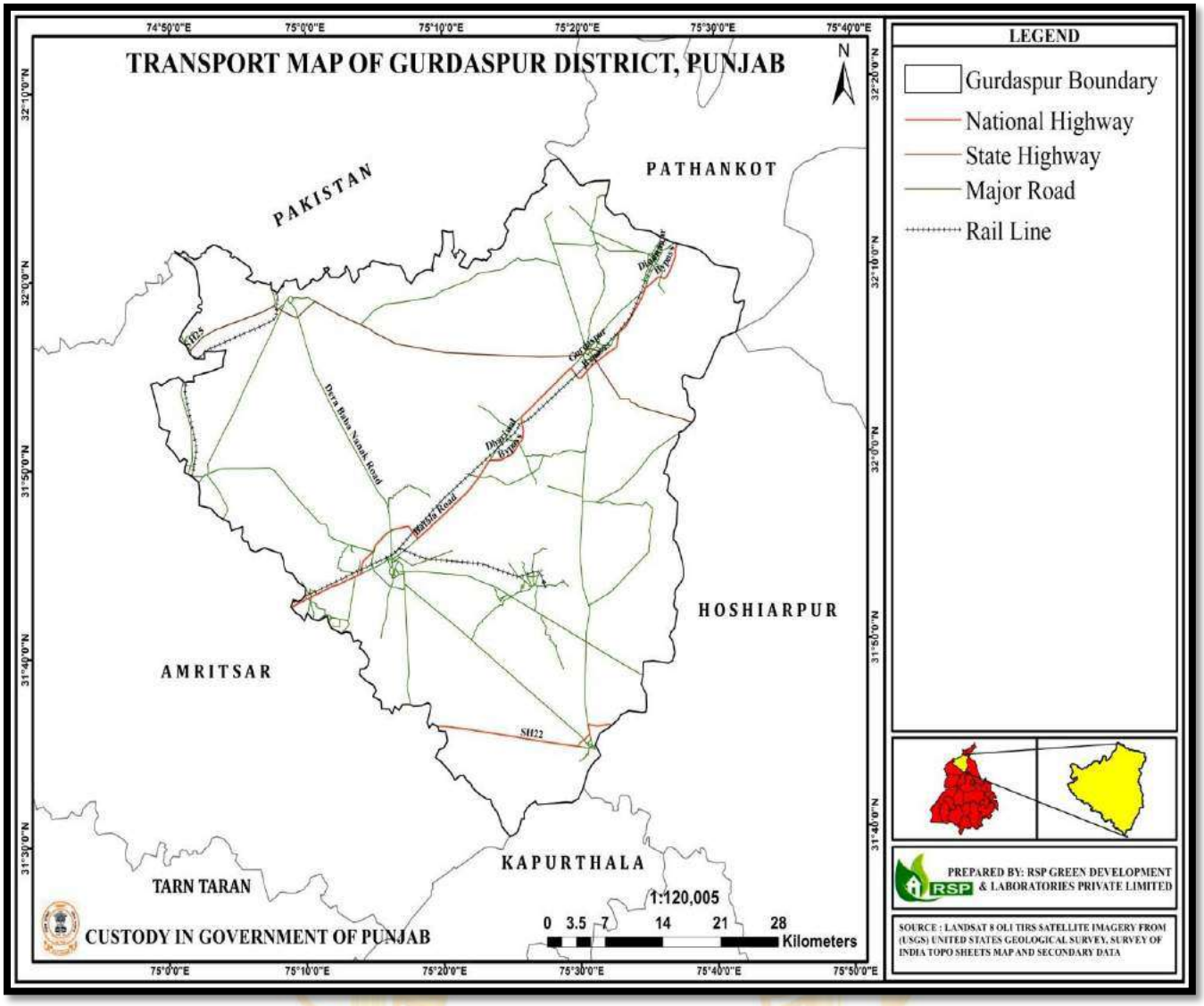

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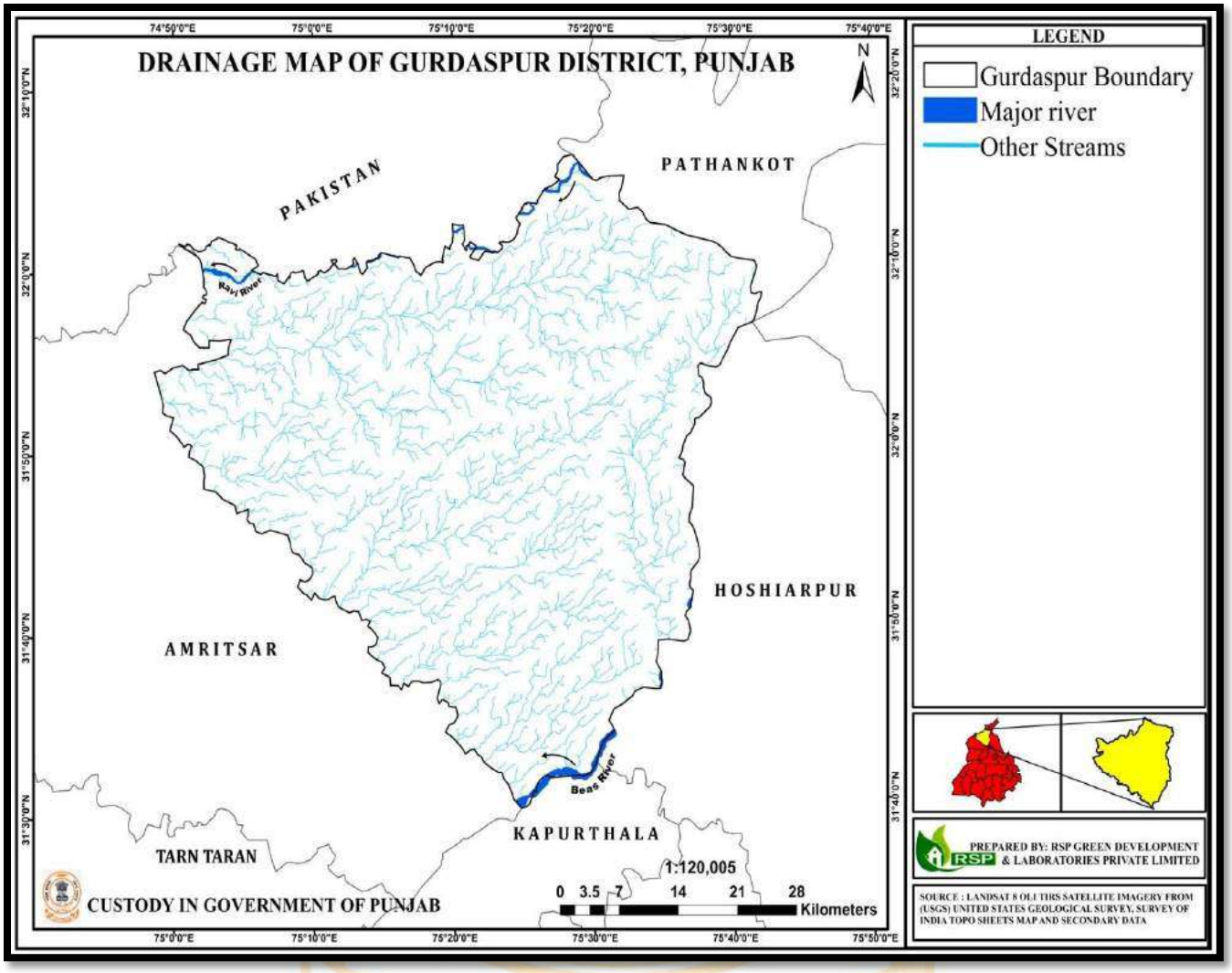
FIGURE 8: DRAINAGE MAP OF THE DISTRICT



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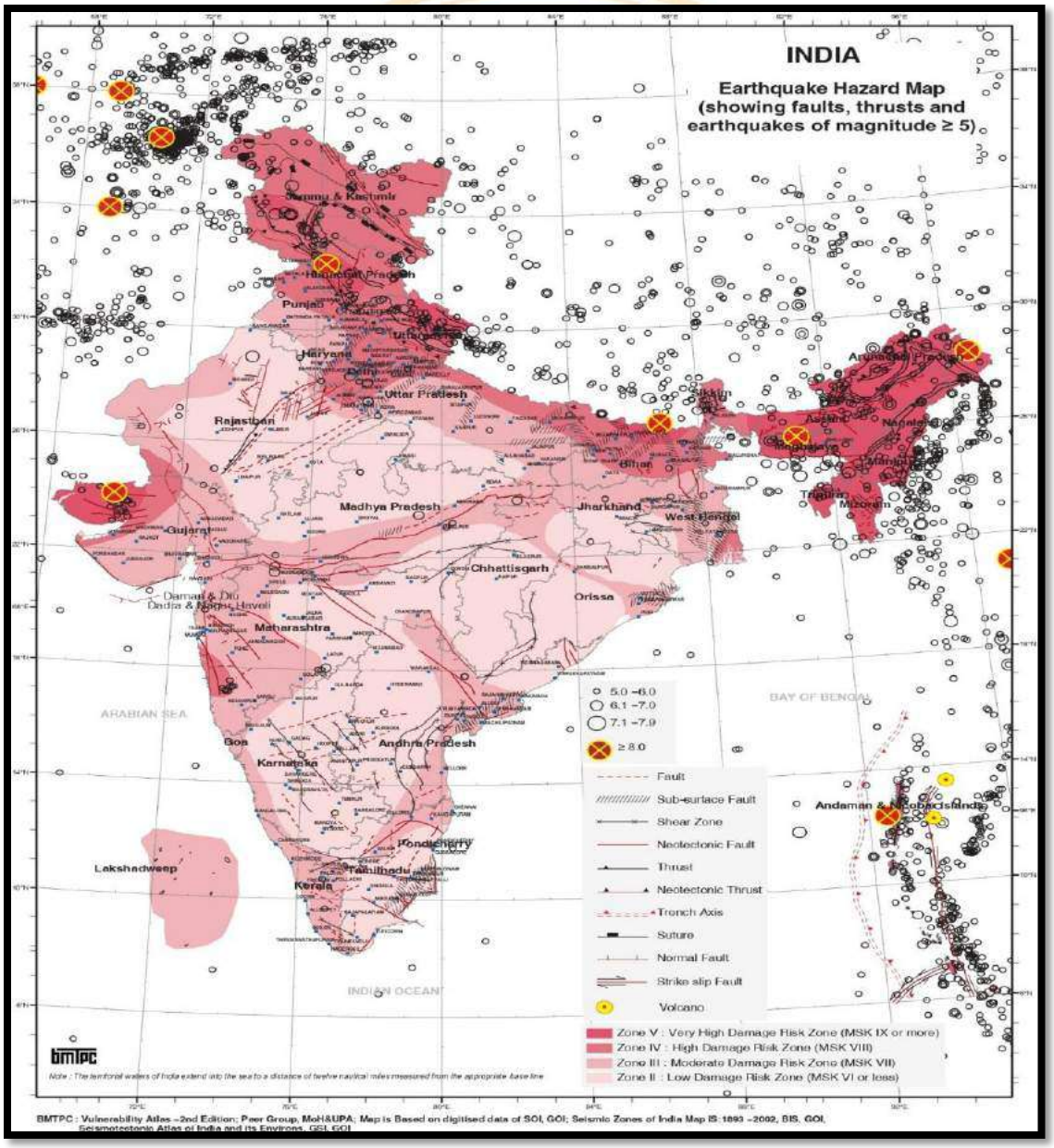
1.4.2.5 EARTHQUAKE, GEOLOGICAL, FLOOD INUNDATION AND CATCHMENT MAPS:

Earthquake, Geological, Flood Inundation and Catchment Maps are prepared after Raw Data collection from National Informatics Centre (NIC Website), data geo-referencing using GIS software; digitization of block boundary, district boundary, state boundary, international boundary, and district headquarter, sub- district headquarters, important places, roads, railways, rivers, nalas etc. Thereafter the road names, River names, Railway names etc., are filled in the attribute table of the layers and the Final layout Earthquake, Geological, Lineament, Flood Inundation and Catchment Maps are prepared after providing the scale, legend, north arrow, etc.

FIGURE 9: EARTHQUAKE ZONATION MAP



Source: *https://ndma.gov.in/Natural-Hazards/Earthquakes*

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FIGURE 10: GEOLOGICAL MAP OF THE DISTRICT

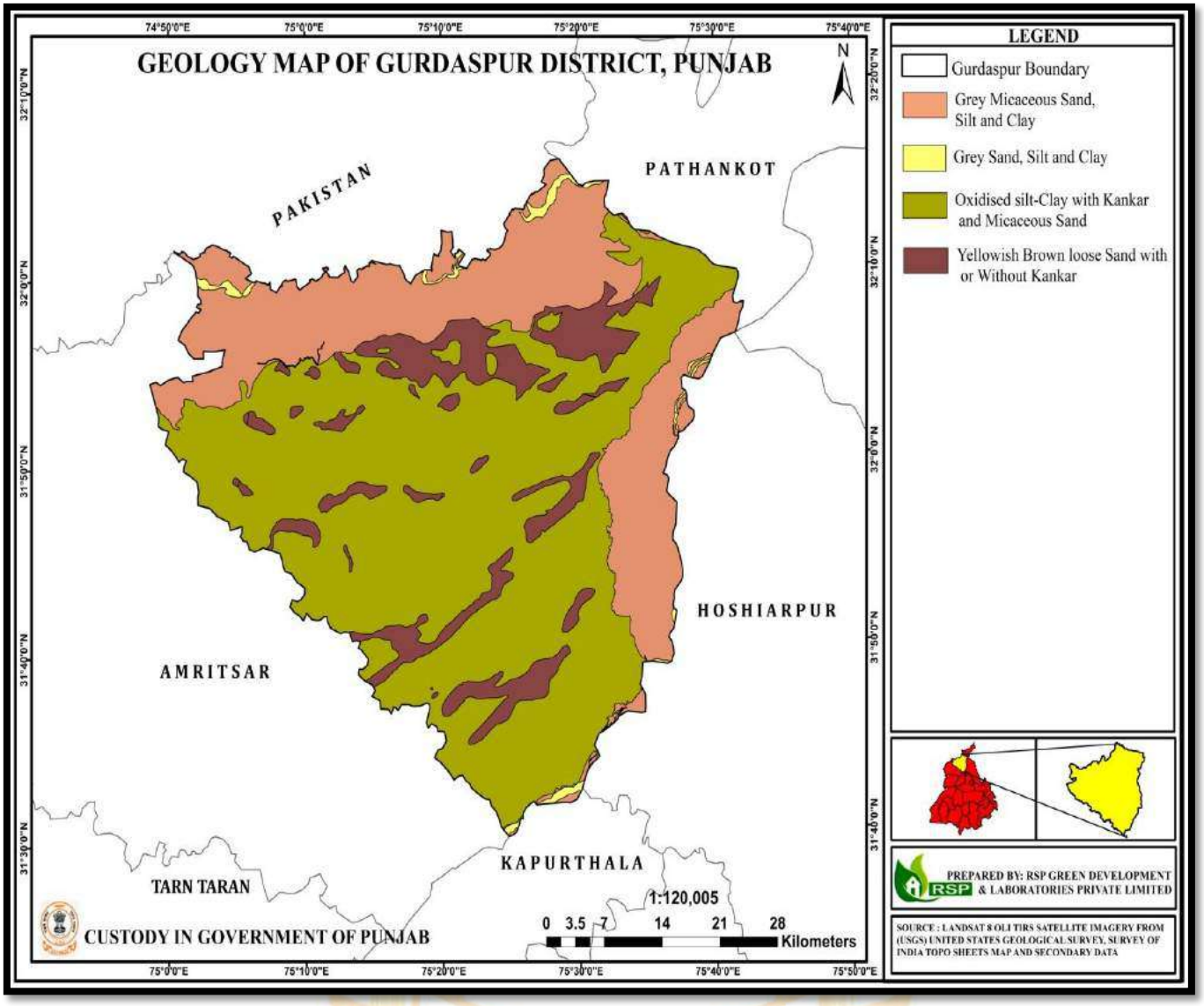

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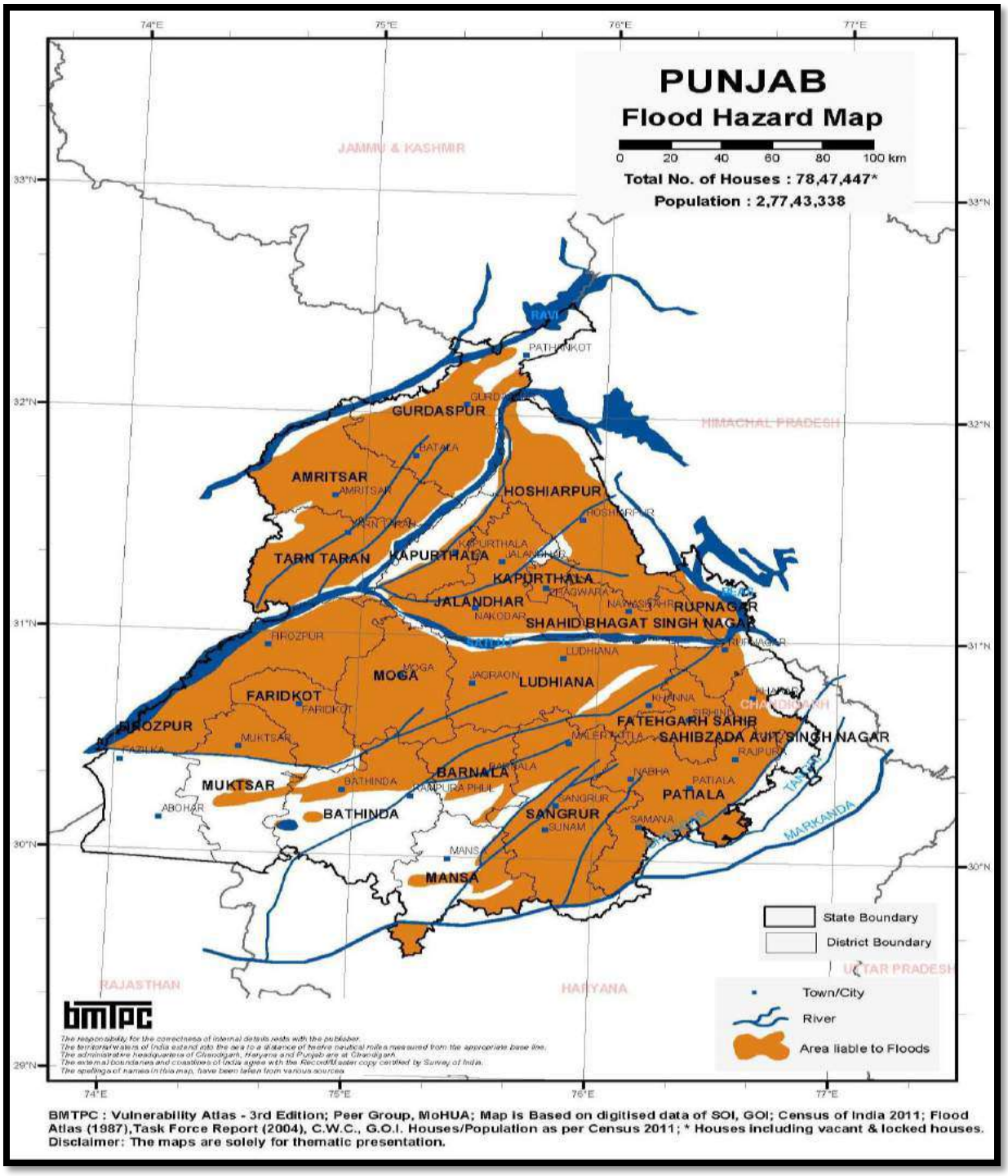
FIGURE 11: FLOOD INUNDATION MAP OF PUNJAB



Source: *https://vai.bmtpc.org/pun.html*

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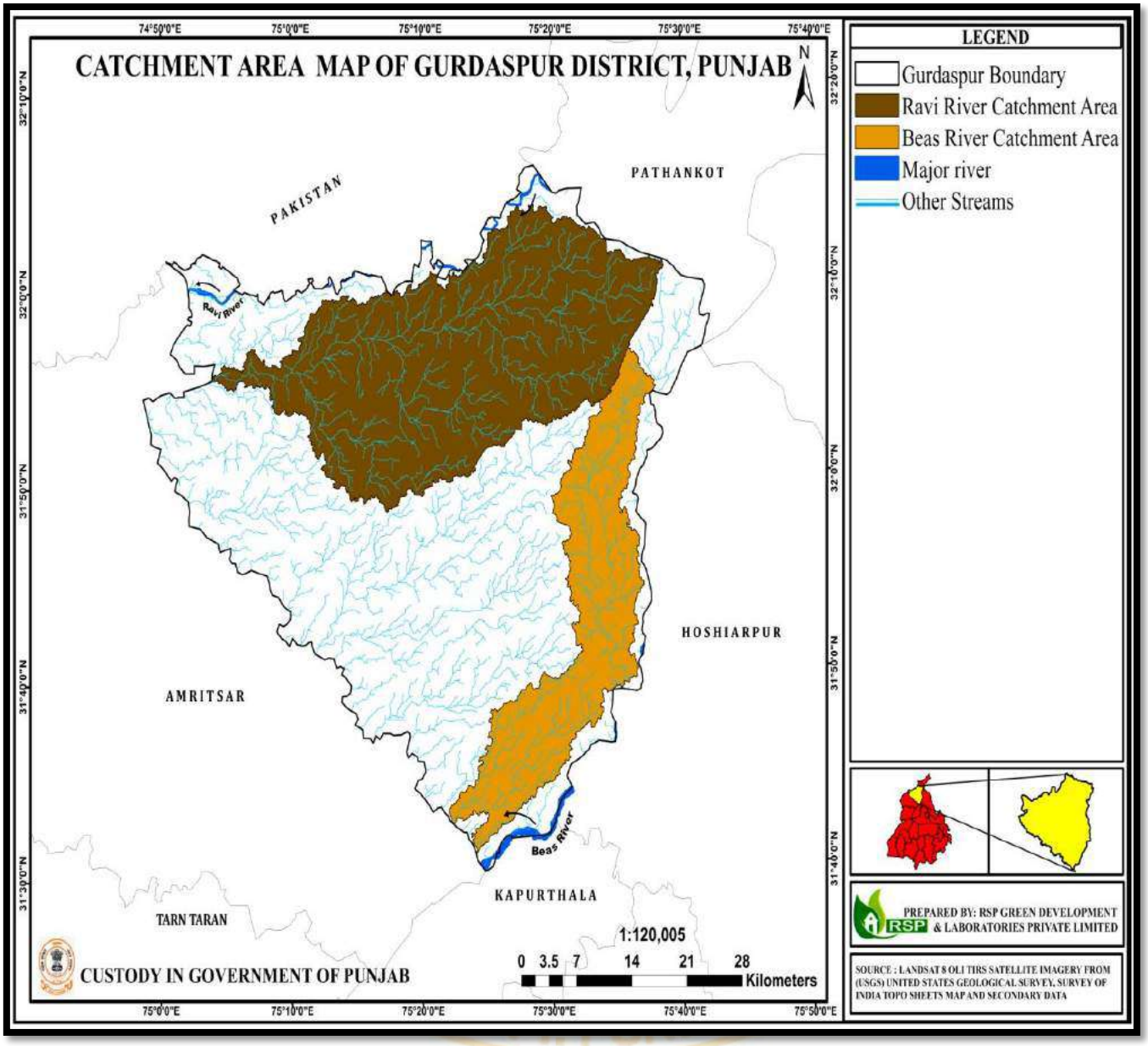
FIGURE 12: CATCHMENT AREA MAP OF THE DISTRICT



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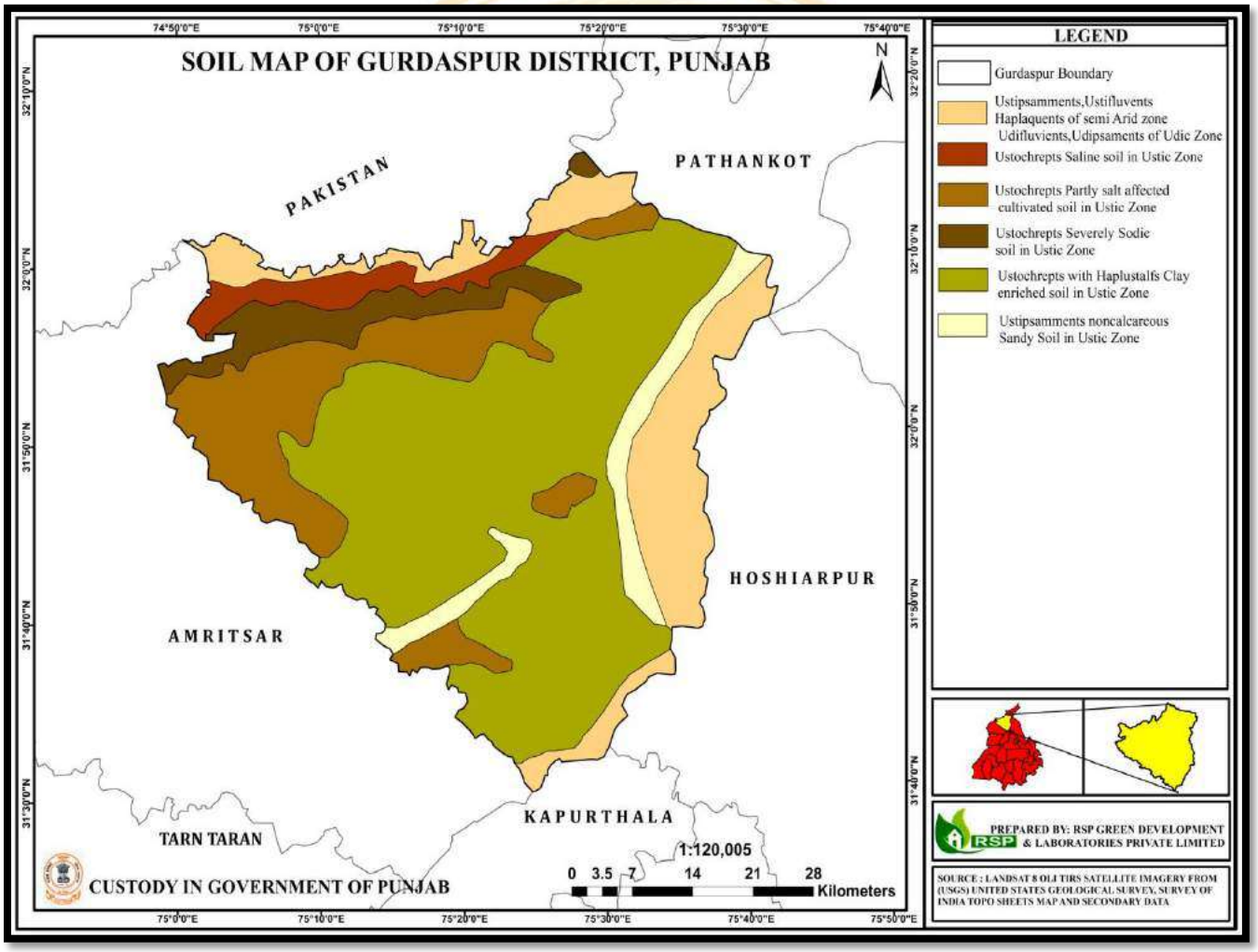
1.4.2.6 SOIL MAP

Soil Maps are prepared after Raw Data collection from the National Bureau of Soil Survey and Land Use planning, data geo-referencing using GIS software; digitization of block boundary, district boundary, state boundary, international boundary, and district headquarters, sub-district headquarters, important places, roads, railways, rivers, nalas, etc. There after the road names, River names, Railway names, etc., are filled in the attribute table of the layers and the Final layout Soil Maps are prepared after providing the scale, legend, north arrow, etc.

FIGURE 13: SOIL MAP OF THE DISTRICT



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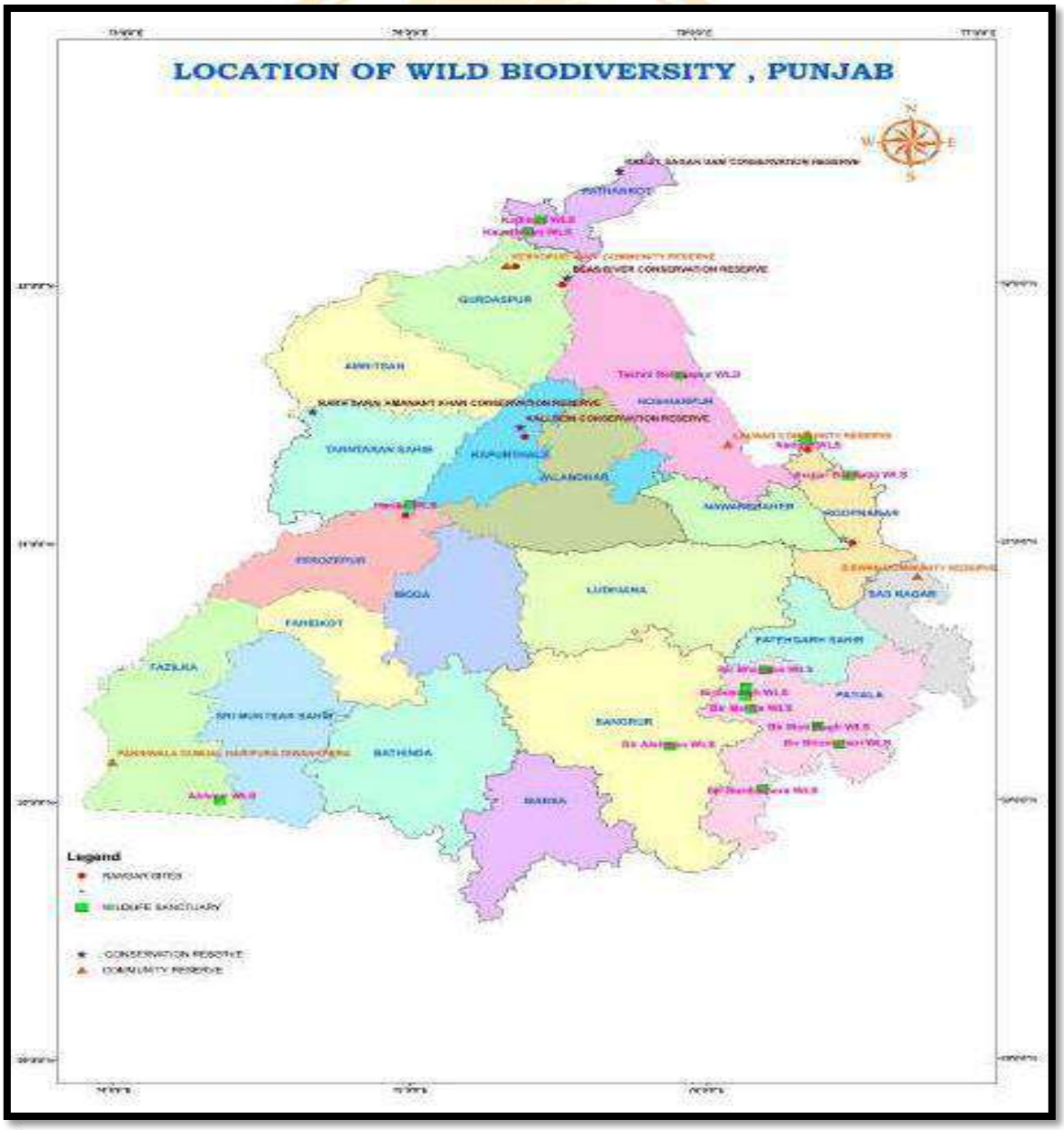
1.4.2.7 ECO-SENSITIVE ZONE MAP

Eco-sensitive Zone Maps are prepared after Raw Data collection from ENVIS Centre on Wildlife & Protected Areas and Toposheet, data geo-referencing using GIS software; digitization of block boundary, district boundary, state boundary, international boundary, and district headquarters, sub-district headquarters, important places, roads, railways, rivers, nalas, etc. Thereafter the road names, River names, Railway names, etc., are filled in the attribute table of the layers and the Final layout Eco-sensitive Zone Maps are prepared after providing the scale, legend, north arrow, etc.

FIGURE 14: ECO-SENSITIVE AND WILDLIFE ZONE MAP



Source: *Forest department of Punjab*

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1.4.3 PRIMARY DATA COLLECTION:

Primary data or field data collection is of critical importance in the preparation of DSRs. Field study involves assessment of the mineral resources of the district by means of pitting/ trenching for authentication of sand bar deposition at specific intervals. Thisprovides a clear picture of the extent and distribution of minor minerals in the river beds and other deposition areas in the district.

1.4.4 REPLENISHMENT STUDIES:

One of the principal causes of environmental degradation from in-stream mining is the extraction of minor minerals in excess of the rate at which these are being replenished. Hence accurate and regular replenishment studies are required to be carried out for the entire life cycle of the mining lease. The annual rate of replenishment has, therefore, been carried out for all the rivers / streams of the district in which mining is in operation to properly assess the quantities of sand reserves which can be permitted to be extracted.

Physical surveys have been carried out using GPS/DGPS/Total Station to define the topography, contours and offsets of the riverbed. The surveys clearly depict the important attributes of the stretch of the river and nearby civil structures and other features of importance. All sand bars / other sand deposit areas identified through Satellite images have been accurately surveyed on ground to determine the pre and post-monsoon mineral deposits from which the replenishment rates have been determined. This information has also been used to determine the eligible spatial area for mining.

1.4.5 DRAFTING OF DISTRICT SURVEY REPORT:

The District Survey Report has been prepared to accurately identify the potential mineralized zones with respect to Minor Minerals including River Sand, their suitability for mining, and the anticipated environmental impacts on account of the permitted mining operations. The DSR provides details of the minor mineral potential zones after taking into consideration objections, if any, at public hearings. The overall Format of the DSR is as prescribed in Notification dated 25th July, 2018, of the MOEF&CC.

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CHAPTER 2: OVERVIEW OF MINING ACTIVITY IN THE DISTRICT

2.0 OVERVIEW

The National Mineral Policy, 1993 facilitated the growth of mineral-based industries through investment in the private sector. As per the policy, processing units that desire to develop captive mines to secure assured supplies of raw material are allowed foreign equity participation in the manner and to the extent applicable to such processing units.

The extraction of sand and gravel from river and stream terraces, floodplains, and channels commonly attracts attention because in some situations excavation of sand and gravel may conflict with other resources such as fisheries, esthetic and recreational functions, or with the need for stable river channels. On one hand, it is possible to excavate sand and gravel from sources located in or near river or stream channels within acceptable environmental limits provided that proper safeguards and practices are utilized. On the other hand, the development of sand and gravel from sources located in or near river or stream channels may create far-reaching environmental impacts if proper safeguards and practices are not followed.

River bed mining or sand mining adjacent to a river or stream has a direct impact on the physical characteristics of the stream such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, pro velocity, discharge capacity, sediment transport capacity, turbidity, temperature etc.

In the case of Gurdaspur district, there are two rivers, Beas and Ravi, which mainly contains alluvial deposits of the Quaternary age comprising sand, silt, clay and kankar.

De-Siltation: Erosion and Siltation are a natural phenomenon. It depends upon various factors like rainfall, physiographic and geologic conditions of the basin, steep terrain slopes, deforestation/watershed degradation, various structural interventions, impoundment of water in reservoirs, etc.

Siltation leads to a reduction in the carrying capacity of the river channels as well as of the reservoirs and results in floods and loss of created useful storage. So, there is a need to build up a "National Silt Management Policy". But there are no explicit Guidelines for de-siltation or silt management in rivers in India. However, there are Guidelines and notifications regulating "Sand Mining" by the Ministry of Environment, Forest and Climate Change (MoEF&CC). Geological Survey of India (GSI) has also framed Guidelines as a model document on the "Impact and Methodology of Systematic and Scientific Mining in the river bed material" for sustainable riverbed mining.

De-silting and dredging are two different parts. Removing fine silt and sediment from the river channel in order to restore the channel capacity is called de-siltation. But de-siltation does not involve widening or deepening the river channel while dredging involves the river channel enlarging through deepening and widening.

De-siltation methods are as follows:

- **Bar scalping or skimming:** It is extraction of sand and gravel from the surface of bars. This method generally requires that surface irregularities be smoothed out and that the extracted material be limited to what could be taken above an imaginary line sloping upwards and away from the water from a specified level above the river's water surface at the time of extraction (typically 0.3 – 0.6 m).

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- **Dry-Pit Channel Excavation:** These are pits excavated within the active channel on dry intermittent or ephemeral stream beds. Dry pits are often left with abrupt upstream margins, from which head cuts are likely to propagate upstream.
- **Wet-Pit Channel Excavation:** It involves excavation of a pit in the active channel below the surface water in a perennial stream or below the alluvial groundwater table.
- **Bar Excavation:** These are pits excavated at the downstream end of the bar as a source of aggregate and as a site to trap sand and gravel. Upon completion, the pit may be connected to the channel at its downstream end to provide side channel habitat.
- **Channel-wide River bed Excavation:** These are across the entire active channel of rivers during the dry season. The river bed is evened out and uniformly lowered.

Agriculture Sand Mining: In early days, sand mining was confined mainly to river beds. As the demand for sand increased, sand mining started in agricultural fields too. This practice is prevalent in Haryana, where the top layer of soil varying between 1 and 2 meters is removed and stacked separately and thereafter the sand deposit which may be 10–15-meter deep is mined. After removing the sand layer up to a maximum depth of 09 meters, the top soil stacked is spread out on the field and the same is brought under the cultivation. Though the level of this land (mined out area) is lowered to the depth of the excavation and in initial years of cultivation the productivity is low, but the productivity of the fields improves with continued cultivation and addition of organic manure in the field.

The following recommendations should be kept in mind for mining in such leases:

1. Mining of sand in such mine leases will require environmental clearance.
2. The lease should be for sand mining either from agricultural fields or river. In the same lease, both types of area should not be included.
3. Mining Plan for the mining lease (non-government) on agricultural fields/Patta land shall only be approved if there is a possibility of replenishment of the mineral or when there is no riverbed mining possibility within 5 km of the Patta land/Khatedari land. For government projects mining should be done by the Government agency and materials should not be used for sale in open market.
4. The slope of the mining area adjacent to agricultural fields should be proper (preferably 45-60 degrees) and an adequate gap (minimum 10 feet) be left from the adjacent agricultural field to avoid erosion and scouring.

2.1 MINING LEASES WITH LOCATION, AREA AND PERIOD OF VALIDITY IN GURDASPUR DISTRICT

The details of existing mining leases with location, area and period of validity in Gurdaspur are given in **Annexure I and II.**

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2.2 DETAILS OF ROYALTY OR REVENUE RECEIVED IN LAST THREE YEARS

Table No.2: Details of Royalty or Revenue Received in the last three years

YEAR	ROYALTY/ DEEDRENT	CESS	OTHER COLLECTIONS (M&M)	TOTAL REVENUE
2019 – 2020	-	-	-	362.63
2020 – 2021	-	-	-	1237.66
2021 - 2022	-	-	-	775.00
Source: District Mining Office, Gurdaspur, Punjab				

2.3 DETAILS OF PRODUCTION OF SAND OR BAJRI IN LAST THREE YEARS

Table No.3: Details of production of sand and other minerals during the last three years

SL NO	NAME OF MINERAL	YEAR	TOTAL PRODUCTION (MT)
1	Sand/ Bajri	2019 – 2020	8033.62
2	Sand/ Bajri	2020 – 2021	773037.121
3	Sand/ Bajri	2021 - 2022	471587.12
Source: *District Mining Office, Gurdaspur, Punjab*			

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CHAPTER 3: PROCESS OF DEPOSITION OF SEDIMENTS IN RIVERS OF THE DISTRICT

3.0 INTRODUCTION

The district, Gurdaspur, is the northern most part of the Punjab state. Major geological formations encountered in the district are Siwalik and Alluvium. Physiographically the area is divided into three units (i) Siwalik Hills lying in north-east of the district (ii) Kandi Zone lying immediately south-west of foothill zone of Siwalik hills and (iii) Alluvial plains lying south west of Kandi. The district has undulating topography having an elevation range from about 305 to 381 meters above mean sea level. General gradient is 1 meter in 1.6 km.

Perennial rivers, Ravi and Beas, form the main drainage of the district. A dam has been constructed at the foothills at Shahpur Kandi.

River Beas originates from south of the Rohtang Pass located in Kullu at an altitude of 2050meter above mean sea level. Once reaching Shivalik hills near Hoshiarpur, having a sharp northern turn it flows through Kangra district. Again, near foothills of Shiwalik, it turns the path to southern direction while entering the district, Gurdaspur and Hoshiarpur. RiverRavi originates from the base of Dalhousie hill and then cuts a gorge in the Dhauladhar Range, before entering the Punjab plain near Madhopur and Pathankot, having an elevation of 856 meters above mean sea level. Gurdaspur district possesses a fairly dense network of canals of the Upper Bari Doab Canal system which irrigates most of the area of the district.

Geomorphologically the district is subdivided into three types – Hilly area, Piedmont zone and Alluvial plain. Hilly area represents Siwalik formation of NE part of the district. Siwalik mainly contains clays and clay with boulders. Piedmont constitutes pebbles, cobbles drain from Siwalik along with sand and medium to coarse grained gravel. The alluvial plain mainly comprises sand with intercalation of clay.

Rivers and Canals

Rivers that flow through this region are listed below:

Table No. 4: List of Rivers flow through the District Gurdaspur

Sl No.	Name of the River	Length (in Km)	Average Width (in meters)
1.	Ravi	51	2800
2.	Beas	61.5	2500
			Source: *District Mining Office Gurdaspur*

River Beas:

The Beas is a tributary of the Indus River system. River Beas originates in the Himalayas at an altitude of 2050 m AMSL. In HP, River Beas passes through Kullu, Mandi, and Kangra. On entering the Siwalik hills in Hoshiarpur, Punjab, the river turns to the north forming a boundary with Kangra district, HP. Then bending towards the base of the Siwalik hills, it flows to the south, separating the districts of Gurdaspur and Hoshiarpur in Punjab. After touching Jalandhar district, Punjab, for a short

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distance, River Beas forms the boundary between Tarn Taran and Amritsar in Punjab. It merges with River Sutlej at Harike, Punjab. The length of River Beas is 470 km. The Beas River marks the easternmost border of Alexander the Great's conquests in 326 BCE. The chief tributaries are Bain, Banganga, Luni, and Uhal. The Sutlej continues into Pakistani Punjab and joins the Chenab River at Uch near Bahawalpur to form the Panjnad River; the latter in turn joins the Indus River at Mithankot.

River Ravi:

It originates in Himachal Pradesh and then flows through the state and then enters the Pathankot. It flows through the base of Dalhousie hill, past the Chamba town at an elevation of 856meters (2807 ft) above mean sea level. It flows into the south-west, near Dalhousie, and then cuts a gorge in the Dhauladhar Range, before entering the Punjab plain near Madhopur and Pathankot. The river is meandering in zig-zag fashion within Indo-Gangetic alluvial plain along the international boundary in Amritsar and Gurdaspur districts of Punjab. It has been found that a large number of seasonal rivulets (nallahs) join this river from both Pakistan and Indian sides. The major seasonal rivulet in Gurdaspur district is Naumini nala. The alluvial plain deposits are young and comprise coarse textured sand mixed with gravels and/or pebbles. The presence of characteristic features such as meanders, ox-bow lake, braided channel, sand bars, point bars in the flood plain indicates that the course of Ravi along the Indo-Pakistan border has reached the mature stage in the fluvial cycle of the river (Radhakrishnan,1987).

Although the amount of deposition varies from stream to stream depending on factors like catchment, lithology, discharge, river profile, and geomorphology of the river course, where annual deposition is much more even two to three metres, it is observed that during flood season the entire pit that was excavated is completely filled up and as a result the excavated area is replenished with new material.

3.1 ANNUAL DEPOSITION FACTOR:

Rivers are important geological agents for erosion, transportation and deposition. Deposition and erosion in river valleys can strongly modulate the downstream delivery of sediment (Fan and Cai, 2005; Malmon*et al.*,2005). A riverine sediment budget provides an effective conceptual framework within which to quantify sediment mobility, transport, deposition and storage within a drain-age basin, as well as sediment output from the basin (Walling *et al.*, 2002). It is therefore critical to understand this modulation effect (Walling and Horowitz,2005). Annual deposition of riverbed materials depends on various factors which are as follows:

Geological erosion and soil erosion are the two basic terms used to describe erosion processes. Geological erosion refers to regular or natural erosion brought on by long-term geological processes that wear down mountains and produce floodplains, coastal plains, and other landforms to develop. Soil erosion happens gradually or at an alarming rate, but it is a continual process. It leads to various negative effects, including ongoing topsoil erosion, ecological harm, soil collapse, and many more.

The soil fragments are loosening or being washed away in the valleys, oceans, rivers, streams, or far-off regions throughout this process. Human activities like agriculture and deforestation have contributed to this situation getting worse.

Fluvial erosion is the direct removal of soil particles by moving water. The force of the flowing water and the resistance of the bank material to erosion both affect the pace of fluvial erosion.

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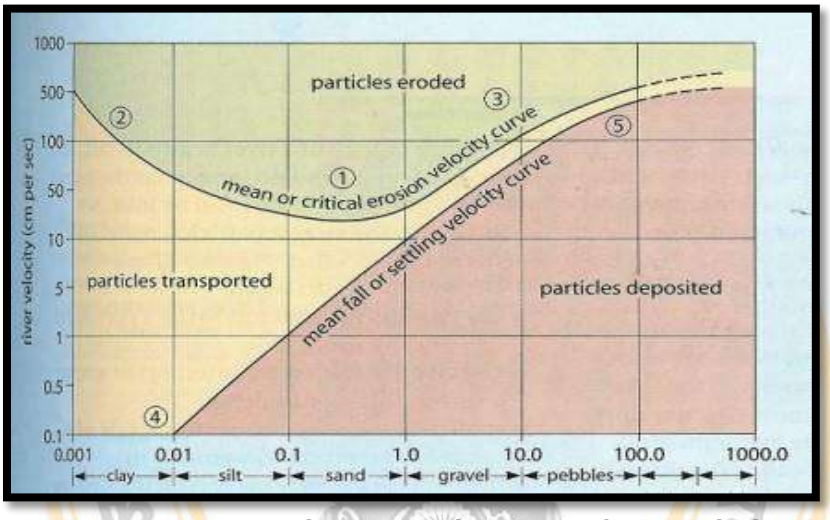
3.2 PROCESS OF DEPOSITION:

After erosion, the eroded materials get transported with running water. When the river losses its energy and velocity falls, the eroded material is being deposited. A river can lose its energy when rainfall reduces, evaporation increases, friction close to river banks and when enters a shallow area (flood plain) or towards its mouth where it meets another body of water. Hjulström curve showing the relationship between particle size and the tendency to be eroded, transported or deposited at different current velocities.

Figure: Hjulström curve



Source: *Sedimentary Rocks, F.J.Pettijohn (Second Edition)*

3.2.1. MODE OF SEDIMENT TRANSPORT IN RIVERS

Sediment transport is the transportation of detrital particles via air, water, ice, or gravity. When transported by air and water (fluid transport), grains (which may be sand particles) travel as a bed load (by rolling, sliding, and saltation) or in suspension when the turbulence keeps the grains moving.

The amount and size of sediment moving through a river channel are determined by three fundamental controls: competence, capacity and sediment supply.

The sediment load of a river is transported in various ways although these distinctions are to some extent arbitrary and not always very practical in the sense that not all of the components can be separated in practice:

i. Dissolved load

ii. Suspended load

iii. Intermittent suspension (saltation) load

iv. Wash load

v. Bed load

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3.2.1.1 DISSOLVED LOAD: The amount of sediment carried in solution by a stream's total sediment load, particularly ions from chemical weathering, is known as the dissolved load. Along with suspended load and bed load, it makes up a significant portion of the overall amounts of debris removed from a river's drainage basin.

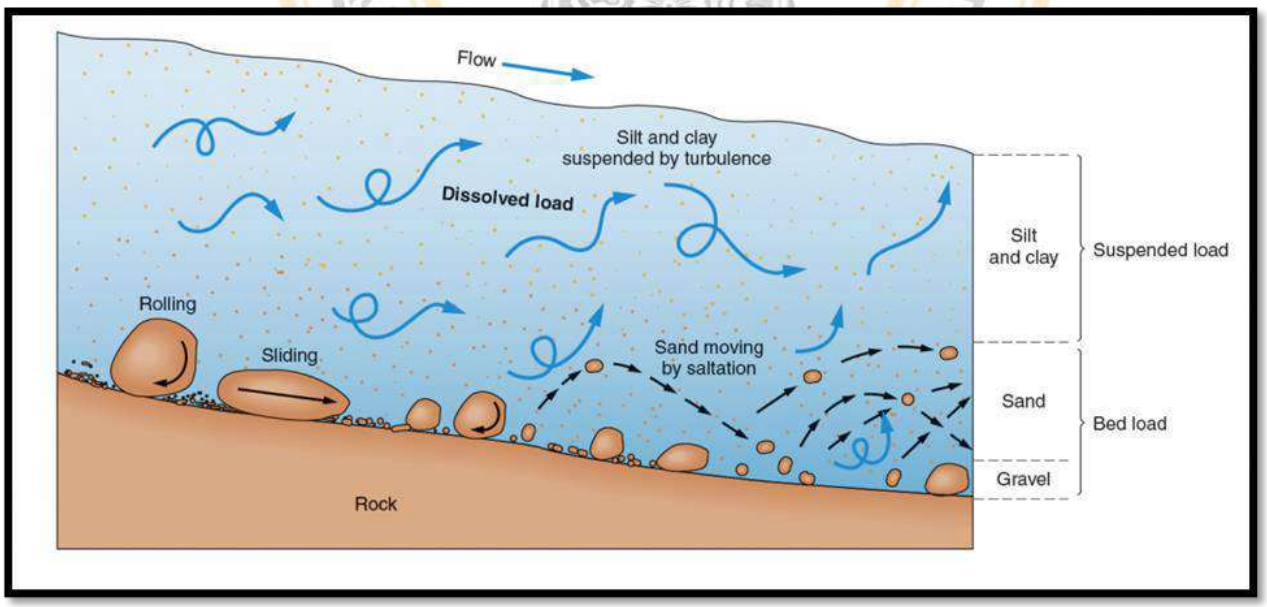
3.2.1.2 SUSPENDED LOAD: The term "suspended load" describes the portion of the total sediment transport that is kept suspended by turbulence in the flowing water for extended periods of time without contact with the stream bottom. It is nearly moving at the same speed as the flowing water.

3.2.1.3 SALTATION LOAD: The portion of the bed load that is moving, either directly or indirectly, as a result of the impact of bouncing, i.e., the intermittent jumping motion of the particles, along the stream bed.

3.2.1.4 WASH LOAD: Particle sizes smaller than those found in substantial amounts in the bed material make up that portion of the suspended load. It is conveyed through the stream without deposition since it is in almost permanent suspension. The discharge of the wash load through a reach is determined solely by the rate at which these particles become available in the catchment area, not by the flow's transport capacity.

3.2.1.5 BED LOAD: Particles that are too large to be carried as suspended load are bumped and pushed along the stream bed as bed load. Bed load sediments do not move continuously. Streams with high velocity and steep gradients do a great deal of down cutting into the stream bed, which is primarily accomplished by movement of particles that make up the bed load.

FIGURE: MODE OF SEDIMENT TRANSPORT IN RIVERS



Source:*https://www.bgs.ac.uk/discoveringgeology/geologicalprocesses/deposition/#:~:text=Deposition%20is%20the%20laying%20down,sea%20shells)%20or%20by%20evaporation. (British Geological Survey)*

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CHAPTER 4: GENERAL PROFILE OF THE DISTRICT

4.0 PROFILE OF THE DISTRICT

The district, Gurdaspur, is situated in the north-west corner of Punjab on the Indo-Pakistan frontier. The district shares boundaries with Kathua district of Jammu & Kashmir in the north, Chamba (Himachal Pradesh) in the north and Kangra (Himachal Pradesh) in the east, Hoshiarpur district is the south-east, Kapurthala district in the south, Amritsar district in the south-west and Pakistan in its north-west. The district lies between north latitude 31^0-36' and 32^0-34' and east longitude 74^0-56' and 75^0-24'.

The district is divided into six tehsils, Gurdaspur, Batala, Dera Baba Nanak, Dinanagar, Fatehgarh Churian & Kalanaur, and six sub-tehsils, Dhariwal, Dorangla, Kahnuwan, Naushehra Majha Singh, Qadian & Shri Hargobindpur. Eleven development blocks make up the district: Batala, Dera Baba Nanak, Dhariwal, Dinanagar, Dorangla, Fategarh churian, Gurdaspur, Kahnuwan, Kalanaur, Qadian & Shri Hargobindpur.

Gurdaspur had a population of 2,299,026 in 2011, with 1,212,995 males and 1,086,031 females. According to Census India 2011 data, the population density of the district is 647 per square kilometer and the sex ratio is about 895 females per 1000 males. The male and female literacy rates were 85.90% and 75.70%, respectively.

4.1 ADMINISTRATIVE SET-UP OF THE DISTRICT

Table No. 5: Tahsil-wise list of census villages in Gurdaspur district, Punjab, India

Sl. No.	Tahsil	Total villages
1.	Dinanagar	240
2.	Kalanaur	117
3	Fatehgarh Churian	62
4	Gurdaspur	369
5	Batala	314
6	Dera Baba Nanak	123
Source: *District Administration of Gurdaspur District,2022*		

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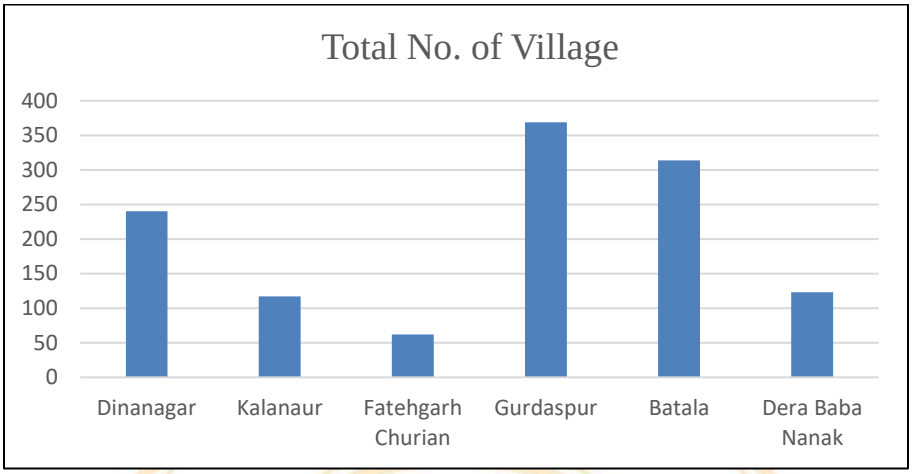
Chart 1: Showing number of villages present in each tehsil of Gurdaspur district



Source: *District Administration of Gurdaspur District, 2022 and Table No. 05*

Table No. 6: Administrative units of the district Gurdaspur

Administrative Units	Year	Unit	Statistics
i) Tehsils /Sub divisions	2022	Nos.	6
ii) Sub-Tehsil	2022	Nos.	6
iii) Blocks	2022	Nos.	11
iv) Panchayat Simitis	2022	Nos.	16
v) Nagar Nigam	2022	Nos.	-
vi) Nagar Palika	2022	Nos.	9
vii) Gram Panchayats	2022	Nos.	1225
viii) Inhabited villages	2022	Nos.	1177
xi) Assembly Area	2022	Nos.	7
Source: *District Administration of Gurdaspur District,2022*			

Table No.7: District at a glance

Country	India
State	Punjab
Region	Majha
District	Gurdaspur
Total area	2673.44 square kilometers
Population	• Total - 2,299,026 • Density 649/km²

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Official language	Punjabi
Literacy	81.10%
Source: *District Administration of Gurdaspur District,2022*	

4.1.1 DETAILS OF BLOCKS OF GURDASPUR

Table No. 8: Details of Blocks of Gurdaspur

Block Name	Area (Sq. Km)
BATALA	292.740
DERA BABA NANAK	333.213
DHARIWAL	317.139
DINANAGAR	204.175
DORANGLA	74.518
FATEGARH CHURIAN	207.329
GURDASPUR	227.585
KAHNUWAN	373.230
KALANAUR	180.886
SHRI HARGOBINDPUR	265.073
QADIAN	177.679
Source: *District Administration of Gurdaspur District,2022 and Map No.06*	

4.2 LAND UTILIZATION PATTERN OF THE DISTRICT

Land cover: Land cover is the physical material at the surface of the earth. Land covers include grass, asphalt, trees, bare ground water, *etc*. Land cover data documents how much of a region is covered by forests, wetlands, impervious surfaces, agriculture, and other land and water types. Water types include wetlands or open water.

Land use: Land use not only shows how people use the landscape but also the utilization of land resources naturally. Therefore, the land of a particular region can be used for the purpose of infrastructural development, settlements, amusement &recreation, conservation of wildlife and wildlife habitat, agriculture& farming, or mixed uses and can be defined as "land use". Land use applications involve both baseline mapping and subsequent monitoring, since timely information is required to know what current quantity of land is in what type of use and to identify the land use changes from year to year.

Deciduous forest: Deciduous Forest is mainly dominated by woody vegetation cover, *i.e.*, >60% along within average plant height of more than 2 meters. The floral communities are dominated by the trees which hold broad leaves with an inimitable feature of the annual cycle of leaf-on and leaf-off periods means the trees shed their leaves at a particular season of each year, mainly in late winter.

Cropland: Temporarily cropped area followed by harvest and a bare soil period (*e.g.*, single and multiple cropping systems). Different types of crop cultivation and cropping arrangement are specified according to the seasons (*e.g.*, Kharif, rabi, zaid). Cropland includes areas that are used for common crop production and are also used for the adapted crops for harvest.

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Built-up land: The urbanized area, *i.e.*, any land on which buildings and/or non-building structures are present, normally as part of a larger developed environment such as: a developed land lot, rural area, or urban area. The land is covered by buildings and other anthropogenic infrastructures.

Mixed forest: In mixed forests, the vegetation composition principally displays the presence of trees and also includes shrubs and bushes. The mixed type of forest is neither predominated by broad-leaved trees nor by coniferous floral species.

Fallow land: Fallow land is farmland without crops and usually needs a year to recover its fertility to grow crops. Such kinds of land are acquired for cultivation temporarily and are kept uncultivated for one or more seasons for its reclamation.

Waste land: Sparsely vegetated land with signs of erosion and land deformation that could be attributed to lack of appropriate water and soil management, or natural causes. These are land identified as currently underutilized and could be reclaimed to productive uses with reasonable effort. Degraded forest (<10% tree cover) with signs of erosion is classified under wasteland. An empty area of land, especially in or near a city, which is not used to grow crops or built on, or used in any way and/or a place, time, or situation containing nothing positive or productive, or completely without a particular quality or activity.

Water body: Areas with surface water, either impounded in the form of ponds, lakes, reservoirs, or flowing as streams, rivers, etc. Can be either fresh or salt-water bodies.

Plantations: A *plantation* is a large-scale estate meant for farming that specializes in cash crops. The crops that are grown include cotton, coffee, tea, cocoa, sugar cane, sisal, oil seeds, oil palms, rubber trees, fruits, commercial horticulture plantations, orchards, and tree cash crops.

Wetland: A wetland is a distinct ecosystem that is inundated by water, either permanently or seasonally. The primary factor that distinguishes wetlands from other land forms or water bodies is the characteristic vegetation of aquatic plants adapted to the unique hydric soil. Land with a permanent mixture of water and herbaceous or woody vegetation. The vegetation can be present either in salt, brackish, or fresh water.

The land use pattern of this district is as follows:

Table No. 9: Land use pattern of the district

Class Name	Area in sq.km
Deciduous Forest	79.4973
Cropland	2193.42
Built-up land	259.076
Mixed Forest	-
Shrub land	-
Barren land/Wet land	28.3213
Fallow land	-
Waste land	-
Wet land	7.80139

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Waterbodies	10.1863
Sand Deposition	16.3163
Plantation	-
TOTAL	
Source: *Forest department of Gurdaspur district*	

Forest

Gurdaspur Forest Divisions has been bifurcated from Soil Conservation Division Pathankot on 01/04/2011 comprising the civil districts of Gurdaspur and Pathankot. The district ranks third with a total forest area of342 sq.km. in the state. The Gurdaspur Forest Division has three territorial Forest Ranges namely Gurdaspur, Qadian and Aliwal. The Reserved Forest area is Rakh-Nehar-Ki Bir, situated on either side of Upper Beri Doab Canal. The Protected Forest area situated along the roads, Rail lines Canals and bunds. The unclassed forest is generalized raised on the area transferred to Forest Departments from the revenue and rehabilitation department.

The data provided by the district forest department during the survey are as follows: -

Table No.10: List of Forests

Sr. No.	Name of the Forest	District	Village	Hadbast No.	Coordinates		Area (Ha)
					Latitudes	Longitudes	
1	Kapoora Forest	Gurdaspur	Kapoora	4	31°38'1.94"N 31°37'53.36"N 31°37'38.08"N 31°37'9.71"N 31°37'12.51"N 31°37'28.65"N 31°37'55.08"N 31°37'57.35"N	75°24'46.54"E 75°24'46.64"E 75°24'48.44"E 75°24'22.22"E 75°24'15.64"E 75°24'2.44"E 75°24'21.38"E 75°24'36.11"E	112
2	Lallowal Jungle	Gurdaspur	Lallowal	475	32° 2'25.37"N 32° 2'12.64"N 32° 2'7.52"N 32° 2'11.44"N 32° 2'18.03"N 32° 2'22.96"N 32° 2'30.23"N 32° 2'38.17"N 32° 2'30.47"N	74°56'52.25"E 74°56'47.90"E 74°56'41.98"E 74°56'26.10"E 74°56'19.92"E 74°56'11.66"E 74°56'8.48"E 74°56'7.61"E 74°56'39.68"E	63.5
3	Puranewala jungle	Gurdaspur	Puranewala	474	32° 3'7.60"N 32° 2'49.17"N 32° 2'34.17"N 32° 2'19.67"N 32° 2'15.99"N 32° 2'15.54"N 32° 2'44.48"N 32° 2'50.53"N	74°58'7.60"E 74°58'24.19"E 74°58'6.58"E 74°57'37.81"E 74°57'19.90"E 74°56'58.61"E 74°56'59.12"E 74°57'30.76"E	202

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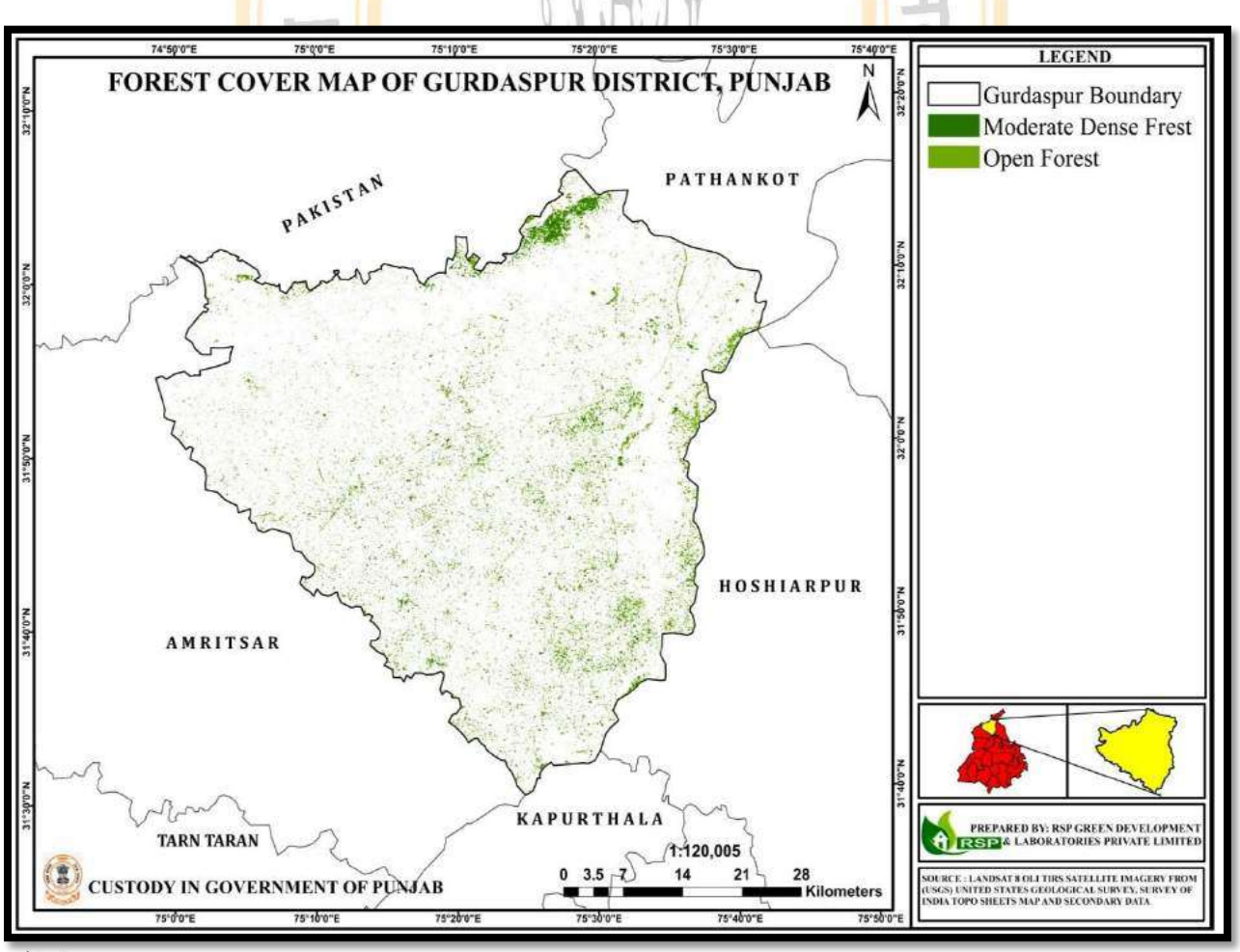
4	Mansoor jungle	Gurdaspur	Mansoor Rasulpur	493	32° 2'29.98"N 32° 2'15.01"N 32° 2'15.71"N 32° 2'14.74"N 32° 2'14.15"N 32° 2'11.61"N 32° 2'10.41"N 32° 2'27.08"N 32° 2'37.82"N 32° 2'41.41"N 32° 2'33.11"N	74°55'56.02"E 74°55'55.08"E 74°55'45.80"E 74°55'39.86"E 74°55'31.65"E 74°55'23.58"E 74°55'15.69"E 74°55'11.89"E 74°55'22.56"E 74°55'34.37"E 74°55'42.38"E	73.6
5	Ghaniye ke Bet	Gurdaspur	Ghaniye ke Bet	495	32° 3'25.88"N 32° 3'12.63"N 32° 3'14.20"N 32° 3'26.70"N 32° 3'26.62"N 32° 3'26.08"N 32° 3'26.49"N 32° 3'24.81"N 32° 3'23.29"N 32° 3'24.07"N 32° 3'32.19"N 32° 3'41.08"N 32° 3'42.74"N 32° 3'46.10"N 32° 3'45.94"N 32° 3'44.45"N 32° 3'42.05"N 32° 3'34.73"N	74°56'29.62"E 74°56'19.05"E 74°56'9.84"E 74°55'57.78"E 74°55'55.75"E 74°55'53.35"E 74°55'50.96"E 74°55'50.65"E 74°55'50.08"E 74°55'46.84"E 74°55'37.11"E 74°55'38.42"E 74°55'42.79"E 74°55'49.58"E 74°55'55.77"E 74°56'2.16"E 74°56'9.19"E 74°56'20.79"E	80.7
6	Samrai jungle	Gurdaspur	Samrai	8	31°40'3.01"N 31°39'48.98"N 31°39'47.96"N 31°39'49.27"N 31°39'54.14"N 31°40'2.05"N	75°28'57.15"E 75°28'49.29"E 75°28'45.07"E 75°28'43.44"E 75°28'46.03"E 75°28'48.43"E	7.70
7	Rasulpur jungle	Gurdaspur	Rasulpur	494	32° 2'20.24"N 32° 2'17.77"N 32° 2'16.10"N 32° 2'16.60"N 32° 2'19.89"N 32° 2'20.96"N 32° 2'25.30"N 32° 2'22.97"N 32° 2'20.99"N	74°56'15.98"E 74°56'13.64"E 74°56'7.67"E 74°56'3.86"E 74°56'4.54"E 74°56'7.00"E 74°56'9.88"E 74°56'11.30"E 74°56'14.44"E	4.56
8	Talwara	Gurdaspur	Talwara	10	31°41'0.93"N 31°40'58.49"N 31°40'50.39"N 31°40'51.49"N	75°28'41.25"E 75°28'47.47"E 75°28'40.74"E 75°28'34.97"E	5.25
9	Village Manjhwal	Gurdaspur	Manjhwal	17	32°10'32.11"N 32°10'18.14"N	75°19'57.22"E 75°19'54.56"E	20.7

					32°10'19.66"N 32°10'34.88"N	75°19'37.89"E 75°19'39.65"E	
10	Keshopur-Chhumb Community Reserve	Gurdaspur	Keshopur	249	32°05'04"N	75°24'09"E	343.9
Source: *Forest department of Gurdaspur district*							

Keshopur Wetland: The Keshopur-Miani Community Reserve is located in the Gurdaspur district in the state Punjab. This wetland is actually formed with the annual runoff of rainfall in this area. It is a home land of natural marshes. The area of this wetland is 343.9 ha. This area is formed with some ponds that is used in aquaculture and agricultural purpose. It is used in lotus and chestnut production and in Pisciculture also. There are numerous varieties of flora, with 344 species of plants. The Site is an example of wise use of a community-managed wetland, which provides food for people and supports local biodiversity. In fauna, some threatened species like vulnerable common pochard (*Aythya ferina*) and the endangered spotted pond turtle (*Geoclemys hamiltonii*) can be found. This wetland is marked as Ramsar site on 26.09.2019. The Department of Forests and Wildlife Preservation, Punjab maintain this wetland.

FIGURE 15: FOREST COVER MAP OF THE DISTRICT



Agriculture and Irrigation

Gurdaspur district is predominantly an agriculture-oriented district. The district falls under West-Himalayan Region (I) of Agro-Climatic zone (Planning Commission). The soil of the district is mainly alluvial and fertile but variable soil conditions prevalent in the district. The district mainly consists of three kinds of soils – Riarki, Bangar and Bet.The area of DhariwalGhuman, Qadian, Harchowal and Sri Hargobindpur is called Riarki. The western side of Kahnuwan lake up to Aliwal canal is called Bangar and the area between the rivers of Beas and Ravi is known as Bet.

The cropping intensity of the district is 193% whereas consumption of fertilizer in the district is 6.7% of the state.

Table No.11: Area, Production and yield of major crops in the district Gurdaspur (Average of last 5 years)

Crops	Area (Ha)	Production (mt)	Yield (Kg / Ha)
Rice	196	627	3199
Wheat	230	929	4037
Maize	13.3	30.0	2256
Sugarcane	24.0	149	6220
Pulses (Gram, Mash, Moong & Lentil)	2.9	2.9	1000
Oil Seed (Rape seed, Mustard)	2.1	1.4	680

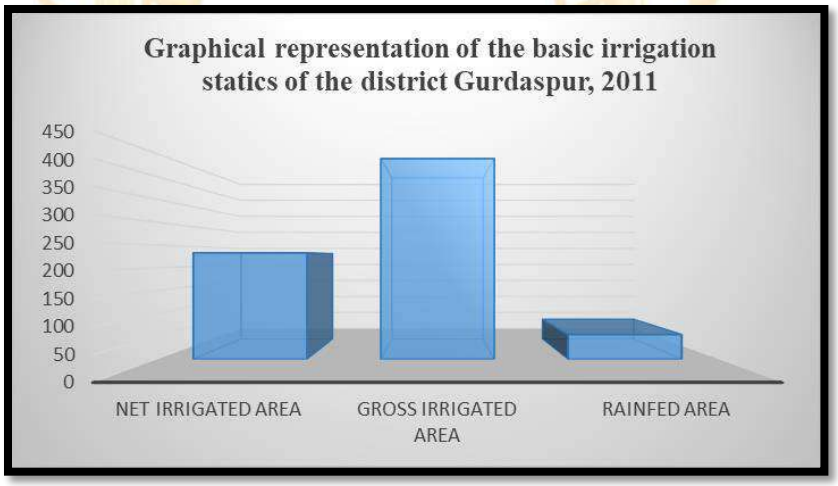
Source: *https://agri.punjab.gov.in/sites/default/files/STATUS%20OF%20MAJOR%20CROPS.pdf*

Table No.12: Irrigation Pattern of the district Gurdaspur

Irrigation	Area in Hectare
Net irrigated area	233
Gross irrigated area	439
Rainfed area	54

Source: *Agriculture Contingency Plan for District: Gurdaspur, 2011*

Chart 2: Graphical representation of the basic irrigation statics of the district Gurdaspur, 2011



Source: *Agriculture Contingency Plan for District: Gurdaspur, 2011 and Table No. 12*

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Horticulture

The district horticulture office is located at Gurdaspur and is headed by Deputy Director Horticulture (DDH). The department provides technical guidance as well as seed of fruits & ornamental plants, vegetables, flowers, mushroom etc to the farmers time to time.

In Gurdaspur district, mango & litchi are two most important crops. Other major horticultural fruit crops grown in the district are Kinnow, Malta, Nimbu, Guava, Pear, Plum, Ber, Amla, Banana. Mango generally is being grown in Dhar, Pathankot & Dinanagar Block. Litchi is cultivated in the sub mountain region (Gurdaspur, Pathankot, Sujanpur, Narot Jaimal Singh, Dinanagar Block) of the district. Citrus crop and Kinnow is cultivated in the surrounding of Ghiala, Gurdaspur, Dinanagar, Dera Baba Nanak, Dhariwal& some part of Sri Hargobindpur etc.

The important vegetable crops are Potato, Cabbage, Cauliflowers, Tomato, Brinjal, Chilly, radish, carrot, peas and vine crops are grown in the district.

The farmers are getting good income from spices and aromatic crops. Celery which is locally known as Karnauli is cultivated in Batala, Dera Baba Nanak Block. Turmeric is also cultivated in Kahnuwan, Qadian, Gurdaspur, Kalanaur etc.

Table No. 13: Horticulture Fruit crops are grown in the district Gurdaspur

Horticulture fruit crops	Area (000' ha)	Production (Tonnes)	Productivity (Kg/Ha)
Mango	2.1	30.567	14824
Litchi	1.0	16.436	14874
Kinnow	0.5	10.219	18648
Guava	0.2	3.300	21430
Orange & malta	0.1	0.461	7550
Amla	0.1	1.248	13424
Pear	0.1	1.485	22844
Plum	0.02	0.436	17450
Peach	0.04	0.620	17720
Lemon	0.005	0.038	7530
Ber	0.005	0.069	17145
Misc	0.01	-	-
***Source**: Agriculture Contingency Plan for District: Gurdaspur, 2011*			

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Table No. 14: Major Horticulture vegetable grown in the district Gurdaspur

Horticulture Vegetable	Area (000' ha)
Potato	0.3
Onion	0.03
Winter vegetable	0.4
Summer vegetable	0.7
Source: *Agriculture Contingency Plan for District: Gurdaspur, 2011*	

Mining

The district Gurdaspur comprises flood plains of river Ravi and Beas from the up-land plain by sharp river cut bluffs. They are low lying with slightly uneven topography. Sand dominates in the soil structure of the flood plains.

Sand is mainly produced at the time of mining operations on the surface of the earth, near the river beds, and the sand quarrying below the surface of the earth. It is the basic raw material for building any concrete structure. In some areas of this district, some brick earth and foundry sand are also found.

Previously the local people used to lift sand etc. from the river beds to meet their requirements. But now, after the generation of the Punjab Minor Mineral rules in 1964, and amended rules in 2013 mining is regulated in accordance with the rules.

4.3 FLOODS IN PUNJAB:

Floods are one of the major natural disasters in the state of Punjab. Punjab is the landof 5 rivers and the rivers play an important role in the development of agriculture andthe economy of the state. But at the same time, the rivers cause floods and floods cause loss of human life and widespread property damage.

More than five hundred persons have died due to floods in Punjab from 1990 to 2010.The floods affect the northern part of the state more than its southern part. The areasI close proximity of the rivers Ravi, Beas, Sutlej, and Ghagghar are the most vulnerable areas from a flood point of view. Floods occur mostly in the monsoon season (July- September) on account of heavy rainfall in the catchment area as well as in the plain area of the State.

4.4 DEMOGRAPHY:

The district has a population of 2,298,323 people as of the 2011 Census, with 1,212,617 men and 1,085,706 women living there. The sex ratio in the district is 895 females for every 1000 males. Between 2001 and 2011, the district's population growth at a rate of 9.26%. The density of the district is 647in each square kilometer in the district. Average Literacy rate of the district is 79.95% with male literacy 84.56% and females at 75.85%. Total child population (0-6 age) of the district is 253,579.

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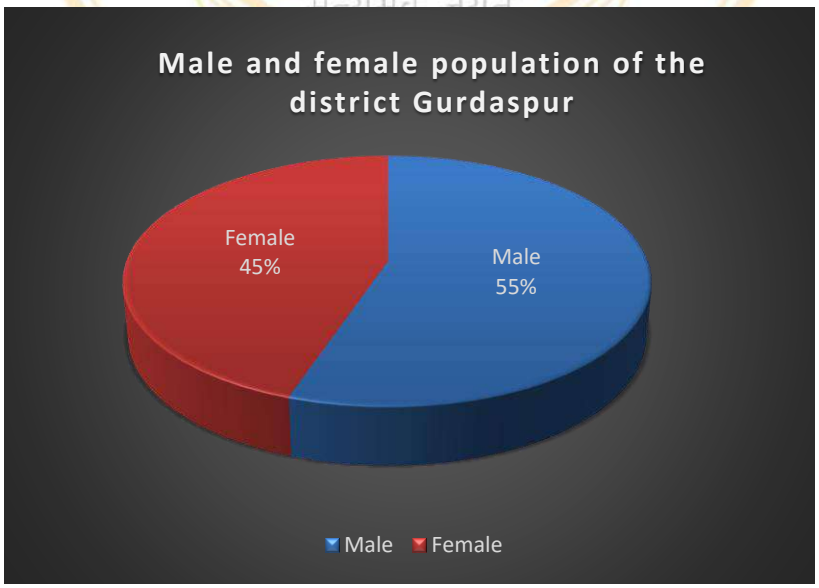
Table No. 15: Gurdaspur District of Census Data (2011 & 2001)

Description	2011	2001
Population	22.98 Lakhs	21.03 Lakhs
Actual Population	2,298,323	2,103,455
Male	1,212,617	1,112,785
Female	1,085,706	990,670
Population Growth	9.26 %	19.74 %
Area Sq. Km	3,551	3,542
Density/km^2	647	594
Proportion to Punjab Population	8.28%	8.64%
Sex Ratio (Per 1000)	895	890
Child Sex Ratio (0-6 Age)	821	789
Average Literacy	79.95	73.80
Male Literacy	84.56	79.80
Female Literacy	74.85	67.10

Source: *Census Report of 2001 and 2011, Gurdaspur District.*

Chart 3: Male and female population of the district Gurdaspur



Source: *Census Report of 2001 and 2011, Gurdaspur District and Table No. 16*

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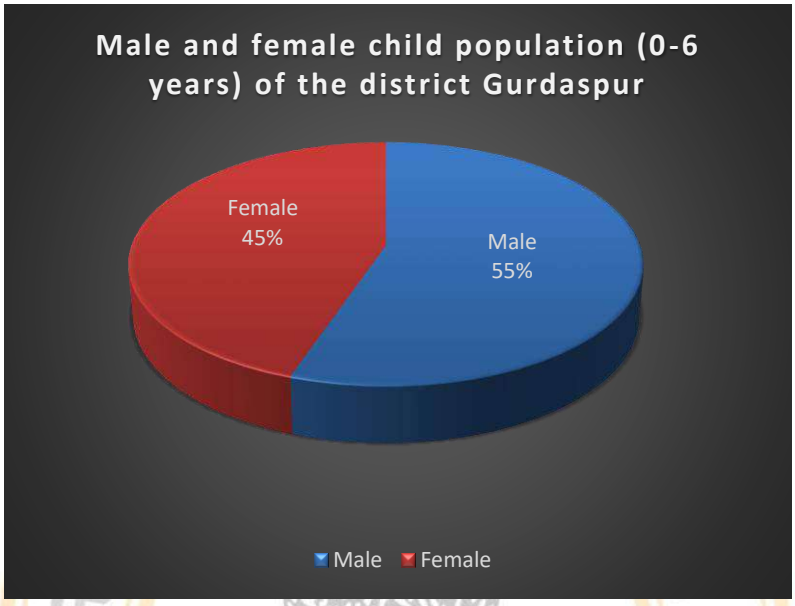
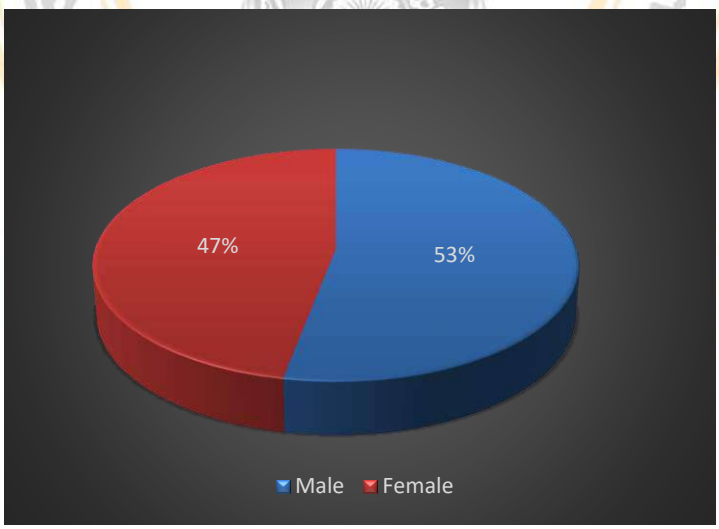
Chart 4: Distribution of male & female child population (0-6 years) of Gurdaspur district



Source: *Census Report of 2001 and 2011, Gurdaspur District and Table No. 16*

Chart 5: Gurdaspur District's literacy rate



Source: *Census Report of 2001 and 2011, Gurdaspur District and Table No. 16*

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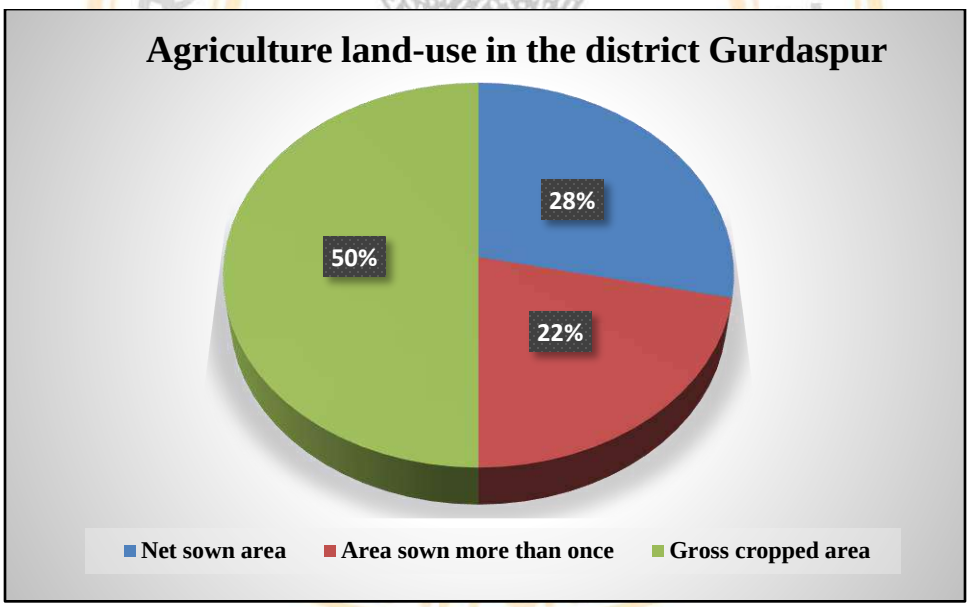
4.5 CROPPING PATTERN

The economy of the district is basically agricultural. The soil of the district is very fertile, made up from the alluvium of the rivers of Bees and Ravi.The district has specialized in paddy cultivation and ranks next only to Kamal in acreage and production. In theTahsils of Datala and Gurdaspur, sugarcane cultivation is also popular and the setting up of the Sugar Millsat Batala will give further boost to this crop.

Table No. 16: Details of agriculture land-use in the district Gurdaspur

Sl. No.	Agriculture land use	Area (Ha)	Cropping intensity %
1	Net sown area	287	176
2	Area sown more than once	219	
3	Gross cropped area	506	
Source: *Agriculture Contingency Plan for District: Gurdaspur, 2011*			

Chart 6: Land-use details of Gurdaspur district



Source: *Agriculture Contingency Plan for District: Gurdaspur, 2011 and Table No. 15*

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4.6 LAND FORM AND SEISMICITY

The landscape of the district has varied topography comprising undulating plan, the flood plains of the Ravi and the Beas and the upland plain. The northernmost part of the district in the foothills of Shiwalik. The hilly tract covering the north-eastern parts of Pathankot and Dhar tehsils have typical geographical structures, ranging in elevation from about 381 to 930 meter above sea level. The flood plains of the Ravi and the Beas are separated from the upland plain by sharp river-cut bluffs. They are low lying, with slightly uneven topography. The upland plain covers a large part of the district particularly. Its elevation ranges from about 305 meters above sea level in the north-east to about 213 metres above sea level in the south-west, with a gentle gradient of about 1 metre in 1.6 km. The average elevation of the district is 248m.

Punjab lies in a fore-deep, a downward of the Himalayan foreland, of variable depth, converted into flat plains by long-vigorous sedimentation. The district Gurdaspur lie in Zone IV.

Table No. 17: Seismic Zone Intensity on MM scale

SEISMIC ZONE	INTENSITY ON MM SCALE
II	Low intensity zone
III	Moderate intensity zone
IV	Severe intensity zone
V	Very severe intensity zone
Source: *Ministry of Earth Science, Seismic Mapping Posted On: 30 JUL 2021 2:27PM by PIB Delhi*	

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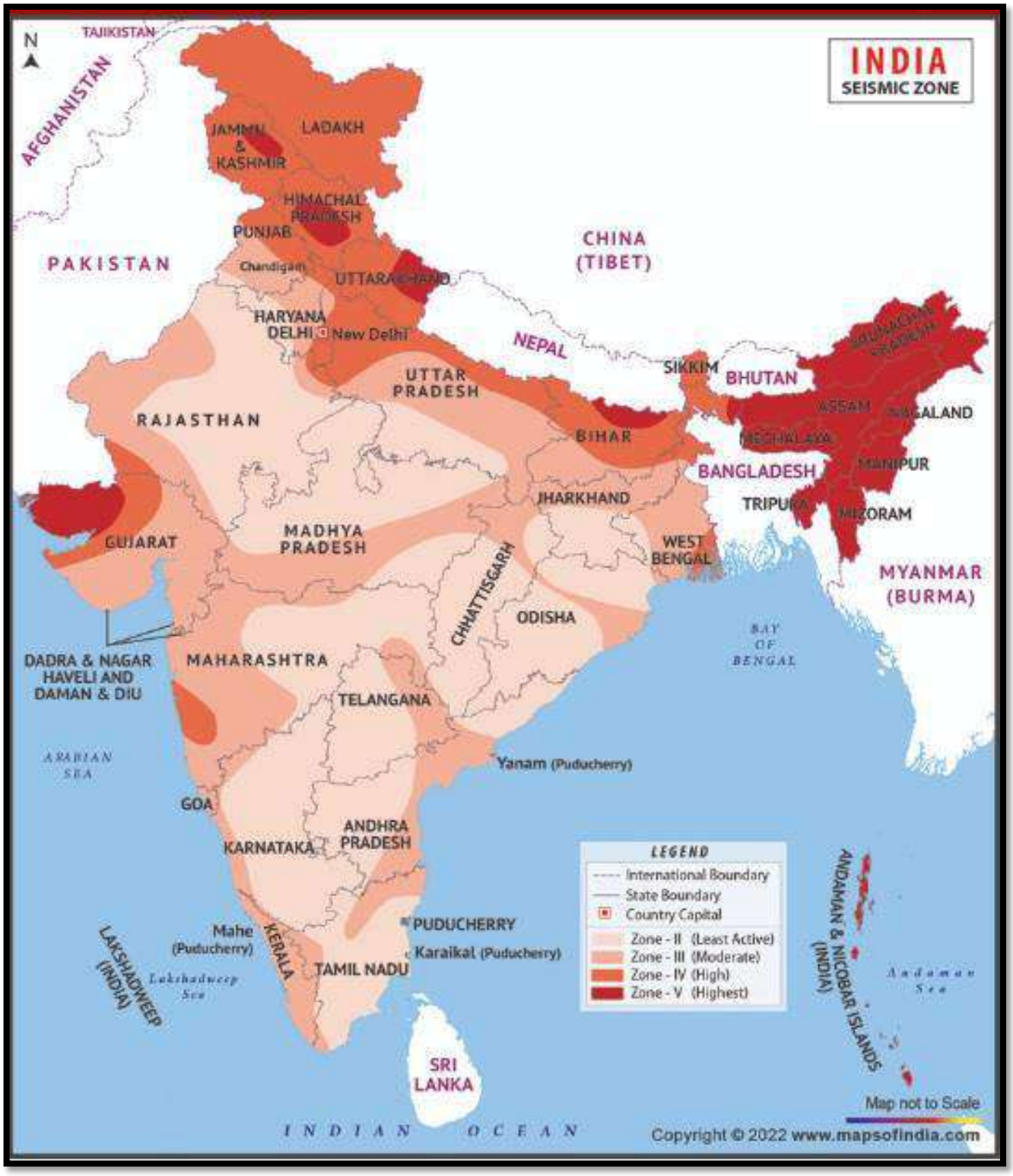
FIGURE NO. 16: SEISMIC ZONE MAP OF INDIA



***Source**: www.mapsofindia.com*

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4.7 FLORA AND FAUNA

Preservation of the ecology is one of the most important goals of the district survey report. The vegetation varies in the district depending on the soil, topography and elevation. Keshopur-Miani Community Reservelies in the district Gurdaspur at a distance of 7 Km from Gurdaspur township. The Keshopur-Miani Community Reserve located in the former flood plains of the Rivers Ravi and Beas. It consists of a mosaic of natural marshes, aquaculture ponds and agricultural wetlands where crops such lotus and chestnut are cultivated.

4.7.1 MAJOR FLORA OF DISTRICT GURDASPUR

The common trees of the district are kikar, phulahi, sirin, tahli, jaman, bor, pipal, amb, tootand ber. Among the trees of the hills are khair,bil, kachnar, palah, amaltas, bakain,bahera, etc.

Among the fruit trees, the most common are mango and toot. Sangtra, mitha, khatfa, nimbu, chakotra, loquat, aru, amrud, nashpati, anar and keta, etc. are successfully grown in orchards. Of weeds bughat, kandiari and leh, are the most important. In the swamps kaserla and benku grass is found which is poisonous for animals. In the hill tract, the most prominent bushes are bhang, mender. In the hill station of Dalhousie oak, chit, spruce and deodar ale found in abundance.

In the Chhambs the growth of sangharas is luxurient, the fruit and root of which are eaten by human beings.

4.7.2 FAUNA

The wild animals met in the district are those which are typical for the plains and the low hills. Nilgai is sometime found in the riverain tract along the Beas and the Ravi. Leopard is sometimes sighted in the Pathankot and Dalhousie areas. Stray black buck may cross over from Jammu border into the Chak Andhar. Wild pigs are numerous in the riverain and the hills. Monkeys are found in Pathankot Tahsil, especially in the hills and the Kandi villages. Langur met in the Himachal territory surrounding Bakloh and Dalhousie. Water fowls are plentiful in the marshes. Black and grey partridge and koltJ pheasants and junglefowl live in the hills. Geese come in fairly large number in November and February. Ducks frequent from October to April.

Other common birds are blue pigeons, doves, crows, mainas, parrots, sparrows, kites, vultures and hawks. Water snakes abound as also the fish in streams.

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CHAPTER 5: PHYSIOGRAPHY OF THE DISTRICT

5.0 INTRODUCTION

General Land Form

The name of the district, Gurdaspur, is said to be derived from the headquarters town which was only a village, bought by Mahant Gurlaji. The district lies between north latitude 31^0 – $36^/$ and 32^0 – $34^/$ and east longitude 74^0 – $56^/$ and 75^0 – $24^/$. The Chakki stream separates the Gurdaspur district from Kangra district (Himachal Pradesh) on the east. The river Beas separates it from Hamirpur district in the south-east and Kapurthala district in the south of Beas and Ravi. The district has an area of 3551.00 sq.km. and ranks sixth in the state.

Gurdaspur district is sub-mountainous region. The general landscape of the district comprising hilly ract, undulating plain and flood plain of Ravi and Beas. The hilly tract covering north-eastern part having an elevation from about 381 to 930 meter above mean sea level. The flood plains are low lying with slightly uneven topography. The elevation of upland plain ranges from about 305 meters above sea level in the north-east to about 213 meters above sea level in the south west.

Soil and Rock Pattern

Soil is the end product of the parent material resulting from the consistent influence of climate, topography and the natural vegetation over a long period of time. In Punjab the soil characteristics are influenced to a very limited extent by the topography, vegetation and parent rock. The variation in soil profile characteristics is much more pronounced because of the regional climatic differences. Punjab can be divided into three distinct regions on the basis of soil types – South-Western Punjab, Central Punjab and Eastern Punjab.

The soil pattern of district Gurdaspur falls under Central Punjab and Eastern Punjab type. The soil type of "Central Punjab" has developed under semi-arid condition. The soil is sandy loam to clayey with pH varies from 7.8 to 8.5. The south-western half of Gurdaspur tehsil, Batala tehsil is deficient in nitrogen, potash and phosphorus.

"Eastern Punjab" soil in Gurdaspur district is of two types –

Grey brown podzolic soil - The soil of Pathankot tehsil of Gurdaspur district lacks in phosphorous, calcium & zinc. Due to heavy rainfall, gully erosion is a serious problem. Acidity is from medium to high.

Reddish chestnut Soil – It is generally represented some parts of Gurdaspur tehsils. The carbonates are leached down to the lower layers. The soil is moderately acidic and neutral in reaction (pH 6.5 to 7.5) and is deficient in nitrogen and phosphorous. However, it is free of any accumulation of salt and calcium carbonate.

5.1 CLIMATIC CONDITIONS

The geographical area of India is divided into 15 agro-climatic regions in which Punjab falls under "Trans-Gangetic Plains Region" and within this region, the district Gurdaspur falls under "sub-mountain undulating region".

Climatically the district has three main seasons:

(i) Mid-October to Mid-March (Winter Season)

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(ii) Mid-March to end of June (Dry Summer)

(iii) July to mid-October (Rainy Season)

The climate in the district is more temperate than in the Central Punjab, because of proximity to the hills and for that reason a little more of rainfall. In summer season, the temperature touches 44^0 C and sometime higher. June is the hottest month. January is the coldest and it touches 2^0 - 3^0C. The dust storm occurs in the month of May and June.

5.2 HYDROGEOLOGY

Geohydrologically Gurdaspur district is divided into three units:

(i) Hilly on the north-eastern side.

(ii) Kandi region.

(iii) Sirowal & adjoining plains.

In Kandi region ground water occurs under unconfined conditions. Depth of water varies between 10 to 40 meters below land surface. The ground water in this region is suitable for irrigational and domestic uses. The sub soil water depth ranges from 1.5 to 3 meters in most part of the district. Due to Dhusi bandh and stepped floods the water table has gone very low.

The main aquifer group of the area is thick granular zones alternate with thick or thin clay lenses. The fresh aquifer is water table and extends all over the area is composed of coarser sediments. In the north eastern and northern part, there are 5-6 aquifers within 300m depth and ranges in the thickness from20-65 m. These granular zones are laterally extensive in nature and composed of medium to coarse sands with gravel and pebbles cobbles etc. The clay beds area 5-12 m thick. In the central part 5-6 prominent granular zones have been encountered within the depth of 375m bgl. The thickness of granular zones is variable from 20-95m and the clay beds varies from 3-14m thick.

Table No. 18: Details of Groundwater Study in the district of Gurdaspur

Sl. No.	Parameters	Gurdaspur
1	Depth water level (pre-monsoon) (mbgl-meter below ground level)	2.39 - 18
2	Depth water level (post-monsoon) (mbgl-meter below ground level	1.70 –16.76
3	Rate of decline of groundwater (m/yr)	0.10 – 2.40
4	Net Annual Groundwater availability (ham)	185200
5	Stage of Ground Water Development (%)	107
6	Water Type (Shallow Groundwater)	Alkaline in nature with low mineralization (Ca-Mg-HCO_3 type in 65% area & 35% area having mixed type)
7	EC (µS/cm)	235 - 1640
	Source: *Central Ground Water Authority, Gurdaspur District*	

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Ground Water Development

The entire district is covered in thick granular zones alternate with thick or thin clay lenses. The Upper Siwalik comprises boulders, cobbles and pebbles inter-bedded with buff to reddish brown clay. These are followed by finer sediments of 'Sirowal' comprising gravel, sand, silt and clay. The contact between Kandi and Sirowal was marked by presence of spring line, which has disappeared due to the declining of water levels. Alluvium is expected to be more than 450 m as bedrock has not been encountered up to depth. The quality of ground water in the district is fresh.

The ground water in the district is alkaline in nature with low mineralization. The pH value ranges from 7.77 to 8.25 indicating a weak base type characteristic. In whole of the district tubewells are the main source of withdrawal. The depth of tube wells ranges between 50and 150m bgl with a discharge of around 2000 lpm.

In the blocks falling in safe category more tubewells can be drilled and can yield sufficient discharge. The water withdrawn can be taken into the over exploited block in the form of canals and can be utilized for irrigation and other purposes. No rainwater Harvesting and artificial recharge structures have been constructed in the district. However, there is scope of rainwater harvesting structure in the district. The rainfall of the district is highest in the State. Rainwater along with surplus water of the canal during rainy season can be utilized for recharging ground water. Moreover, water from Ravi and Beas rivers can also be used for recharging by making some unlined canals.

FIGURE 17: DEPTH OF WATER LEVEL MAP OF THE DISTRICT (PRE-MONSOON 2021)

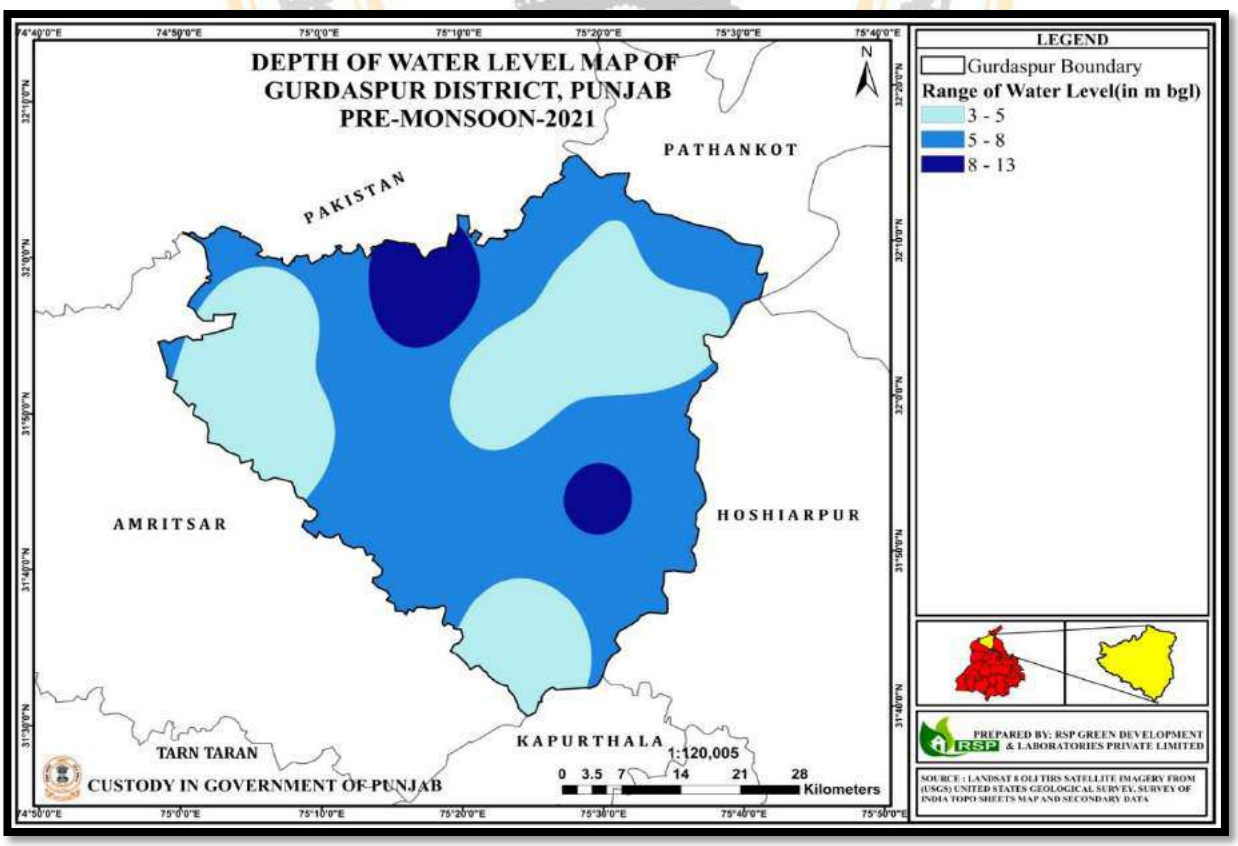

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FIGURE 18: DEPTH OF WATER LEVEL MAP OF THE DISTRICT (POST-MONSOON 2011)

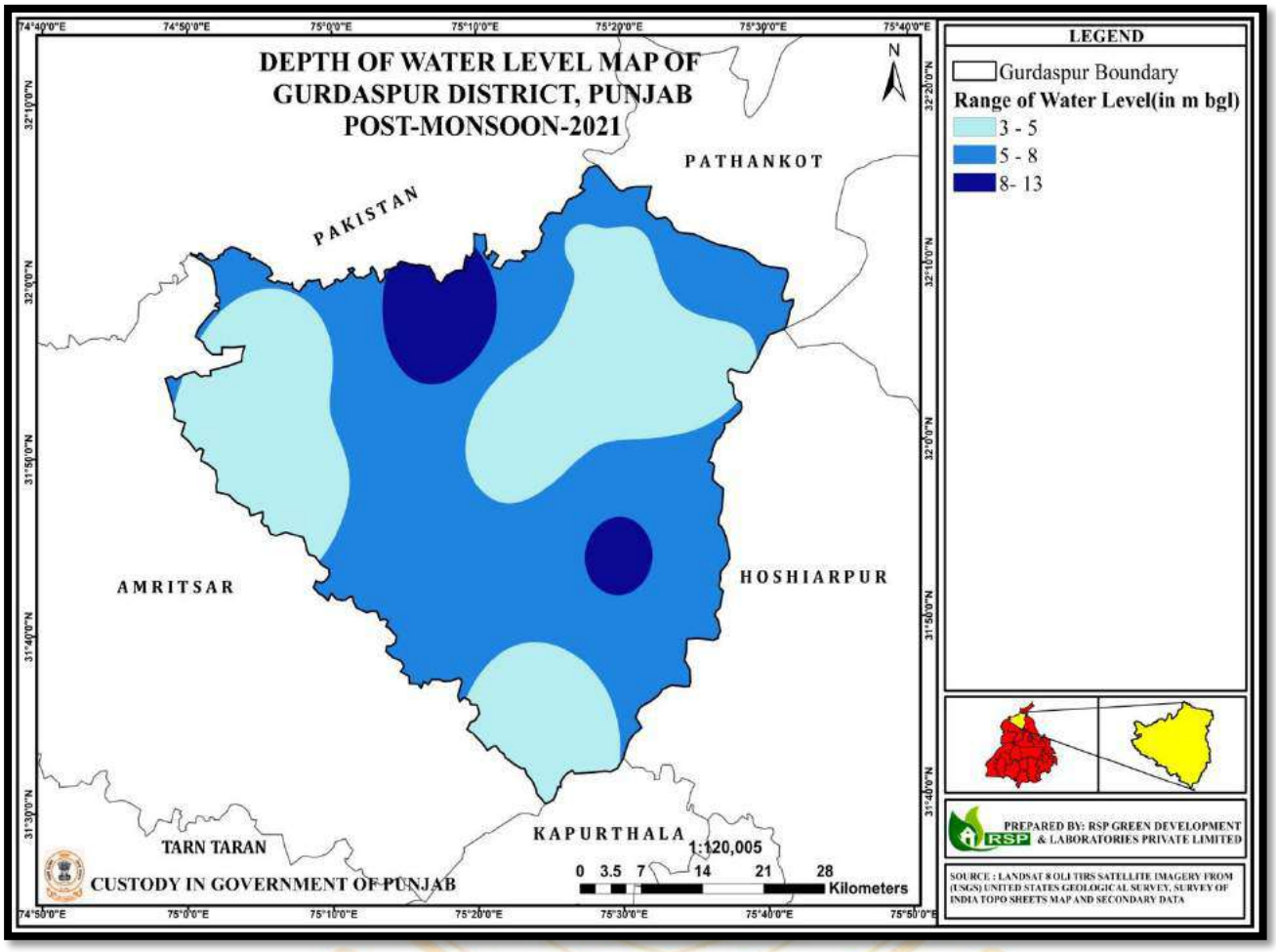

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Table No. 19: Block-wise Groundwater Resource of Gurdaspur district as on 31.03.2009

Block Name	Total Replenishable Ground Water resource (ham)	Utilizable ground water Resources for irrigation (ham)	Existing ground water draft for Domestic, industrial and other uses (ham)	Gross draft (ham) as on 31.03.09	Allocation for future up to next 25 years for domestic and industrial uses	Net water availability for future development	Stage of ground water development (%)	Category
Batala	17038	25528	985	26514	1326	-9816	156	Over exploited
Dinanagar	10194	11285	394	11679	573	-1665	115	Over exploited
Fatehgarh Churian	12917	24611	385	24996	535	-12229	194	Over exploited
Gurdaspur	16443	14979	889	15868	1192	272	97	Semi critical
Kahnuwan	17892	`25304	313	25618	462	-7875	143	Over exploited
Kalanaur	10870	17427	215	17642	317	-6874	162	Over exploited
Qadian	11827	15221	293	15513	425	-3819	131	Over exploited
Sri Hargobindpur	12809	17546	354	17900	491	-4949	137	Over exploited
Dera Baba Nanak	13088	24563	336	24899	478	-9374	159	Over exploited
Dhariwal	18545	23311	395	23706	577	-5343	128	Critical
Dorangla	2650.44	2934.1	102.44	3036.54	148.98	-432.9	29.9	Over exploited
Total	144273.4	177405.1	4661.44	207371.5	6524.98	62648.9	1451.9	

Source: *Central ground water board, Gurdaspur district*

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5.3 MONTH WISE RAINFALL

Rainfall diminishes as the distance from the hills increases. It is sufficiently high in the hilly areas of Pathankot Tahsil and parts of Gurdaspur Tahsil. Batala gets comparatively low rainfall. Most of the rain occurs in the summer months, July to mid-October. Some rain falls in the peak of winter. June is particularly dry.

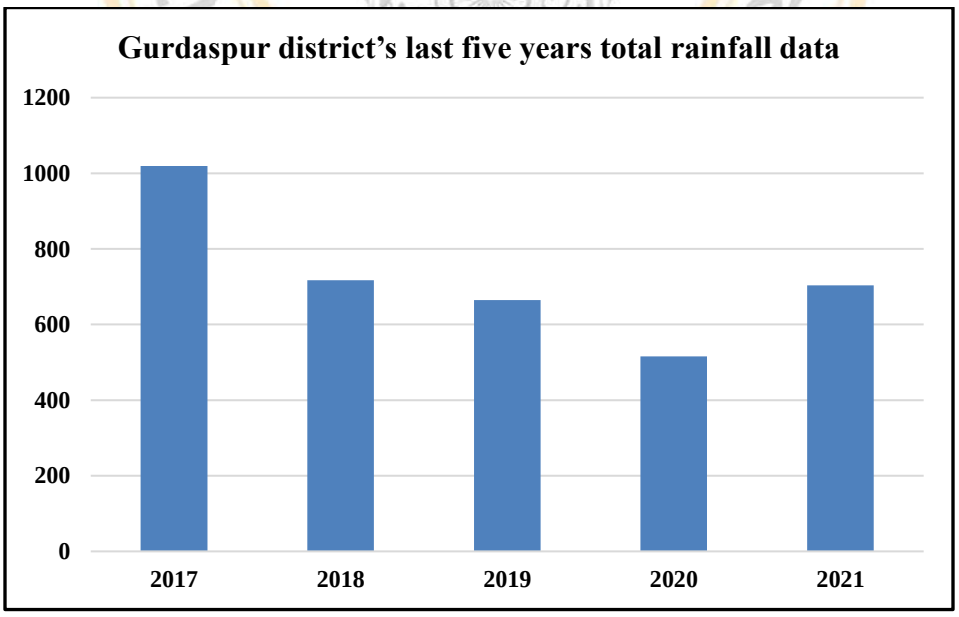
The normal annual rainfall of the district is 1113 mm.

Table No.20: Five years rainfall data of Gurdaspur District (Month wise rainfall)

Sr. No	Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1.	2017	92.7	9.9	24.1	11.5	0.0	40.3	250.3	271.8	248.5	31.6	2.8	36.1	**1019.5**
2.	2018	15.8	18.6	12.8	20.7	0.0	77.4	182.8	129.0	208.6	14.85	6.3	0.0	**716.8**
3.	2019	64.6	188.2	6.7	9.5	14.3	0.0	111.4	102.4	65.2	0.0	29.5	72.6	**664.3**
4.	2020	72.3	5.8	51.9	4.6	74.5	20.6	124.1	123.2	0.0	0.0	29.0	9.8	**515.8**
5.	2021	20.8	13.6	11.1	65.2	8.2	65.0	280.2	41.7	132.9	63.7	1.4	0.0	**703.7**

Source: *State Mines Department of Punjab*

Chart 7: Gurdaspur district's last five years total rainfall data



Source: *State Mines Department of Punjab and Table No. 20*

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5.4 DRAINAGE SYSTEM WITH A DESCRIPTION OF MAIN RIVERS

The state, Punjab, falls under Indus Valley River System. The rivers of the Indus Valley River System flow through India and then enter Pakistan. To share the water of these rivers between the two countries, a treaty called Indus Waters Treaty was signed by India & Pakistan in 1960 at Karachi, which was brokered by World Bank. According to this treaty, the waters of three eastern rivers, i.e., Sutlej, Beas and Ravi are allocated to India and the waters of three western rivers, i.e., Chenab, Jhelum, and Indus are assigned to Pakistan.

The perennial Ravi and Beas rivers along with their tributaries from the main drainage of the area. A dam has been constructed at the foot hills at Shahpur kandi. Chakki Khad and Sakki nala are the major tributaries of Beas and Ravi rivers respectively. Apart from the above small local nalas and called choes are the frequent features in the northern side of the district which ultimately in the northern side of the district which ultimately meets the main khads and aluminates ultimately to the rivers Beas and Ravi.

Name of the River, Area Drained (sq. Km), and % Area drained in the district have been prescribed in the Table No. 21 given below: -

Table No. 21: Drainage system with description of main rivers

Sl. No.	Name of the River	Area drained (sq.km.)	% Area drained in the district
1.	Beas	783.38	28.16
2.	Ravi	362.95	13
Source: *Map No. 8 and 12 Drainage Map and District Mining Office, Gurdaspur District*			

Table No. 22 (part 1): Salient features of important rivers and streams

Sl. No.	Name of the River/Stream	Total length in the District(km)	Place of origin	Altitude of origin
1.	Beas	61.5	Baralacha La Pass, Kangra district of Himachal Pradesh	4850 meters
2.	Ravi	51	Rohtang Pass, central Himachal Pradesh	4361 meters
Source: *Map No. 8 and 12 Drainage Map and District Mining Office, Gurdaspur District*				

Table No. 22 (Part-2): Salient Features of Important River sand Streams

Boulder(MT)	Bajri (MT)	Sand (MT)	Total Mineable Mineral Potential (MT)
-	-	**69024635.30**	**69024635.30**
Source: *Field Survey Data, Annexure V and Table No. 25*			

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CHAPTER 6: GEOLOGY AND MINERAL WEALTH

6.0 GEOLOGY

Regional geology: Physiographically India divides into three regions, namely Peninsular India, Extra Peninsular India, and Indo-Gangetic plain. Peninsular India is mainly composed of Precambrian rocks and has Proterozoic & Phanerozoic cover while the Extra-peninsula is composed of a tertiary group of rocks. Punjab holds ground in all three divisions. A very large portion of Punjab lies within Indo-Gangetic plains, which continue south-westwards through Sind to the Arabian Sea and south-eastwards through North-West Provinces, Behar & Bengal to the Bay of Bengal. The Indo-Gangetic Plain is identified as Punjab-Rajasthan Plain, Ganga Plain, Bengal Plain, and Brahmaputra Plain (Singh 1987; Singh & Ghosh 1994). The Punjab-Rajasthan Plain has been comprising Indus Plain in the west and the Punjab-Haryana Plain in the east (Singh 1996; Srivastava et.al. 2006).

Geologically the state, Punjab, divides into two regions viz. the Siwalik foothills and the alluvial fill of Indus drainage basin. The dominant physiographic characteristics of Punjab are i) Lahore – Sargodha Ridge in the west; ii) Delhi-Jagadhari Ridge in the east; iii) Delhi-Lahore Ridge in the south and iv) Siwalik ridges in the northeast.

Geomorphologically the State is divided into six major physiographic units –

1. **Siwalik Hills**: It mainly comprises the districts – Gurdaspur, Rupnagar, S.B.S. Nagar and Hoshiarpur, covering nearly 2.6% of the total area of the state.
2. **Piedmont Plain**: Piedmont Plain area is the transition zone area between Siwalik Hills and alluvial plains which spreads over 10 – 15 km in the districts – Gurdaspur, Hoshiarpur, S.B.S. Nagar, S.A.S. Nagar, and Rupnagar. The area is characterized by gentle slopes, having an elevation ranging between 300-375 m MSL, with undulations. Piedmont Plain mainly comprises finer sediments that are transported by seasonal rivulets.
3. **Alluvial Plain:** It occupies roughly 77% of the total geographical area of the state, spreading over Tarn Taran, Amritsar, Gurdaspur, Doaba, and Malwa Plain. The plains between Beas and Sutlej rivers constitute Doaba Plains. The area included mainly Jalandhar, Kapurthala and Hoshiarpur districts. Malwa Plain mainly covers the area of the south and south-west of river Sutlej. The districts mainly fall under Malwa Plain are Fategarh Sahib, Bhatinda, Ferozepur, Faridkot, Ludhiana, Moga, Mansa, Sri Muktsar Sahib, Patiala, S.B.S. Nagar, Sangrur and Rupnagar.
4. **Sand Dunes**: It is generally found as low ridges along the courses of the old rivers and choes.
5. **Flood Plains**: It covers approximately 10% of the total area of the state. The main rivers of the state – Ravi, Beas, Satluj, and Ghaggar and their seasonal rivulets and choes mainly comprise the flood plain. Due to the continuous erosion and deposition character of the flood plain, there is no consolidation of sediments into pedogenic horizons.
6. **Paleochannels**: It occupies a low-lying topographic position on the landscape and is the remnant of old active channels. In short, these are the result of the continual changes in the courses of the major rivers and their tributaries, which are rendered inactive and silted over a period of time.

The Geological Survey of India has classified the state into Newer Alluvium, Older Alluvium, and Siwalik. The base configuration indicates that the Punjab basin appears to be deeper on the northern side and shallower southward and deepest towards NW. The Neogene and Quaternary units are classified as i) **Siwalik Supergroup** and ii) the **Quaternary alluvium** comprising older alluvium and newer alluvium. Quaternary alluvium sediments lie unconformably over the Siwalik Supergroup.

i) **Siwalik Supergroup**: It presents an almost continuous record of Neogene terrestrial sequence with only minor hiatuses and is well known for its rich repository of vertebrate fauna along with significant invertebrate and plant fossils. It is further classified into three subgroups namely Lower Siwalik, Middle Siwalik, and Upper Siwalik. The rocks of the Lower and Middle Siwalik Group are exposed as NW-SE trending ridges in the northeastern part of the Gurdaspur district while the Upper Siwalik rocks are exposed in Ropar, Hoshiarpur, and Gurdaspur districts.

A) **Lower Siwalik Subgroup** is mainly represented by **Chinji Formation**. It is chiefly composed of fine to medium-grained, sporadically pebbly sandstone and chocolate to maroon claystone. The Chinji Formation has been assigned a Middle Miocene to Upper Miocene age.

B) **Middle Siwalik Subgroup** is dominated by multistoried sandstones with occasional claystone which were deposited in a floodplain environment. It is mainly comprising Nagri Formation and Dhok Pathan Formation.

• **Nagri Formation**: It overlies Chinji Formation of the Lower Siwalik Subgroup. It comprises alternating red clay and conglomerates. This formation is dated as Upper Miocene.

• **Dhok Pathan Formation**: In general, Dhok Pathan Formation is an important fossil-yielding unit of Siwalik Group, ranging in age between Upper Miocene to Lower Pliocene. The Formation is mainly consisting of poorly sorted massive, grey, coarse-grained, and micaceous sandstone with a minor conglomerate.

C) **Upper Siwalik Subgroup** largely consists of sandstone, clay, and conglomerate horizons deposited under a fluviatile environment. It is divided into three formations viz. Tatrot Formation, Pinjor Formation, and Boulder Conglomerate Formation.

• **Tatrot Formation**: It is the basal most unit of the Upper Siwalik that lies above the Dhok Pathan Formation and consists of conglomerates, soft sand stone sand orange & brown clays. The conglomerate bed is found at the base of the formation and indicates a physical break in sedimentation after the deposition the Middle Siwalik (Krishnan, 1949)

•**Pinjor Formation**: It consists of light grey to white coarse sandstones and light pink siltstones, conglomerates, and clays.

•**Boulder Conglomerate Formation**: It lies above the Pinjor Formation and is the youngest unit of the Siwalik Group. It mainly consists of conglomerates but sandstones, siltstones, and clays are also present. The sediments of this formation are coarse in nature, deposited under glacial regime & almost unfossiliferous. It ranges from Middle to Upper Pleistocene in age.

ii) **Quaternary Alluvium Sediments**: It is subdivided into (a) Older Alluvium, (b) Newer Alluvium, and (c) Aeolian Deposits.

Older Alluvium is mainly consisting of reddish clay, silt and sand with kankar, grey medium to coarse calcareous sand with kankar and subrounded to subangular unsorted pebble, gravel, and cobble bed. The Newer Alluvium is composed of blue to white-grey micaceous sand with an alluvium interband of

purple and red clay. The Aeolian Deposits are spread throughout Punjab, except in the areas covered by hard rocks of Siwalik Supergroup. Based on the degree of consolidation, these can be divided into (a) stabilized and consolidated older dunes, (b) intermediate and semi-consolidated dunes, and (c) newer, mobile and reversible dunes.

Local geology: The rocks of the district ranging in age from Tertiary to Quaternary. The older sedimentary rocks comprising of sandstone, are exposed in the upper part of the district. The sandstones are generally coarser grained and more micaceous. Deposition of multistoried sandstones is associated to rapid change in slope, deepening of base level and cutting into older formations. In NE part of district, the boulder Conglomerate formation of upper Shivalik containing boulders, pebbles and cobbles of granites, quartzites, slates and limestone and aggregates and in SW part the alluvial plain is sand intercalated with clay and silt. The lower Himalaya and Shivalik terrains produce bulk quantity of sand/gravel and associated aggregates. The general geological sequence of the formation is given below:

Table No. 23: Stratigraphic Succession of Gurdaspur

AGE	SUPERGROUP	GROUP/FORMATION	LITHOLOGY
Quaternary	-	Older and Newer Alluvium and Aeolian Deposits	Grey & brown sand, silt, silt-clay, clay with calcrete, limestone and gypsum.
Tertiary	Siwalik	Upper Siwalik	Boulder conglomerate, sandstone, clay/Mudstone and pebble beds.
		Middle Siwalik	Sandstone with variegated clay/mudstone
		Lower Siwalik	Sandstone, mudstone/shale Fine grained sandstone, clay & limestone.
…….			
Proterozoic	Delhi	Ajabgarh Group	Quartzite and basic flows, mica-schist, carbonaceous phyllite and slate, calc-schist, dolomite, marbel, calc-silicate, amphibolite, hornblende-schist, phyllite
		Alwar Group	Quartzite, conglomerate, amphibolite, mica-schist and arkosic quartzite

Source: *Geological Survey of India, Northern Wing*

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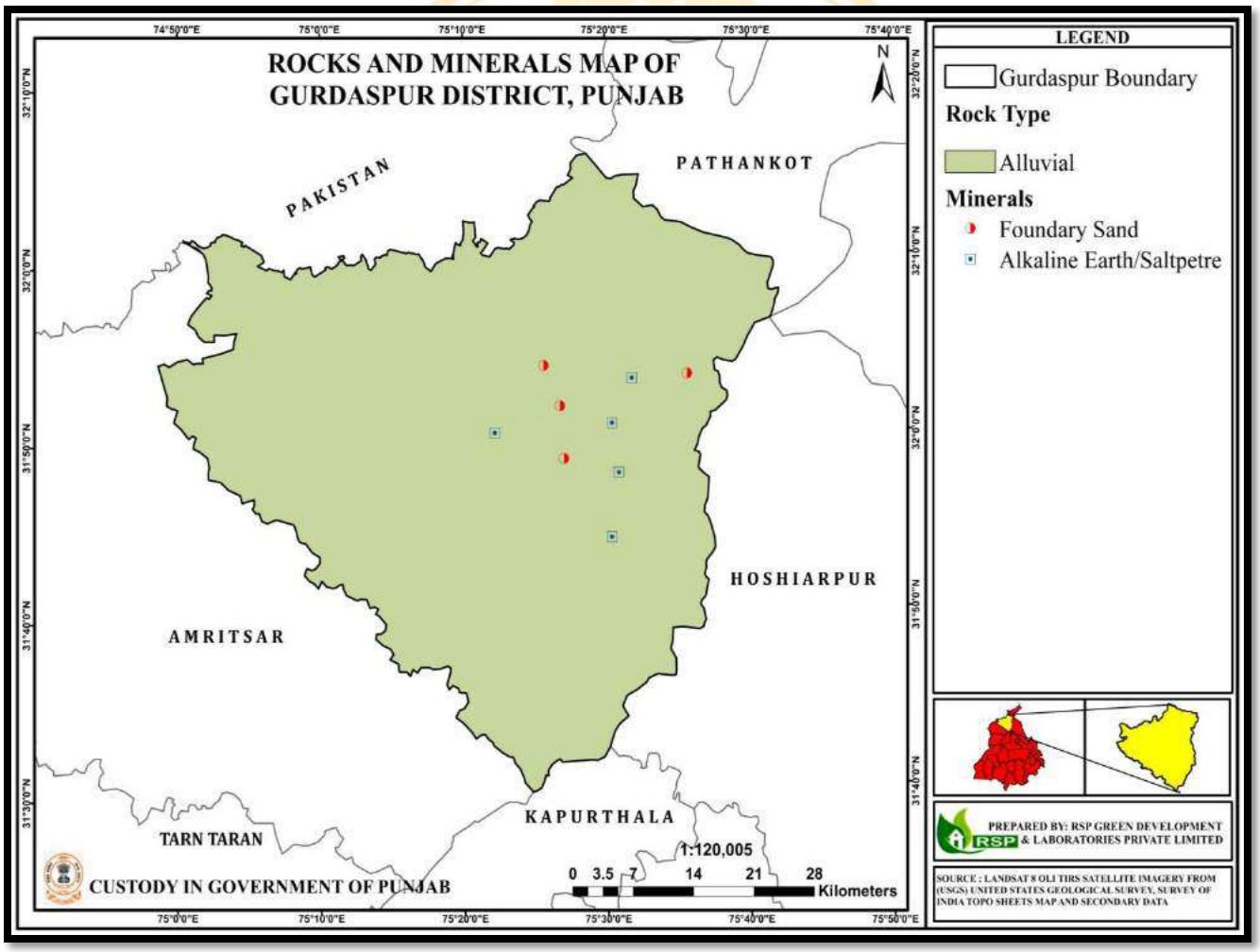
6.1 MINERAL WEALH

Overview of mineral resources (covering all minerals)

The minerals found in the district are building stones, sand, saltpeter, etc. Building material includes boulders, sand, brick earth etc. Brick earth is found in enormous quantity throughout the district. Sand is found in the flood plain of both the perennial river. Saltpetre occurs in the district at the village of Thikriwala, Lamin and Pandoriin Tahsil Gurdaspur and Dhawan, Chataurgarh and Badowal in Tahsil Batala.

FIGURE 19: ROCKS AND MINERAL MAP OF THE DISTRICT



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CHAPTER 7: ESTIMATION OF DEPOSITS AND REPLENISHMENT STUDIES

7.0 GENERAL

Replenishment defines rejuvenation of riverbed sand deposition phenomena. The word replenishment is the fulcrum of riverbed sedimentation under different depositional environmental conditions, especially during rainy seasons.

The rate of gross or absolute silt production (erosion) in the watershed and the ability of the stream system to transport the eroded material in a river have a direct relation with the quantity of sediment delivered into a river. The rate of gross erosion is dependent upon many physical factors like climatic conditions, nature of the soil, and the slope of the area, topography and land use. Hydro-physical conditions of the watershed govern the capability of transporting the eroded material. It has been observed that the average rate of sediment production decreases as the size of the drainage area increases. And also, larger the watershed, the lesser the variation between the rates. The larger watershed presents more opportunities for deposition of silt during its traverse from the point of production. The watershed the with maximum land use class of forest generates a very low rate of production unless the forests are degraded or open forest. The cultivated watersheds with unscientific farming produce a very high rate of silt production. The total amount of eroded material, which reaches a particular hydraulic control point, is termed sediment yield. Rotational mining is being adopted to facilitate the replenishment of the excavated pits during the rainy season. Thus, the mineable area is to be divided into two blocks i.e., the upstream block and the downstream block. The mining of these blocks is suggested on a rotation basis in such a way that pit of the previous year mining will act as depository for the monsoon season. Sand is extracted from the said lot during one year; more than the extracted quantity of the same are automatically replenished by rainfall in the monsoon by the river/nallah itself on account of its flow and velocity.

For the sustainability of river sand mining, it is necessary that the mine pits formed as a result of sand excavation are refilled with sand by the natural process of replenishment in a reasonable period of time so that the area is again available for mining. The rate of excavation should be decided in accordance with the rate of replenishment which is the rate at which sand/gravel is deposited on the river flood plain during the river during monsoon season. However, determination of a site-specific rate of replenishment is quite difficult as it is dependent on several factors such as geology and topography of the catchment area of the river, breadth of the flood plain, rainfall in that particular year (which is quite variable and not very much predictable much in advance) etc. Dandy-Bolton formula is generally used to calculate the sediment yield. But it is to be kept in mind that to prepare the mining plans of the mines, the factor of annual replenishment is to be taken into consideration while calculating the mineral reserves.

The main river of the district is **Beas** and **Ravi**. Beas originates from Beas Kund near Rohtang Pass in Kullu district of Himachal Pradesh and the river Ravi originates from Baralacha La Pass, Kangra district of Himachal Pradesh.

Base Flow is influenced by incoming groundwater to aquifers and is closely related to watershed characteristics. Understanding baseflow characteristics is of great importance to river ecosystems and water management. Baseflow is the portion of stream flow that is delayed subsurface flow and generally maintained by groundwater discharge. Regardless of the specific climatic environment, its

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main features are tightly related to geological catchment properties. Understanding the baseflow process is important to deal with various water resource issues, such as water resources management strategies, low flow conditions assessment, hydrological modeling calibration, and water quality studies. However, no direct approach exists for continuously measuring the variability of streamflow recession under different conditions and the corresponding baseflow, because the baseflow is usually affected by diverse climatological and geological factors, with considerable variations in spatio-temporality watershed characteristics (*e.g*., geology, land use, soil type, *etc*.) and climatic conditions influence baseflow discharge to streams. Addressing such processes requires quantitative estimates of baseflow discharge across a gradient of watershed types. The development of quantitative methods for baseflow estimation is also necessary to understand water budgets (Stewart *et al.*, 2007), estimate groundwater discharge (Arnold and Allen, 1999) and associated effects on stream temperature (Hill *et al.*, 2013), and address questions of the vulnerability and response of the water cycle to natural and human-induced change in environmental conditions, such as stream vulnerability to legacy nutrients (Tesoriero*et al.*, 2013). Given the importance of baseflow, many methods have been used to quantify the baseflow component of stream discharge beginning with Boussinesq (1877). Approaches for baseflow estimation can be grouped into two general categories: graphical hydrograph separation (GHS) methods, which rely on stream discharge data alone, and tracer mass balance (MB) methods, which rely on chemical constituents in the stream, stream discharge, and the streamflow end-member constituent concentrations (runoff and baseflow). Many different approaches for GHS exist, including recession curve methods and digital filter methods. Recession curve methods are generally considered more objective than digital filter methods because they provide an assumed integrated signal of basin hydrologic and geologic characteristics through identification of a linear recession constant based on the falling limb of the hydrograph (Barnes, 1939; Hall, 1968; Gardner *et al.*, 2010).

However, in the present context, in case of the rivers of Gurdaspur district, the volume (weight) of the precipitated sand has been derived during Pre-monsoon and Post-monsoon period along with the thickness of the sand layers deposited during pre-monsoon as well as post-monsoon periods. But, to erect hydrograph model which is essential for estimation of depth of base flow, data on daily discharge of water volume (weight) is required. Hence, it can be proposed that if these data are provided from the concerned authority of the state government (secondary data- already requested for providence), depth of base flow as well as the hydrograph model can be estimated. The quantitative estimation of the depth of base flow cannot be done due to absence of data. But a relative comparison between the mining depth and depth of baseflow has been done on the basis of collected data by making pit on the river bed.

7.1 COMMON METHODS FOR REPLENISHMENT:

- **List of instruments:** DGPS, GPS and Hammer.
- **List of software:** ARC GIS, Google Earth, Microsoft and Google Maps.

7.1.1 CATCHMENT YIELD CALCULATION

The total quantity of surface water that can be expected in a given period from a stream at the outlet of its catchment is known as yield of the catchment in that period.The annual yield from a catchment is the end product of various processes such as precipitation, infiltration and evapotranspiration operating on the catchment. Catchment Yield can be estimated using following formula:

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Catchment Yield (m^3) =Catchment area (m^2) * Runoff coefficient (%) *Rainfall (mts/annum)

The runoff generated from a watershed is estimated using Strange's Tables Method to get obtain approximate yield results. Runoff from a catchment is dependent upon annual rainfall as well as catchment area and characteristics such as soil types and thetype of groundcover / land usage. Remote sensing is used for demarcation of catchment boundaries and computation of catchment area relevant to the drainage system. Strange's table is used to determine the Runoff coefficient of the catchment.

7.1.2 PEAK FLOOD DISCHARGE CALCULATION

The term "peak discharge" stands for the highest concentration of runoff from the basin area. The accurate estimation of flood discharge remains one of the major challenges as it depends upon physical characteristics of the catchment area and the flood intensity, duration and distribution pattern. There have been many different approaches for determining the peak runoff from an area. As a result, many different models (equations) for peak discharge estimation have been developed. Formulae used for Peak Discharge calculation are as below:

i. As per Dicken's formula, $Q = CA^{3/4}$

Where: **Q** is Maximum flood discharge (m3/sec); A is Area of catchment in Sq. Km and C is Constant whose value varies widely between 2.8 to 5.6 for catchments inplains and 14 to 28 for catchments in hills

ii. As per Jarvis formula, $Q = CA^{1/2}$

Where: **Q** is Maximum flood discharge (m3/sec); A is Area of catchment in Sq. Km and **C** is Constant whose value varies between 1.77 as minimum and 177 as maximum. Limiting or 100 percent chance floods are given by the value of C of 177.

iii.As per Rational formula, $Q = CIA$

Where: **Q** is Maximum flood discharge (m3/sec); A is Area of catchment in Sq. Km and **C** is the Runoff coefficient (ratio of runoff to total rainfall) which depends on the characteristics of the catchment area.

I is Intensity of rainfall (in m/sec).

7.1.3 BED LOAD TRANSPORT CALCULATION

The most difficult problem in river engineering is to accurately predict bed load transport rates in torrential floods flowing from mountainous streams. Three modes of transport namely; rolling, sliding and saltation may occur simultaneouslyin bed load transport. The different modes of transportation are closely related, and it is difficult, if not impossible, to separate them completely. There are a number of equations to compute the total sediment load. Most of these equationshave some theoretical and empirical bases.

Ackers and White Equation:

Ackers and White (1973) used dimensional analysis based on flow power conceptand their proposed formula is as follows.

$$Ct = Cs\ Gs\ (d50/h)\ (V/U^*)\ n'\ [(Fgr/A1) - 1]\ m$$

The dimensionless particle dgr is calculated by:

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dgr= d50 (g(Gs-1)/v2)1/3

The particle mobility factor Fgr is calculated by:

Fgr = (U*n ′/(Gs-1) g d50)1/2 * (V/ (5.66log (10h/ d50))1-n'

Where,

$A1$ = Critical particle mobility factor

Cs = Concentration coefficient in the sediment transportfunction

Ct = Total sediment concentration

d50= Median grain size

dgr= Dimensionless particle diameter

Fgr= Particle mobility parameter

g= Acceleration of gravity

Ds, Sg = Specific gravity

h= Water depth

m= Exponent in the sediment transport function

n'= Manning roughness coefficient

U= Shear velocity

V= Mean flow velocity

v= Kinematic viscosity

Meyer – Peter's equation:

Meyer-Peter's equation is based on experimental work carried out at Federal Institute of Technology, Zurich. Mayer-Peter gave a dimensionless equation based, for the first time, on rational laws. Mayer-Peter equations giving an empirical correlation of bed load transport rates in flumes and natural rivers. The simplified Meyer-Peter's equation is given below:

gb = 0.417[τ0 (η'/ η)1.5 - τc]1.5

Where,

gb = Rate of bed load transport (by weight) in N per m width of channel per second. η'= Manning's coefficient pertaining to grain size on an unrippled bed and Stricklerformula i.e., η'= (1/24) x d1/6 where d is the median size (d50) of the bed sedimentin m.

η = The actual observed value of the rugosity coefficient on rippled channels. Its value is generally taken as 0.020 for discharges of more than 11cumecs, and 0.0225 for lower discharges.

τc = Critical shear stress required to move the grain in N/m2 and given by equation τc = 0.687da, where da is mean or average size of the sediment in mm. This arithmetic average size is usually found to vary between d50 and d60.

τ0= Unit tractive force produced by flowing water i.e., γwRS. Truly speaking, its value should be

taken as the unit tractive force produced by the flowing water on bed = 0.97γwRS. R is the hydraulic mean depth of the channel (depth of flow for wider channel) and S is the bed slope.

7.1.4 SEDIMENT YEILD ESTIMATION

Sedimentation occurs as the stream velocity decreases thus reducing its ability to carry sediment. Coarse sediments deposit first, which may then interfere with the channel conveyance and may cause rivers to meander and form distributaries. As the area of the flowing water increases, the depth decreases, the velocity is reduced, and eventually even fine sediments begin to get deposited. As a result, deltas may be formed in the upper portion of reservoirs. The deposited material may later be moved to deeper portions of the reservoir by hydraulic processes within the water body.

There are many sediment transport equations which are suitable for use in the prediction of the rate of replenishment of rivers. Some of the common equations used to estimate sediment yields are:

- Dandy – Bolton Equation
- Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt (1977)

Dandy – Bolton Equation:

The formula uses catchment area and mean annual runoff as the key variables. It does not differentiate between the characteristics of basins and streams.

Dandy and Bolton equation estimates all types of sediment yield i.e., through Sheet and rill Erosion, gully Erosion, Channel Bed and bank erosion and mass movement etc. Dandy- Bolton determined the combined influence of runoff and drainage area to compute the sediment yield. They developed two equations i.e., for run off less than 2 inch and for run off more than 2 inches, which are given below:

For run off less than 2 inches:

(Q<2in) S=1289*(Q) 0.46*[1.43-0.26 Log (A)]

For run off more than 2 inches:

(Q > 2 in): S= 1958*(e -0.055*Q) *[1.43-0.26 Log (A)]

Where: S = Sediment yield (tons/sq miles/yr) Q = Mean Annual runoff (inch)

A = Net drainage are in sq mile

Modified Universal Soil Loss Equation (MUSLE):

Modified universal soil loss equation (MUSLE) for estimation of sediment yield is also used widely. MUSLE is a modification of the Universal Soil Loss Equation (USLE). USLE is an estimate of sheet and rill soil movement down a uniform slope using rain- fall energy as the erosive force acting on the soil (Wischmeier and Smith 1978). Depending on soil characteristics (texture, structure, organic matter, and permeability), some soils erode easily while others are inherently more resistant to the erosive action of rain- fall.

MUSLE is similar to USLE except for the energy component. USLE depends strictly upon rainfall as the source of erosive energy. MUSLE uses storm-based runoff volumes and runoff peak flows to simulate erosion and sediment yield (Williams 1995). The use of runoff variables rather than rainfall erosivity as the driving force enables MUSLE to estimate sediment yields for individual storm events. The generalized formula of MUSLE is as below:

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Y=11.8*(Q*qP).56 *K*Ls*C*P

Where,

Y = sediment yield of stream (t/yr/km2), Q = average annual runoff (m3),K = soil erodibility factor,

qP = Highest discharge recorded (m3/s), Ls = gradient/slope length,C = cover management factor,

P = erosion control practice.

7.2 ILLUSTRATIVE EXAMPLE FOR CARRING OUT REPLENISHMENT STUDIES

Though the above empirical formulae can be used for rough estimation of sediment yields, the "Volumetric method" based on the actual DGP field survey is the only reliable methodology to accurately determine the mineral yield potential for individual mining sites and the rate of replenishment of each such site. Hence, this method is preferred over the other methods.

In this report, for volume estimation of sand (Depth x Area) has been adopted. The sand bars are interpreted with the help of satellite imageries and Ground truthing followed by actual DGP survey is done for all the identified sand bars.

7.2.1 IDENTIFICATION OF AREAS OF AGGRADATION/DEPOSITION

For the identification of areas of aggradation / deposition where mining can be allowed and proximity to infrastructural structures and installations where mining shall be prohibited, the following methodology has been adopted:

7.2.1.1 FIELD DATA COLLECTION

i. Physical closed traverse surveys on continuous basis were done for the river stretches and accordingly relative elevation levels of the deposition zones were captured with the DGPS.

ii. Permanent physical benchmarks were also identified and were established through DGPS. In surveying, a "bench mark" is a post or other permanent mark established at a known elevation that is used as the basis for measuring the elevation of other topographical points.

iii. Sampling of the mining materials was done at regular intervals for the estimation of average Bulk Density of the minor materials.

iv. Some photographs taking during the DGPS survey are given in **Annexure V.**

7.2.1.2 CRITERIA FOR IDENTIFICATION OF NO MINING ZONES

i. Benchmark (BM) with respect to mean Sea Level (MSL) should be established in mining channel reaches (MCR) below which no mining shall be allowed.

ii. Mining is to be permitted only in the central 3/4th of the channel where deposition/aggradation of the material has been identified whereas the remaining ¼th width needs to be kept as no mining zone for the protection of banks.

iii. Identifying the mining and no mining zones shall be done after determining the area of sensitivity by ascertaining the distance of the mining area from the protected areas, forest areas, bridges, important structures, habitation etc. and based on the sensitivity the area needs to be defined in sensitive and non-sensitive categories.

iv. As far as possible mining operations should be avoided in the sensitive areas unless local conditions require otherwise. Such deviations may only be of temporary nature and are to be permitted

by the DLTF after recording the reasons for the same.

7.2.1.3 DATA COMPILATION

Deposits of minor minerals were mapped from satellite imageries of high resolution such as Cartosat-1 and latest multispectral satellite imagery obtained from NRC Hyderabad or Open source available. The satellite image gives the deposits available in the river stretch and their zones of deposition has been marked in the image which was later verified through physical survey (Field data collection). Following data were compiled for identification of deposits: -

i. Elevation levels of the different mineral potential areas.

ii. Export DGPS and physical measured data and its geo-referencing using software (ArcGIS/ERDAS etc.).

iii. Aerial extent of each deposit was mapped using satellite imageries of 10 m x 10 m resolution such as sentinel. The satellite image gives the deposits available in the river stretch and their zones of deposition has been verified with DGPS and physical data and is marked in the image with the help of Arc GIS.

iv. Further, the area falling in the vicinity of various geomorphological and physical structures mentioned in the SSMG 2016 and EMGSM 2020 guidelines, Main water Channel, High level bridges etc., have been marked as no mining zones as per the distances prescribed in the aforementioned guidelines.

Development of cross profiles: Cross section lines were chosen based on the drastic variation of the river widths, proximity of the operating sand ghats and the position of the sand bars.

Cross-sectional maps of the deposition blocks are given in Annexure IV

Assessment of sediment load in the river: Assessment of sediment load in a river is subjective to study of the whole catchment area, weathering index of the various rock types which acts as a source of sediments in the specific river bed, rainfall data of the area for a period not less than 20 years, and finally the detail monitoring of the bed upliftment with time axis. Again, the sediment load estimation is not dependent variable of the imaginary district boundary, but it largely depends upon the aerial extents of the catchment areas, which crossed the district and state boundaries.

7.3 METHODOLOGY FOR CALCULATING THE TOTAL POTENTIAL OF MINOR MINERAL IN THE RIVER BED ANNUAL DEPOSITION

For estimating the reserve of River Bed Material [Sand/Gravel (Minor Mineral)], the following parameters are considered:

i. The volumes of the reserves are calculated on the basis of the established width, thickness and length of the deposit as per actual field data.

ii. The tonnage of the reserve quantity is obtained by multiplying the above volume with the bulk density of tonnes per cum (as per lab report).

iii. The depth of the reserves has been estimated considering the available deposit thickness and the water level/red line.

The same procedure has been followed for acquiring post monsoon data, its reserve estimation and then correlating between pre and post monsoon volumes as per table given below:

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Table No. 24: Estimation of Sand Reserves in Pre & Post monsoon period in Sand bars:

Sl. No	Deposit zone code	Bulk Density	Ave. RL (m)	Area in Sq.m.	Ave. Thickness (m)	Quantity (Weight) (MT)	Sl. NO.	Deposit zone code	Bulk Density	Ave. RL (m)	Area in Sq.m.	Ave. Thickness (m)	Quantity (Weight) (MT)	Difference (MT) 'YY'
PRE-MONSOON							**POST-MONSOON**							
01	PB_GDP_RAVI_01	1.46	255.32	61415	1.31	117462.33	01	PB_GDP_RAVI_01	1.46	256.04	61415	2.13	190988.37	73526.04
02	PB_GDP_RAVI_02	1.46	255.28	50200	1.22	89416.24	02	PB_GDP_RAVI_02	1.46	254.49	50200	2.01	147316.92	57900.68
03	PB_GDP_RAVI_03	1.46	254.63	87400	1.37	174817.48	03	PB_GDP_RAVI_03	1.46	253.80	87400	2.20	280728.80	105911.32
04	PB_GDP_RAVI_04	1.46	252.78	132100	1.22	235296.52	04	PB_GDP_RAVI_04	1.46	251.50	132100	2.50	482165.00	246868.48
05	PB_GDP_RAVI_05	1.46	253.13	104400	1.37	208820.88	05	PB_GDP_RAVI_05	1.46	251.90	104400	2.60	396302.40	187481.52
06	PB_GDP_RAVI_06	1.46	255.98	131800	1.52	292490.56	06	PB_GDP_RAVI_06	1.46	255.38	131800	2.12	407947.36	115456.80
07	PB_GDP_RAVI_07	1.46	234.48	106500	1.52	236344.80	07	PB_GDP_RAVI_07	1.46	234.00	106500	2.00	310980.00	74635.20
08	PB_GDP_RAVI_08	1.46	227.27	160100	1.23	287507.58	08	PB_GDP_RAVI_08	1.46	226.03	160100	2.47	577352.62	289845.04
		TOTAL				**1642156.39**							**2793781.47**	**1151625.08**
09	PB_GDP_BEAS_01	1.37	239.48	214300	1.02	299462.82	09	PB_GDP_BEAS_01	1.37	238.49	214300	2.01	590117.91	290655.09

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PREPARED BY: **SUB - DIVISIONAL COMMITTEE OF GURDASPUR DISTRICT**
ASSISTED BY: **RSP GREEN DEVELOPMENT AND LABORATORIES PVT. LTD.**

Sl. No	Deposit zone code	Bulk Density	Ave. RL (m)	Area in Sq.m.	Ave. Thickness (m)	Quantity (Weight) (MT)	Sl. NO.	Deposit zone code	Bulk Density	Ave. RL (m)	Area in Sq.m.	Ave. Thickness (m)	Quantity (Weight) (MT)	Difference (MT) 'YY'
10	PB_GDP_BEAS_02	1.37	235.28	110400	1.22	184522.56	10	PB_GDP_BEAS_02	1.37	234.14	110400	2.36	356945.28	172422.72
11	PB_GDP_BEAS_03	1.37	232.65	307700	1.35	570102.87	11	PB_GDP_BEAS_03	1.37	231.62	307700	2.38	1003286.62	433183.75
12	PB_GDP_BEAS_04	1.37	230.48	278200	1.52	579323.68	12	PB_GDP_BEAS_04	1.37	229.44	278200	2.56	975703.04	396379.36
13	PB_GDP_BEAS_05	1.37	228.63	135800	1.37	254883.02	13	PB_GDP_BEAS_05	1.37	227.33	135800	2.67	496742.82	241859.80
14	PB_GDP_BEAS_06	1.37	224.92	193300	1.58	418417.18	14	PB_GDP_BEAS_06	1.37	223.91	193300	2.59	685886.39	267469.21
		TOTAL				**2306712.13**							**4108682.06**	**1801969.93**

Source: *Field Survey and DGPS data*

**** The areas, depicted here, are not including "No Mining Zone" areas.**

Note: Department of Forests and Wildlife Preservation, Government of Punjab, vide its notification no. 34/13/2017-Ft-5/1052756/1 Chandigarh, date 29/08/2017, has notified "River Beas with all its water channels from 52 Head Talwara to Harike Barrage including all Government areas in River Beas." as *Beas River Conservation Reserve*, and mining in this area shall be carried out only after obtaining NOC though the Chief Wildlife Warden Punjab.

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Table No. 25: Sediment Load Comparison Pre & Post monsoon periods for different rivers of the district:

River Name	Pre-monsoon No of Ghats	Post-monsoon No of Ghats	Pre-monsoon Sediment Load (MT)	Post-monsoon Sediment Load (MT)	Difference (MT)	Percentage Variance (%)
Ravi	8	8	1642156.39	2793781.47	1151625.08	41.22 %
Beas	6	6	2306712.13	4108682.06	1801969.93	43.85 %
TOTAL	**14**	**14**	**3948868.52**	**6902463.53**	**2953595.01**	

Source: *Field survey and DGPS Data and Table No. 24*

For river Ravi,

Total number of sand block –

- Total volume (weight) of riverbed material – 1642156.39MT (pre-monsoon)
- Total volume (weight) of riverbed material – 2793781.47MT (post-monsoon)
- Percentage of variance – 41.22 %

For river Beas,

Total number of sand block –

- Total volume (weight) of riverbed material – 2306712.13MT (pre-monsoon)
- Total volume (weight) of riverbed material – 4108682.06MT (post-monsoon)
- Percentage of variance – 43.85 %

No mining zone:

A definition of a protected area was established by IUCN in 1994, which is described as

"*An area of land and /or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.*"

Mining has a range of environmental consequences for protected areas, whether operations are undertaken within them or nearby. The types of impact may be listed as follows:

• Direct land take and loss of vegetation cover in the mined area and other parts directly affected by associated activities such as deposition of tailings, or consequences such as subsidence;

• Pollution affects, especially on water supplies, aggravated by accidents (e.g., to tailing dams);

• Impacts due to access associated with mining (roads, railways, pipelines, power lines etc.), which permit illegal hunting, habitat fragmentation and alien invasions;

• Secondary effects of human immigration in association with real or perceived livelihood opportunities (e.g., on water supplies, illegal hunting, harvesting of vegetation, alien invasions, illegal land settlements);

• Impacts on other protected area values from noise and visual intrusion, arising from both mining and

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secondary activities, including transportation.

The 2020 guidelines for sand mining stress on protecting rivers and habitats of species including turtles and calls for such sensitive areas to be declared as no-mining zones. It also called for using the latest technology for surveillance of illegal mining as well as estimating minable reserves.

A United Nations Environment report has said that, led by China and India, the world is mining sand at unsustainable levels exceeding the replenishment rate and that can have far-reaching social and environmental implications. Unsustainable sand mining practices are rampant in India. Despite a set of guidelines in 2016 to curb the practice, illegal and unsustainable sand mining has continued to be common, spurring the Indian government to take another step toward enforcing rules. The environment ministry has now come out with, Enforcement & Monitoring Guidelines for Sand Mining 2020" to regulate sand mining and check illegal mining.

This comes four years after the Government's Sustainable Sand Management Guidelines 2016, which was unsuccessful in putting an end to rampant illegal sand mining across the country. The latest guidelines suggest the use of technologies like drones with night vision for surveillance of sand mining sites, steps to identify sources of sand, procedures for replenishment of sand, post environmental clearance monitoring of sand mining sites, a procedure for environmental audit of such areas and steps to control the instances of illegal mining.

Among these, the focus on monitoring of sand mines after environment clearance is considerable given that so far it has been an area where the performance of authorities, central or state, is considered very poor.

The need for the latest version of the guidelines was felt after illegal and unsustainable sand mining continued despite the 2016 guidelines and many court cases. Since 2016, the National Green Tribunal, in many of the cases, stressed on the need of regulating sand mining and passed several orders. The court in some cases even expressed concern over the death of officials who tried to stop illegal mining and noted that on the ground level, illegal mining is still going on. The guidelines are thus a result of many such orders by the NGT wherein the tribunal passed directions to control it.

The new guidelines also laid special emphasis on the protection of rivers and species from sand mining as it called for surveys for identifying the stretches with freshwater turtles or turtle nesting zones. "Similarly, stretches shall be identified for other species of significant importance to the river ecosystem. Such stretches with adequate buffer distance shall be declared as no-mining zone and no mining shall be permitted," the guidelines said.

It also called for a survey report in every district for identifying the sand bearing area but also the "mining and no mining zones" considering various environmental and social factors like the distance of the mining area from the protected area, forest, bridges, important structures and habitation. According to the Sand Mining Framework 2018 of the central Government's Ministry of Mines, in India, there is a shortage of sand in the country, similar to the situation in other developed and developing countries. It estimated that the demand of sand in the country is around 700 million tons (in the financial year 2017) and it is increasing at the rate of 6-7 percent annually even as the quantity of natural generation of sand is static.

Due to uncertainties and inadequateness in supply, the selling rate of the material varies significantly leading to black marketing and illegal mining of the mineral. It noted that illegal and uncontrolled extraction of sand has an adverse environmental impact.

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Protect the rivers from illegal sand mining

The main sources of sand in India are considered to be rivers (riverbed and flood plain), lakes and reservoirs, agricultural fields, coastal/marine sand and manufactured sand.

The guidelines spanning over 83 pages focus on identifying sand mining sources, its quantification and feasibility for mining considering various environmental factors like proximity of protected area, wetlands, creeks, forest etc. and presence of important structures, places of archaeological importance, habitation, prohibited area etc.

To protect the rivers from illegal sand mining, the guidelines said that abandoned stream channels on the floodplains should be preferred rather than active channels and their deltas and floodplains.

A kml file has been made to represent "No-mining-Zone" in the district.

7.4 TOTAL POTENTIAL OF MINOR MINERAL IN THE RIVER BED ANNUAL DEPOSITION

The annual deposition of riverbed minerals is shown in the Table given below.

Table No 26: Annual deposition

River Name	Zone	Type of Material	Quantity (weight) in MT (as per 'YY')	60% of Quantity (weight)in MT
Ravi	PB_GDP _RAVI_01 To PB_GDP _RAVI_08	Sand	1151625.08	690975.048
Beas	PB_GDP _BEAS_01 To PB_GDP _BEAS_06	Sand	1801969.93	1081181.958
	TOTAL		**2953595.01**	**1772157.006**

Source: *Table No.25*

**** As de-siltation is not a part of natural phenomenon. So, for the calculation of Annual deposition table de-siltation locations are excluded. It is included in mineral potential table for the district.**

1. Sand bar area recommended for mineral concession in the above table has been calculated as per the Enforcement & Monitoring Guidelines for Sand Mining (EMGSM) 2020.
2. As per guidelines, mining depth has been restricted to 3 meters depth and distance from the bank is ¼th of river width and not be less than 7.5 meters.
3. Also, mining is prohibited up to a distance of 1 kilometer (1 km) from major bridges and highways on both sides, or five times (5x) of the span (x) of a bridge/public civil structure (including water intake points) on up-stream side and ten times (10x) thespan of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

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4. Sand bar deposits acting as potential sites for sand mining along with other aspectsas mentioned above are illustrated in Satellite images in **Annexure VIII.**

7.5 DETAILS OF POTENTIAL SOURCES /SITES OF RIVER BED MATERIAL

Potential sensitive sites for mining near forests, protected areas, habitation, bridges etc., have been avoided. For this, sub-divisional committees were formed which, after the site visits, decided their suitability for mining. The list of mining leases as per the recommendation of the Committee have been defined in the following format given in as **Annexure-V**.

The Sub-Divisional Committee have made recommendations regarding the suitability of all potential mining sites and also recorded the reasons for approving the specific mining leases on the basis of their field inspections. The details regarding cluster and contiguous cluster formation have been provided as in **Annexure-VI**.

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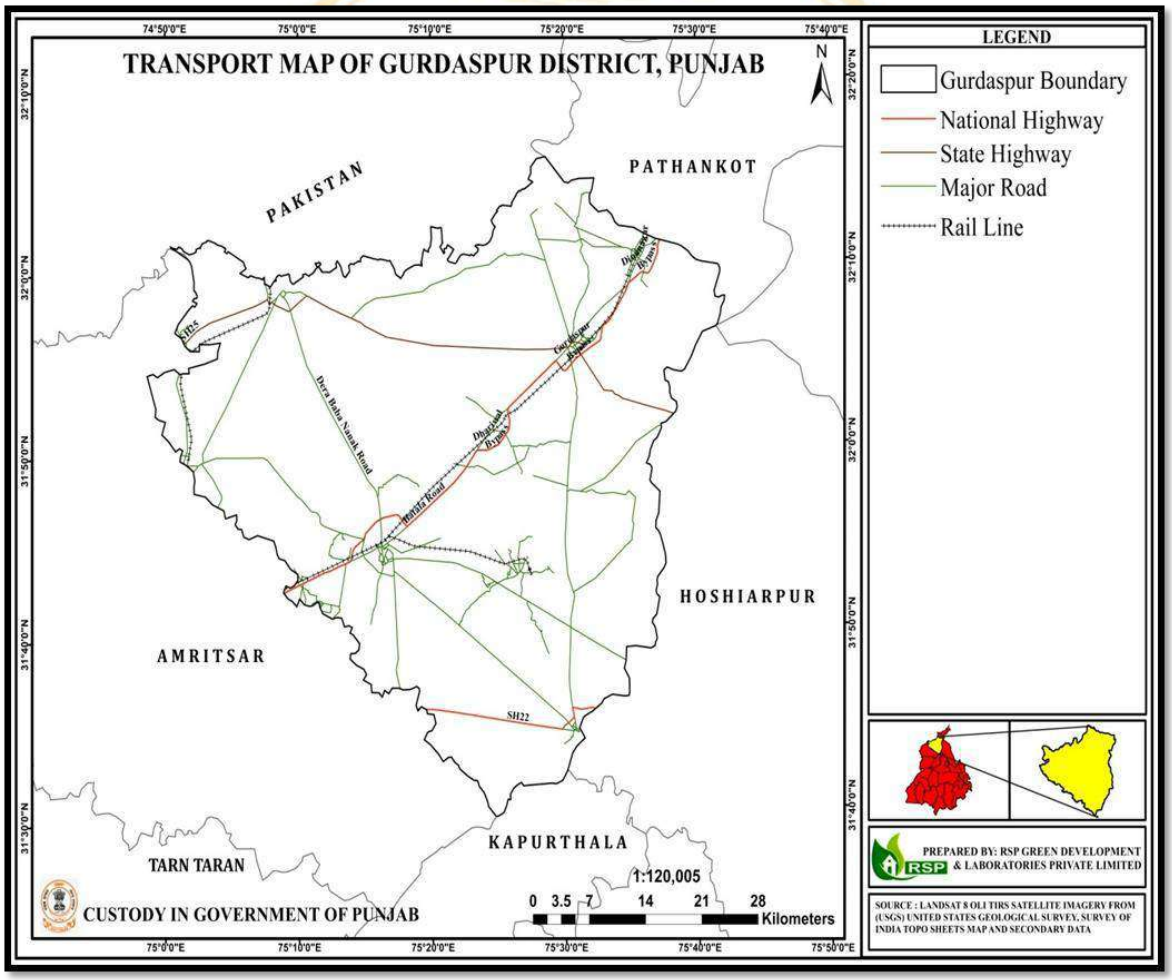
CHAPTER 8: TRANSPORTATION ROUTE PLAN (RAILWAY, ROAD)

8.1 TRANSPORTATION ROUTE PLAN (RAILWAY, ROAD)

NH15 connects Gurdaspur district to Himachal Pradesh in north and nearby districts viz. Hoshiarpur and Amritsar. The railway line connects Gurdaspur to Amritsar and Pathankot. Another diverted railway lines connects Amritsar to Dera Baba Nanak. Gurdaspur is not well connected to other major cities of the country via regular flights. The nearest airport is Sri Guru Ram Dass Jee International Airport in Amritsar at a distance of 66kms.

FIGURE 20: RAILWAY AND ROAD MAP OF THE DISTRICT



8.1 TRANSPORTATION ROUTE FOR THE MINING SITE

Details of Transportation route for the mining sites are given in **Annexure XI**

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CHAPTER 9: REMEDIAL MEASURES TO MITIGATE THE IMPACT OF MINING

9.1 ENVIRONMENTAL SENSITIVITY

The second most exploited natural resource on earth after water is river bed material. River sand is preferred for construction due to its quality. But the unscientific way of mining from river bed leads to alter river channel morphology, physical habitats and food webs. It also increases the velocity of flow in the river which destroy the flow-regime and eventually erodes the river banks. Removal of vegetation and destruction of soil profile destroys habitat above and below the ground and faunal population decrease.

Sand aquifers helps in recharging the water table and sand mining causes the sinking of water tables in the nearby areas.

9.2 SAND MINING IMPACT

1. Sand aquifers helps in recharging the water table and sand mining causes sinking of water tables in the nearby areas. Mining also leads to Air pollution & Noise Pollution in the nearby areas.
2. In-stream mining directly alters the channel geometry and bed elevation. By removingsediment from the channel, in-stream material extraction disrupts the pre-existing balance between sediment supply and transporting capacity, typically inducing incisions upstream and downstream of the extraction site. The resultant incision alters the frequency and pattern of floodplain inundation along with the river courses, lowers valley floor water tables, and frequently leads to the destruction of bridges and other structures.

9.3 REMEDIAL MEASURES

In Sustainable Sand Mining Management Guidelines, 2016, Page No. 73 to 78, it is clearly stated that the relevant conditions for the Environmental Clearance for a specific mining lease, which should be strictly adhered to by all stakeholders, including Project Proponent, Mining Department, Contract labor, other Government Departments and District Administration. Regular monitoring of operational mining sites should be done according to Hon'ble NGT directions and the inspection report should be sent to SEIAA and other stake holders as also uploaded on their websites. Special attention should be given to ensure compliance with the following important conditions:

9.3.1 SUSTAINABLE MINING PRACTICES

1. Without Environmental Clearance, no commercial sand mining is permissible on the basis of approved DSR/Mining Plan by the concerned authority.
2. The depth of mining in riverbed is always less then base flow depth or 3 meters, whichever is less.
3. Mining shall be done in layers to avoid ponding effect in mining site.
4. Haphazard extraction is to be strictly avoided.
5. No mining should be carried out in the designated "No-Mining Zone"/ "Eco Sensitive Zone" / "Restricted Zone".

6. Annual replenishment studies, where ever applicable, must be carried out for the river.
7. Stream / any water channel should not be diverted/blocked for the purpose of sand mining.
8. IT tools as prescribed in the Sustainable Sand Mining Guideline,2016 and Enforcement & Monitoring Guidelines for Sand Mining,2020, should be utilized for monitoring the operational mining block.
9. Restricted sand mining operation has to be carried out for mitigation of noise during mining operation.
10. Transportation of mineral shall be carried out through covered trucks only.
11. Mining site has to be maintained in clean and hygienic conditions at all the times.
12. During rainy season mining practices should be stopped.
13. All mines/quarries are to be properly reclaimed before the final closure of the mine.
14. During mining operation green belt development through plantation is most important for environment safe guard, which should be under supervision of Forest department. Different type of species should be planted near lease periphery to keep environment clean at post mining period through reclamation. Where specific usefulness of land could be decided, a forestation is normally planned through the site could have been considered for better possibilities of land use.
15. There is no very high risk and hazard identification is carried for undesirable events that can leads. During sand mining operation, risk factors, viz. accidents during loading and transportation, inundation/flooding and quick sand conditions, should be minimize. The mining operation are mostly done manually and/or semi-mechanized way.
16. All mining operations will be carried out under the supervision of an experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS. The mining site will be supplied with first aid facilities and all the workers will have unrestricted access to these facilities.

9.3.2 MONITORING THE MINING OF MINERALS AND THEIR TRANSPORTATION

1. Proper check and control of extracted minor minerals is a critically important aspect of the DSR. IT tools as prescribed in the SSMG, 2016 and EMGSM, 2020 are to be utilizedto ensure that no illegal mining takes place and transportation is done in an environmentally safe manner.
2. For each mining lease site, the access should be controlled in such a way that all vehicles carrying minerals from that area are tracked and accounted for.
3. Mining activities should be monitored regularly in order to ensure effective compliance of stipulated EC conditions and of the provisions under the Minor Mineral Concessions Rules framed by the State Govt.

9.3.3 NOISE MANAGEMENT:

1. Noise that produced at the time of mining process should be checked and controlled at source
2. Noise level should be kept within the permissible limits.
3. Restricted sand mining operation has to be carried out between in day time.

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9.3.4 AIR POLLUTION AND DUST MANAGEMENT:

1. To control the air pollution due to loading at mining site suitable measure should be taken.
2. Air pollution due to transportation of mining material should be controlled and water sprinkling should be done regularly.
3. Air pollution arising due to mining activities should be kept within permissible limit.
4. Vehicles carrying minerals shall not be over loaded and have to be covered vehicles. Wheel-washing facility should be installed and used.

9.3.5 BIO-DIVERSITY PROTECTION AND COMPENSATION

1. No mining lease shall be granted in the forest area without forest clearance in accordance with the provisions of the Forest Conservation Act, 1980 and the rules made thereunder.
2. Protection of turtle and bird habitats shall be ensured.
3. Felling of trees near the quarries is prohibited. For mining lease located in proximity to National Parks / Sanctuaries or in Eco-Sensitive Zones of Protected Areas, latest orders dated 03.06.2022 of the Hon'ble Supreme Court in T N Godavarnam case will be meticulously complied with.
4. Spring sources should not be affected due to mining activities. Necessary Protection measures are to be incorporated.
5. No mining shall be done within Wildlife Sanctuary Area.

9.3.6 MANAGEMENT OF INSTABILITY AND EROSION

1. The top soil of the mining area should be utilized properly. If the top soil can't be used at that time, it should be stored separately keeping the view that the bacterial organism should not die and should be spread out in the nearby area.
2. The EC should ensure that adequate steps are taken to check soil erosion and control debris flow etc. by constructing engineering structures.
3. Oversized material should be used to control erosion and movement of sediments.
4. Overhangs should be strictly prohibited to be formed due to mining and mining shall not be allowed in areas where subsidence of rocks is likely to occur due to steep angle of repose of the slope.
5. Minor mineral extraction shall not be allowed to landslide prone areas and extraction shall be avoided during rainy season.
6. Controlled clearance of riparian vegetation to be undertaken.

9.3.7 WASTE MANAGEMENT

1. Cleaning and hygienic activity should be maintained in mining areas.
2. Earmarked places approved by mining plan to be used for waste disposal
3. Rubbish / Debris / Gangue shall not be dumped back in the River / Stream.

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9.3.8 POLLUTION PREVENTION

1. All possible precautions for the protection of environment and control of pollution should be taken by Project Proponent and his labor.
2. All machinery used in operations and transportation must meet the relevant prescribed pollution control standards.

9.3.9 PROTECTION OF INFRASTRUCTURE

1. Mining activities should be prohibited in areas which may endanger roads, bridges and other structures including flood protection works, places of cultural, religious, historical, and archeological importance etc.
2. For carrying out mining in proximity to any bridge or embankment, appropriate safety zone should be worked out on case-to-case basis, taking into account the structural parameters, location aspects and flow rate, and no mining should be carried out in the safety zone so worked out.

9.3.10 BASELINE SURVEYS AND RECLAMATION PLAN ON COMPLETION OF MINING OPERATION

1. All mines/quarries are to be properly reclaimed before the final closure of the mine as per statute.
2. A baseline survey of conditions before commencement of mining operations is to be prepared. This should include relevant cross-section data between two permanent benchmarks set back from the top of bank. The elevations should be referenced on the basis of the established bench marks.
3. To depict the vertical extent of the proposed excavation, mining cross-section data should be plotted over the baseline data.
4. The cross-section of the fully replenished bar should be the same as that of the baseline data.
5. A planimetric map must be prepared showing the aerial extent of the excavation and extent of the riparian buffers.
6. A plantation plan should be prepared by the concerned DFO as prescribed.
7. Proper monitoring plan is to be prepared and implemented.

9.4 RISK ASSESSMENT AND DISASTER MANAGEMENT PLAN

1. Risk assessment involves the assigning of a level of risk to each of the common health and safety hazards at a workplace, followed by the ranking of those hazards.
2. Risk analysis is the systematic study of risks encountered during various stages of mining operations. Risk analysis seek to identify the risks involved in mining operations, to understand how and when they arise, and estimate the impact (financial or otherwise) of adverse outcomes.
3. Most of the sand mining operations in the district are done manually except where semi-mechanized means have been specifically permitted

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9.4.1 IDENTIFICATION OF RISKS DUE TO RIVER SAND MINING

When river bed mining is done on a scientific basis and in compliance with the conditions of the EC, the risk of land degradation is minimized. There will be no Over Burden or waste generation as the sand is exposed in the river bed and is easily extractable manually. There will be minimal stacking of soil or the creation of Over Burden dumps. Since mining is permissible up to maximum depth of 3m below the surface level there is not much chance of slope failure or bench failure in the mines. However, there are some identified risks in the mining activity which are as under:

A. Accident during sand loading and transportation

B. Inundation/ Flooding

C. Quick Sand Condition

9.4.2 MITIGATION MEASURES TO PREVENT ACCIDENT DURING LOADING AND TRANSPORTATION

1. During manual loading the truck should be bought to a lower so that the loading operation is facilitated by the worker.
2. The workers will be provided with gloves and safety shoes during loading.
3. Opening of the side covers of the truck should be done carefully and with prior warning so as to prevent injury to the workers.
4. Mining activities should be done during daylight hour only.
5. The truck will be covered with tarpaulin and to prevent any spillage
6. To avoid danger while reversing the trackless vehicles especially at the embankment and tipping points, all areas for reversing of Lorries should be free of workers as far as possible.
7. All transportation within the main working will be carried out directly under the supervision and control of the management.
8. Overloading should not be permitted and the maximum permissible speed limit should be ensured.
9. Trucks must be maintained regularly and the drivers should have a valid driving license.

9.4.3 MEASURES TO PREVENT ACCIDENTS DURING INUNDATION/FLODING

To minimize the risk of flooding/ inundation following measures will be under taken:

1. Mining activities should be completely stopped during rainy season
2. Proper weather information particularly on non-monsoon rainy days should be kept during the operational period of mines so that precautionary measures can be undertaken.

9.4.4 MEASURES FOR MITIGATION TO QUICKSAND CONDITION

1. Quick sand zone and deep-water zone will be clearly demarcated and all the mine workers will made aware of the location.
2. Mining will do strictly as per the approved mining plan.

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9.4.5 DISASTER MANAGEMENT PLAN

All mining operations will be carried out under the supervision of an experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS. All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, and other laws applicable to mines will be strictly complied with. During heavy rainfall and during the monsoon season the mining operations will be closed. Proper coordination with Irrigation Department should be maintained so that at the time of release of water from any dam upstream of the mining site, suitable warning/information is given in advance. Special attention and requisite precautions shall be taken while working in areas of geological weakness like the existence of slip, fault, etc. The mining site will be supplied with first aid facilities and all the workers will have unrestricted access to these facilities.

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CHAPTER 10: PUBLIC CONSULTATION

10.0 PUBLIC CONSULTATION

"Public Consultation" is very important in the policy development process. It is a regulatory process by which the public's (Stakeholder's) input on matters affecting them is sought. Accordingly, public consultation should encourage stakeholder ownership and buy-in to the policy development process by seeking assistance with data and information collection, analyses and the identification of other persons, businesses, institutes and other organizations that may have valuable data or information.

10.1 PROCEDURE FOR PUBLIC CONSULTATION

Preliminary Draft DSR consisting of list of potential mining zones was uploaded Public domain on dated of public domain 07/10/2022 and 11/01/2023 on website (https://gurdaspur.nic.in/document/potential-sites-of-district-survey-report-of-districtgurdaspur/) Seeking comments/observation/suggestions from the general public/various stakeholders. Press releases for same were given in newspaper. The final list of sand mining areas after the public hearing are given in as a format of **Annexure-V, Annexure VI** and **Annexure VII.**

• No comments and observation were received during this period. Newspaper cuttings were attached in this District Survey Report.

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CHAPTER 11: CONCLUSIONS

11.0 CONCLUSIONS

Sand mining (used here as a generic term that includes mining of any riverine aggregates regardless of particle size) is a global activity that is receiving increasing media attention due to perceived negative environmental and social impacts. As calls grow for stronger regulation of mining, there is a need to understand the scientific evidence to support effective management. This paper summarizes the results of a structured literature review addressing the question, the review found that most investigations have focused on temperate rivers where sand mining occurred historically but has now ceased. Channel incision was the most common physical impact identified; other physical responses, including habitat disturbance, alteration of riparian zones, and changes to downstream sediment transport, were highly variable and dependent on river characteristics. Ecosystem attributes affected included macro invertebrate drift, fish movements, species abundance and community structures, and food web dynamics. Studies often inferred impacts on populations, but supporting data were scarce. Limited evidence suggests that rivers can sustain extraction if volumes (weight) are within the natural sediment load variability. Significantly, the countries and rivers for which there is science-based evidence related to sand mining are not those where extensive sand mining is currently reported. The lack of scientific and systematic studies of sand mining in these countries prevents accurate quantification of mined volumes (weight) or the type, extent, and magnitude of any impacts. Additional research into how sand mining is affecting ecosystem services, impacting biodiversity and particularly threatened species, and how mining impacts interact with other activities or threats is urgently required.

The rapid rise in urbanization and construction of large-scale infrastructure projects are driving increasing demands for construction materials globally. United Nations Environment Programme (UNEP; 2014) estimated that between 32 and 50 billion tonnes of sand and gravel are extracted globally each year with demand increasing, especially in developing countries (Schandl et al., 2016).

Rivers are a major source of sand and gravel for numerous reasons: cities tend to be located near rivers so transport costs are low; river energy grinds rocks into gravels and sands, thus eliminating the cost of mining, grinding, and sorting rocks; and the material produced by rivers tends to consist of resilient minerals of angular shape that are preferred for construction (whereas wind-blown deposits in deserts are rounder and less suitable). Here, we use “sand mining” as a generic term to embrace extraction of riverine aggregates regardless of particle size. Sand mining activities are one of many recognized pressures affecting riverine ecosystems, where biodiversity is already in rapid decline (World Wildlife Fund, 2018). Increasingly, there are media reports about the negative environmental and social impacts of sand mining, and as calls grow for stronger regulation of mining (Schandl et al., 2016), there is a need to understand the scientific evidence of mining impacts to underpin management.

Impacts of sand mining on rivers may be direct or indirect. Direct impacts are those in which the extraction of material is directly responsible for the ecosystem impact, such as due to the removal of flood plains habitat. Indirect impacts are related to ecosystem changes that are propagated through the system due to physical changes in the river system resulting from sand extraction. For example, the removal of material from a river can alter the channel, river hydraulics, or sediment budget which in turn can alter the distribution of habitats and ecosystem functioning. These types of impacts can be difficult to attribute to sand mining, as they may require long time frames to emerge, and other interventions can result in similar changes. The situation is further complicated by the existence of geomorphic thresholds in river systems (Schumm, 1979). Alterations linked to removal of sand from

rivers may not be gradual and/or linear, and only limited changes may be observed for an extended period, but once a threshold is reached, change may become rapid and irreversible. Whether the impacts of sand mining are positive, neutral, or negative depends on the situation and perceptions of different stakeholders.

During the preparation of the present report prominent rivers/ streams has been studied in detail. It is suggested that the auctions of quarries be done regularly to meet out the local demand subject to the approval from the joint Inspection Committee as per Punjab Minor Mineral Rules 2013.These mineral concessions shall also reduce demand load and will be helpful to minimize illegal extraction of minerals, failure of which may result in to illegal mining at odd hours and shall be haphazard and more detrimental to the local ecology. Irrespective of it following geo-scientific considerations are also suggested to be taken into account during the river bed mining in a particular area:

1. Abandoned stream channels or terrace and inactive floodplains may be preferred rather than active channels and their deltas and floodplains.

2. Stream should not be diverted to form inactive channel.

3. Mining below subterranean water level should be avoided as a safeguard against environmental contamination and over exploitation of resources.

4. Mining area should be demarcated on the ground with Pucca pillars so as to avoid illegal unscientific mining.

Further, to assess the minor mineral resources other than sand a thorough and detailed exploration has been carried out. Regarding, sand mining a proper replenishment study pertaining to pre- monsoon and post monsoon data has been conducted.

11.1 ASSISTANCE

For any quarry, you may contact to-

a) Mr. Pinaki Roy, Managing Director, M/s. RSP Green Development and Laboratories., Howrah, West Bengal, Mobile No:9830585501/9830808501

b) Smt. Mousumi Chakraborty, Director, M/s. RSP Green Development and Laboratories., Howrah, West Bengal, Mobile No: 9830285501/8777074252

c) Mr. Arpan Bhattacharjee, Project Manager, M/s. RSP Green Development and Laboratories., Howrah, West Bengal, MobileNo:9163516033

d) Mr. Anil Mahajan, Executive Engineer-cum-District Mining Officer, District Gurdaspur, Mobile No:9459829046

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CHAPTER 12: EXECUTIVE SUMMARY

The purpose of District Survey Report (DSR) is to identify the mining potential areas where mining can be allowed; and to distinguish areas where mining will not be allowed due to proximity to infrastructural structures and installations, areas of erosion, areas of environmental sensitivities etc. The DSR would also help to estimate the annual rate of replenishment wherever applicable.

The district survey report on GURDASPUR district is prepared by **SUBDIVISIONAL COMMITTEE OF GURDASPUR DISTRICT** and assisted by RSP GREEN DEVELOPMENT AND LABORATORIES PVT. LTD., Howrah, West Bengal.

Methodology for the preparation of DSR:

For the preparation of DSR, there are two types of data is being used – Field Data and Secondary data.

Secondary data was collected from the different district departments like District Administration, Forest department, Irrigation department, Revenue department, Mining department etc. All the data has been reviewed, selected, and collated to prepare an authentic and reliable District Survey Report. Besides this, procedure as defined in the MoEF&CC Notification dated 25.07.2018 and as per the model DSR has been followed for preparing the various chapters of this District Survey Report.

Field data was collected two times during pre-monsoon and post-monsoon for determining the replenishment rate and identification of minor mineral potential sites.

Chapters included in District Survey Report, GURDASPUR:

The district survey report of GURDASPUR district includes Brief profile of the district, Land Use and Land Pattern, climate, rainfall, cropping pattern, drainage system, geology, soil and rock pattern, mineral wealth, revenue for the last three years, no mining zone, eco sensitive zone, remedial measures to mitigate the impact of mining, various maps and tables, etc. The main objective of DSR is to find minor mineral potential zones which helps in increasing district's revenue while taking into consideration the sustainability of sites.

The DSR of GURDASPUR include minor mineral riverbed potential zones (Page no. **63 & 64**) and include a localized replenishment study which is discussed in chapter 7 (Page no. **56 to 68**). The consolidated detail of riverbed/desilting/agriculture sites is attached at Annexure - A.

General Information of the district:

GURDASPUR district lies between north latitude 31^0-36' and 32^0-34' and east longitude 74^0-56' and 75^0-24'. The district is divided into five tehsils, Gurdaspur, Batala, Dera Baba Nanak, Dinanagar & Kalanaur, and six sub-tehsils, Dhariwal, Fategarhchurian, Kahnuwan, Naushehra Majha Singh, Qadian & Shri Hargobindpur. Ten development blocks make up the district: Batala, Dera Baba Nanak, Dhariwal, Dinanagar, Dorangla, Fategarhchurian, Gurdaspur, Kahnuwan, Kalanaur& Shri Hargobindpur.

The Deputy Commissioner has overall charge of the district, and is the hub of the district administration. For administrative purposes, the Deputy Commissioner, GURDASPUR, has to play

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triple role as Deputy Commissioner, as District Collector and as District Magistrate. In his/her multifarious duties, the Deputy Commissioner is assisted by the following officers for carrying out day to day work in various fields :-

1. Additional Deputy Commissioner
2. Assistant Commissioner (General)
3. Assistant Commissioner (Grievances)
4. Executive Magistrate
5. District Revenue Officer
6. District Development and Panchayat Officer
7. Sub Divisional Magistrates
8. Civil Defense Officer
9. Urban Ceiling Officer

The Deputy Commissioner is the Chief Revenue Officer as District Collector and is responsible for collection of Revenue and other Govt. dues recoverable as arrears of Land Revenue. He/She deals with the Natural Calamities like draught, unseasonal rains, hailstorms, floods and fire etc.

The following Sub-division Level Committees have been constituted in district GURDASPUR for the preparation of DSR.

SUB DIVISION GURDASPUR	**SUB DIVISION BATALA**	**SUB DIVISION DERA BABA NANAK**	**SUB DIVISION DINANAGAR**	**SUB DIVISION KALANOUR**
Sub-Division Magistrate, Gurdaspur - Chairperson	Sub-Division Magistrate, Batala - Chairperson	Sub-Division Magistrate, Dera Baba Nanak- Chairperson	Sub-Division Magistrate, Dinanagar - Chairperson	Sub-Division Magistrate, Kalanour - Chairperson
Environment Engineer PPCB, Batala - Member	Environment Engineer PPCB, Batala - Member	Environment Engineer PPCB, Batala - Member	Environment Engineer PPCB, Batala - Member	Environment Engineer PPCB, Batala - Member
Executive Engineer, Irrigation, Gurdaspur - Member	Executive Engineer, Irrigation, Madhopur Division , Gurdaspur - Member	Executive Engineer, Irrigation, Madhopur Division , Gurdaspur - Member	Executive Engineer, Irrigation, Gurdaspur - Member	Executive Engineer, Irrigation, Madhopur Division , Gurdaspur - Member
Executive Engineer, Building and Roads, Gurdaspur –	Executive Engineer, Building and Roads, Batala - Member	Executive Engineer, Building and Roads, Gurdaspur - Member	Executive Engineer, Building and Roads, Gurdaspur -	Executive Engineer, Building and Roads, Gurdaspur -

Member			Member	Member
Executive Engineer, Drainage, Gurdaspur - Member	Executive Engineer, Drainage, Gurdaspur - Member	Executive Engineer, Drainage, Gurdaspur - Member	Executive Engineer, Drainage, Gurdaspur - Member	Executive Engineer, Drainage, Gurdaspur - Member
Divisional Forest Officer, Gurdaspur - Member	Divisional Forest Officer, Gurdaspur - Member	Divisional Forest Officer, Gurdaspur - Member	Divisional Forest Officer, Gurdaspur - Member	Divisional Forest Officer, Gurdaspur - Member
Chief Agricultural Officer, Gurdaspur - Member	Chief Agricultural Officer, Gurdaspur - Member	Chief Agricultural Officer, Gurdaspur - Member	Chief Agricultural Officer, Gurdaspur - Member	Chief Agricultural Officer, Gurdaspur - Member
Block Development and Panchayat Officer, Gurdaspur – Member	Block Development and Panchayat Officer, Batala – Member	Block Development and Panchayat Officer, Dera Baba Nanak– Member	Block Development and Panchayat Officer, Dinanagar– Member	Block Development and Panchayat Officer, Kalanour– Member
District Mining Officer, Gurdaspur – Member Secretary	District Mining Officer, Gurdaspur – Member Secretary	District Mining Officer, Gurdaspur – Member Secretary	District Mining Officer, Gurdaspur – Member Secretary	District Mining Officer, Gurdaspur – Member Secretary

Note: "No potential mining sites identified in Sub Division Kalanaur. Hence no proceedings of meeting of Sub Division Level Committee Kalanaur are attached."

Methodology used to identify potential riverbed:

- With the help of recent satellite imagery (United State Geographical Survey, Sentinel – 2 Satellite Image, Resolution – 10 m, Date – Oct 2022), river stretch for the district was identified.
- Field survey along with DGPS was conducted to identify the riverbed potential zone coordinate and depth of deposition during pre- and post-monsoon.
- After that the concerned sub-divisional committee visit was conducted for finalizing the deposition zones/pockets.
- With the comment /remarks, all the finalized zones/pockets/blocks were included in DSR and put on public Domain for the period of one month on dated 07-OCTOBER-2022, and later some sites were added and draft and again put in public domain on 11-JANUARY-2023.

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- After getting comments on Public domain, all the potential sites were kept in DSR for the mining purpose.

N.B. No comments and observation were received during this period. Newspaper cuttings were attached in this District Survey Report.

Potential riverbed and agriculture mining site for the district *(As per Annexure-V)*:

Altogether **13** riverbed mining sites are finalized for the district GURDASPUR and these 13 riverbed sites cover **201.22** Ha area. The total minable mineral quantity for the district is approximately **4,026,885.10MT**.

There is 2 patta land for proposed agriculture mining, having an area of **2.79 Ha** and total minable reserve is **66,158MT.**

BEAS RIVER:

The Himalayas are the youngest of mountain ranges that manifests landforms like river terraces, debris fans, migrated or capture streams, active faults, alluvial fans, which are the result of complex geological, geomorphological, hydrological, and tectonic process actively engaged in landform evolution and modification (Khan et al., 2021). Traces of these morpho-tectonic processes can be observed in basin geometry, drainage network patterns, and relief configuration (Molin et al., 2004; Necea et al., 2005). Many studies (Agarwal et al., 2009, 2008; Bali et al., 2012, 2011; Bull & McFadden, 1977; Chorley et al., 1985; Clarke, 1966; Keller, 1986; Strahler, 1957) have made use of these morpho-tectonic parameters to address the more significant question, i.e., landform evolution. Beas River originates from Beas Kund and forms a major left-bank tributary of the Indus river system in Northwestern Himalaya. The whole catchment of the river Beas (20,303 sq.km.) extends over the Higher Himalaya, Lesser Himalaya, and Shiwalik Himalaya; therefore, the river experiences a wide range of topography, climate, and vegetation from its source to the sink. The total length of the Beas River is 460 km, which is bounded within 31° 15′ N to 32° 30′ N latitudes and 75° 30′ E to 78° 0′ E longitudes.

The river follows the path through district of Mandi and further goes to district of Kangra at Sanghol that is located at a height of 1920 feet. The river then divides into three different tributaries at Reh located in Kangra that later merges at a height of 1000 feet in Mirthal. Once reaching Shivalik hills near Hoshiarpur, the river changes its course to a sharp northern turn and passes through the Kangra district. Later, it takes another sharp curve at foot of Shivalik hills and turns the path to southern direction while extricating Gurdaspur and Hoshiarpur districts. As it reaches the Jalandhar district, it separates the districts of Amritsar and Kapurthala. The Beas River ends before merging into Sutlej River taking the course through the southern west route of district Kapurthala in the state of Punjab traversing the total path of 290 miles. Few of the major tributaries that this river forms through the entire course are Bain, Luni, Banganga and Uhal.

The River meanders down from the Himalayan foothills to the Harike Headworks, where its course is diverted into a number of channels. The River is dotted with islands, sand bars and braided channels creating a complex environment supporting substantial biodiversity. More than 500 species of birds are documented along this stretch, along with more than 90 fish species. In September 2019, the

reserve was declared a Ramsar site under the aegis of the 1971 Ramsar Convention on Wetlands of International Importance.

The presence of bhulan, as the dolphin is locally known, and the reintroduction of the long-snouted gharial, also critically endangered, into the Beas led the Punjab government to declare the 185-km Beas stretch a conservation reserve in 2017 — the first river in India to be accorded this status. In September 2019, the reserve was declared a Ramsar site under the aegis of the 1971 Ramsar Convention on Wetlands of International Importance.

Note: From Department of Forests and Wildlife Preservation (Forest Branch), Government of Punjab, notification no. 34/13/2017-Ft-5/1052756/1 Chandigarh, date 29/08/2017, it had been notified as conservation of Beas in which written as "River Beas with all its water channels from 52 Head Talwara to Harike Barrage including all Government areas in River Beas Conservation."

Methodology adopted to calculate Replenishment Rate for the District, GURDASPUR:

Replenishment Rate is the rate at which sediment is transported into the river channel, which is under examination or subjected to sand extraction. This volume (weight) is often considered as sustainable yield of that river. Estimation of sediment discharge through stream bed and its residence period (temporary deposition) is one of the most difficult tasks in sediment budgeting as it requires sophisticated instruments (BTMA, DNS, USD-49, pump samplers etc.) and establishment of many gauging stations. Many variables influence sediment yield from a drainage basin. They include climate, drainage area, soils, geology, topography, vegetation and land use. The effect of any of these variables may vary greatly from one geographic location to another, and the relative importance of controlling factors often varies within a given land resource area. It is axiomatic that during high flow period, coarser sediment which is otherwise moved by siltation (i.e., partially suspension and partially bed load) will completely be in suspension in the overlying waters. The best way for sediment discharge computation is to collect and analyze water samples from a river reach where the entire particles come into suspension. It can be assumed that the Bajri and other coarser sediments in suspension would be deposited mainly in the river segment. The replenishment rate approach has the virtue of scaling extraction to the river load in a general way, but bed load transport can be notoriously variable from year to year. Thus, this approach is probably better if permitted extraction rates are based on new deposition that year rather than on long-term average bed load yields.

There are many sediment transport equations which are suitable for use in the prediction of the replenishment rate of rivers/ watershed. Some of the famous sediment transport equations are: -

1. Dandy – Bolton Equation

2. Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt (1977)

The district GURDASPUR has mainly two rivers having potential sites viz. Ravi and Beas Salient features of Ravi River and Beas River is as follow:

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Sl. No.	Name of the River	Catchment Area (sq.km.)
1.	Ravi	783.38
2.	Beas	362.95

❖ DANDY-BOLTON EQUATION APPLICATION FOR THE DISTRICT:

Dandy Bolton equation is commonly used to calculate the sedimentation yield. For specific location variability often occurs due to local factors. However, this equation gives rough estimation of mean sedimentation yield. There are two equations i.e. for runoff less 2 inches & for runoff more than 2 inches.

The average annual rainfall of GURDASPUR district is approximately 1113mm (2017-2021). Total run off which will contribute sediment yield has been considered as 75% of total rainfall i.e.834.75 mm.

The computations for total annual suspended and bed load sediment yield are given below.

Sediment Yield for runoff less than 2 inches, S=1280 Q 0.26[1.43-0.26 log (A)]

For, runoff more than 2 inches, S=1965 e-0.055Q [1.43-0.26log (A)]

<table>
<tr><th>SL.NO.</th><th colspan="2">FACTORS</th><th>Probable Replenishment</th></tr>
<tr><td rowspan="4">1.</td><td>RIVER</td><td>RAVI</td><td rowspan="3"></td></tr>
<tr><td>CATCHMENT AREA</td><td>783.38 sq.km.</td></tr>
<tr><td>Average Annual Runoff</td><td>834.75mm</td></tr>
<tr><td colspan="2">Sediment Yield Formula:
For Q < 2 in: S = 1280 $Q^{0.46}$[1.43 - 0.26 log(A)]
For Q > 2 in: S = 1958×$e^{(-0.055Q)}$ ×[1.43 - 0.26 log(A)]
Here:
Q (in) = Mean Annual run off = 834.75 mm
A(mi2) = Catchment area = 783.38 Sq.km

Source: - Calculation of sediment yield by the Dandy- Bolton formula-@ponce.sdsu.edu</td><td>Stream or basin: Ravi

Sediment yield = 97.74 M. tons/ km2/yr

Sediment yield = 76568.26 M. tons/yr</td></tr>
<tr><td colspan="4">Conclusion: The area 783.38 sq. Km. represents the catchment area of the Ravi River, Thus, about 69467.62M. Tons/year sediment will be re-deposited every year in the catchment area.</td></tr>
</table>

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SL.NO.	FACTORS		Probable Replenishment
2.	**RIVER**	BEAS	
	CATCHMENT AREA	362.95sq.km.	
	Average Annual Runoff	834.75mm	
	Sediment Yield Formula: For Q < 2 in: $S = 1280\ Q^{0.46}[1.43 - 0.26 \log(A)]$ For Q > 2 in: $S = 1958 \times e^{(-0.055Q)} \times [1.43 - 0.26 \log(A)]$ Here: Q (in) = Mean Annual run off = 834.75 mm A(mi2) = Catchment area = 362.95Sq.km *Source: - Calculation of sediment yield by the Dandy- Bolton formula-@ponce.sdsu.edu*		Stream or basin: Beas Sediment yield = **108.56** M. tons/km^2/yr Sediment yield = **39400.81** M. tons/yr
Conclusion: The area 362.95sq. Km. represents the catchment area of the Beas River, Thus, about M. tons/year sediment will be re-deposited every year in the catchment area.			

All the above-mentioned hypothetical formulas have some limitations. Dandy - Bolton may provide a quick, rough approximation of mean sediment yields on a regional basis for preliminary watershed planning but it does not differentiate in basin wide smaller streams and their characteristics. MUSLE includes only one type of sediment yield (sheet and rill Erosion).

It is recommended that the lessee should study for continuous two - three year and will submit the actual replenishment to the MOEF & CC.

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Annexure -A

Source	No. of sites	Area (Ha)	Estimated Total reserve (lakh tons with 2 decimals Pre – Monsoon)	Estimated Total reserve (lakh tons with 2 decimals Post – Monsoon)	Remarks
River bed	13	201.22	38.31	67.11	
Agriculture land, pattas etc.	2	2.79	1.10	1.10	
Desilting sites (ponds, lakes, dams etc.)	2	38.49	–	–	
M-sand	9	–	10.36	–	
Total	**26**	**242.50**	**49.77**	**68.21**	
Cluster	01	50.59	10	17.14	
Source: *Field Survey and DGPS data and Annexure V*					

N.B. The area mentioned in the above said table is excluding "No Mining Zone" area.

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ANNEXURE – I

- **Details of Sand / M –Sand Source**

  a) Rivers,

  b) De-siltation location: (Lakes/Ponds/Dams etc)

  c) Patta Lands/Khatedari Land

  d) M-Sand Plants

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DISTRICT SURVEY REPORT OF DISTRICT GURDASPUR, PUNJAB

a) Rivers:

River Name/ M-Sand plant	Total stretch of River (in Km)	Type Of River
Ravi	51	Perennial
Beas	61.5	Perennial
		Source: *District Mining Office, Gurdaspur*

b) List of De-siltation location (Lake, Pond, Dams, and River etc.):

Name	Maintain/Controlled by Sate Govt./PSU etc.	Location		District	Tehsil	Village	Size (Ha)
		Latitude	Longitude				
PB_GDP_RAVI_DESIL_01	Sate Govt.	32° 1'58.15"N 32° 2'12.37"N 32° 2'13.81"N 32° 2'14.54"N 32° 2'13.33"N 32° 2'11.28"N 32° 2'3.67"N	74°55'40.18"E 74°55'42.63"E 74°55'40.45"E 74°55'36.69"E 74°55'32.27"E 74°55'25.85"E 74°55'24.65"E	Gurdaspur	Dera Baba Nanak	Mansur	16.70
PB_GDP_RAVI_DESIL_02	Sate Govt.	32° 2'0.00"N 32° 1'59.08"N 32° 1'59.04"N 32° 1'58.09"N 32° 1'58.28"N 32° 1'59.09"N 32° 2'1.45"N 32° 2'4.55"N 32° 2'7.99"N 32° 2'10.10"N 32° 2'10.73"N 32° 2'10.79"N 32° 2'9.83"N 32° 2'9.83"N 32° 2'11.50"N 32° 2'12.47"N	74°55'42.77"E 74°55'45.16"E 74°55'47.34"E 74°55'55.81"E 74°55'58.49"E 74°56'2.87"E 74°56'5.25"E 74°56'7.11"E 74°56'5.98"E 74°56'3.88"E 74°56'1.52"E 74°55'58.54"E 74°55'54.46"E 74°55'53.11"E 74°55'48.57"E 74°55'44.13"E	Gurdaspur	Dera Baba Nanak	Mansur	21.79
TOTAL							**38.49**
							Source: *District Mining Office, Gurdaspur and field survey data*

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c) List of Patta Lands / Khatedari land:

Sl No.	Owner	Area (HA)	District	Tehsil	Village	Khasra No.	Agriculture Land (Yes/No)
1	Sarbjeet Kaur (Overlap with PB_GDP _RAVI_03)	4.8	Gurdaspur	Dinanagar	Chak ram sahai	11//16(8-0),17(8-0),24(8-0),25(8-0), 12//18(8-0), 19(9-0), 20(8-0), 2013//20(5-19),21(8-0), 22(5-16), 23(8-0),24(8-0),25(8-0), 14//10/2(6-18),11(8-0),19(8-0), 20(8-0),21(8-0), 22(8-0), 23(8-0), 24(8-0),25 (8-0), 15//16/1(2-12), 16/2(5-4), 21(8-0), 25/2(7-16) , 16//20(6-18),21(5-2), 18//1(8-0), 2(8-0),3/1(6-8),9(8-0),19//4/2(5-0), 6(8-0), 7/1(5-0), 20//1(8-0),2(8-0), 3(8-0),21//4(8-0),5(8-0), 22//4(8-0),5/1(4-0), 5/2(4-0)	Yes
2	Manpreet Singh (Overlap with PB_GDP _RAVI_02 & 03)	8.12	Gurdaspur	Dinanagar	Chak ram sahai	11//16(8-0),17(8-0),24(8-0),25(8-0), 12//18(8-0), 19(9-0), 20(8-0), 2013//20(5-19),21(8-0),22(5-16), 23(8-0),24(8-0), 25(8-0), 14//10/2(6-18),11(8-0),19(8-0), 20(8-0),21(8-0), 22(8-0),23(8-0), 24(8-0),25 (8-0), 15//16/1(2-12),16/2(5-4), 21(8-0), 25/2(7-16) , 16//20(6-18),21(5-2), 18//1(8-0),2(8-0), 3/1(6-8),9(8-0) , 19//4/2(5-0), 6(8-0), 7/1(5-0), 20//1(8-0), 2(8-0),3(8-0), 21//4(8-0),5(8-0), 22//4(8-0),5/1(4-0), 5/2(4-0)	Yes
3	Shivbeer Singh (Not Recommended)	1.56	Gurdaspur	Dinanagar	Marara	3//6/1(3-3) 6/2(2-4) 8(7-0) 9(7-2) 12/1(2-19 13/1(3-2) 15/1/1/1(0-16), 4//9(3/7) 1-(4-11) 11(8-0) 12/1(4-16), 5//13(6-10) 17(8-9) 18(8-0) 23/2(1-11), 8//26(9-17)	Yes

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4	Sarbjeet Kaur (Overlap with PB_GDP _RAVI_05)	3.58	Gurdaspur	Dinanagar	Toor	35//4/2(4-16), 35//5/1(1-16), 35//7/1(4-16), 35//14/2(1-12) 35//14/3(3-4) 35//15/2(4-4), 23//16/2(4-4) 23//17/2(3-1) 23//24/2(3-12) , 23//25(7-4) 23//24/3(1-4), 24//3(8-0) 4/1(4-0) 4/2(4-0) 5(8-0) 7(8-0), 8//26(9-17)	Yes
5	Manpreet Singh (Overlap with PB_GDP _RAVI_06)	10.12	Gurdaspur	Dinanagar	Raji Beli	2//12/3(1-16) 18/4(0-9) 19/1(3-8) 22/2(3-8) 23(8-0), 6//5(5-10) 15/2(6-0) 16/1(7-16) 17/2(7-2) 18(7-12) 23(5-11) 24(7-11) 25(7-11), 5//1/1(2-18) 3/1(7-5) 4/1(6-4) 7/3(6-4) 8/1(4-0) 12(5-16) 13(7-6) 14/1(2-0) 14/2(1-16) 14/3(4-4) 15/1(2-8) 16/4(2-8) 17(5-16) 19(8-0) 20/2(6-9) 21/1(3-8) 25/1(0-11), 7//5/1(4-4) 5/2(3-16) 6)8-0) 15(8-0) 16(8-0) 25/1(5/16) 25/2(0-0), 8//1/1, 8//5/2, 8//10/3, 8//11,15,20, 21, 9//1,10, 10//5,6, 2//19/1, 2//22/2, 2//23, 5//1/1, 5//3/1, 5//4/1,5//7/3, 5//8/1, 5//12, 5//14/3, 5//15/1, 5//16/4, 5//17, 5//19, 5//20/2, 5//25/1, 6//5, 8//1/1(3-12) 5/2(2-17) 6(7-2) 7/1(3-16) 7/2(3-1), 8(8-0) 10/3(3-12) 11(7-9) 13(8-0) 14(8-0) 15(6-14) 20(8-0) 21(8-0) 9//1(8-0) 10(5-2) , 10// 5(0-6) 6(0-9)	Yes
6	Salvinder Kaur	1.6	Gurdaspur	Dinanagar	Marara	2//15/1(3-7), 3//10(6-18), 3//11/1(3-7), 2//7(3-16), 2//12(7-6), 2//14(7-2), 4//16/2(3-15), 2//19/2/1, 16//13/2, 2//19/2/2(1-13)	Yes
7	Rajwant Kaur	1.19	Gurdaspur	Dinanagar	Mamka	8R/13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0) , 18(8-0), 19(8-0), 20(2-18), 21(4-6), 22(8-0), 23(8-0), 24(8-0), 25(8-0), 9R/ 9(8-0), 11(8-0), 20(8-0)	Yes

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8	Balbir Singh (Overlap with PB_GDP _RAVI_06)	0.44	Gurdaspur	Dinanagar	Raji beli	7R/7/1(6-4), 14/2(6-4), 17/1(0-16), 17/2(5-12), 24/2(3-6), 6R/29/1(0-6)	Yes
9	Rakesh Kumar (Overlap with PB_GDP _RAVI_05)	1.2	Gurdaspur	Dinanagar	Toor	24R/23 (7-7) 24R/13/ 16(8-0) 17/1(1-16) 17/1(1-16) 17/2(5-4) 18(5-4) 18(7-11) 19/1(0-15) 19/2(0-16) 20/1(1/11) 24/1(2-15) , 25R/20/2(8-4)	Yes
10	Gurnam Singh (Overlap with PB_GDP _RAVI_06)	0.63	Gurdaspur	Dinanagar	Raji beli	7R/3/4(0-12) 4(8-0) 13(4-16) 14/1(1-14) 17/3(0-13),18/1(2-19)	Yes
11	Akash Narang (Overlap with PB_GDP _RAVI_04 & 05)	6.63	Gurdaspur	Dinanagar	Toor	33/17/1(7-0), 25R/23/3(4-1), 24(7-7), 25/1(2-4), 25/2(5-3), 26R/21(7-7), 32R/1(8-0), 10(2-4), 11/2(5-16), 33R/3/2(4-12), 4(8-0), 5(8-0), 6/2(2-18), 7(8-0), 8/1(4-12), 13/2(4-12), 33R/14(8-0), 15(8-0), 16/1(1-12), 16/2(6-8), 17/2(1-0), 32R/22/1(2-0), 33R/6/1 of total 129 kanal 19 marla	Yes
12	Piyush Narang (Overlap with PB_GDP _RAVI_04 & 05)	2.23	Gurdaspur	Dinanagar	Toor	24R/19/3 (5-16), 24R/22(8-0), 34R/2/2(3-0), 9/1(5-4), 12/1(4-0), 19(8-0), 22(3-13), 143(0-2), 34R/9/2(2-16), 12/2(0-13), 12/4(2-0) of total 43 kanal 4 marla	Yes
13	Jagdev Singh, Ashwani Kumar, Joginder Singh (Not Recommended)	5.4	Gurdaspur	Dinanagar	Chechian Chhaurian	29//7(8-0), 19//23/2/2/1 (1-11) , 29//4 (8), 29//14/1 (0-19), 28//16 , 28//17 (8-0), 29//19 (8-0), 29//20 (8-0), 28//25 (8-0), 29//18(8-0), 19//17(8-0), 19//18 (8-0), 19//19/2 (4-13), 19//23/2/2(1-12), 19//24(8-0), 19//25 (8-0), 29//14/1/1/1(3-15), 32//16(7-12)	Yes
14	Jagdev Singh (Not Recommended)	3.048	Gurdaspur	Dinanagar	Fakarpur	3//7(7-19), 3//8(7-7), 3//9 (7-16), 3//10/1(1-12), 3//11/2 (1-12), 3//12,(8-0), 3//13(8-0), 3//14(8-	Yes

						14), 3//17(7-9)	
15	Balbir Kaur W/O Satnam Singh (Overlap with PB_GDP _RAVI_04)	2.24	Gurdaspur	Dinanagar	Toor	151(0-2), 27//21(8-13), 27//22/1(2-3), 31//1(8-0) 31//2(7-16), 31//10(8-0), 32//5/2(3-0), 32//6/1(3-0).	Yes
16	Harbhajan Kaur W/o Kehar Singh (Not Recommended)	1.62	Gurdaspur	Dinanagar	Sidhpur	33//16(7-8),17(8-0),18(8-0),23(8-0),24(8-0),25/1(6-8)	Yes
17	Sukhdeep Singh S/o Parshan Singh, Gurjeet Singh s/o Jankar Singh, (Not Recommended)	1.42	Gurdaspur	Dinanagar	Sidhpur	17//4(8-0), 7(8-0), 11(6-12), 12(7-2), 13(7-2), 14/1(2-13), 6//24(5-16), 17//8(8-0), 9(7-12), 10(8-0)	Yes
18	Balraj Singh (Overlap with PB_GDP _RAVI_07)	0.6	Gurdaspur	Dera Baba Nanak	Gunia	12/15/1, 15//4/2, 15//6/1, 15//7/1, 41//1, 12//6, 27//8, 15//5	Yes
19	Karnail Singh (Overlap with PB_GDP _RAVI_07)	0.8	Gurdaspur	Dera Baba Nanak	Gunia	11//12/5/1, 23//6/1, 23//14,15,16,17,24, 41//9, 2//6,15,16, 3//10,11,20, 16//25/1, 17//21/2, 22//10/3	Yes
20	Karnail Singh (Overlap with PB_GDP _RAVI_07)	2.44	Gurdaspur	Dera Baba Nanak	Gunia	11//16, 11//17,11//18/1, 11//19/2, 11//20, 12//15/2, 12//16, 20//13, 20//13, 20//18/2	Yes
21	Tarsem Singh (Overlap with PB_GDP _RAVI_07)	0.65	Gurdaspur	Dera Baba Nanak	Gunia	11/25, 41//5, 63, 10//20/2, 10/21/1, 11//24/2.15//25/4, 24//4, 24//5, 7//21/1, 10//12/2, 18//5, 19//1, 20//23/2, 20//18/1	Yes
22	Pritam Singh (Overlap with PB_GDP _RAVI_07)	0.37	Gurdaspur	Dera Baba Nanak	Gunia	11//4/2/2, 11//7/1, 11//14/2, 21//1/2, 41//61, 32//4/1, 32//5/1/1	Yes
23	Karnail Singh (Overlap with PB_GDP	0.8	Gurdaspur	Dera Baba Nanak	Gunia	11R/16-17	Yes

	_RAVI_07)						
24	Satpal Singh (Not Recommended)	1.73	Gurdaspur	Batala	Bhol	604(8-0), 605(8-0), 608(8-0) of total 24-0 Kanal, 606(8-0)	Yes
25	Mohan Singh (Overlap with PB_GDP _BEAS_04)	1.92	Gurdaspur	Batala	Rampur	15//1/2(0-1), 15//2/3(2-5), 15//3(0-7), 15//7/1(1-9), 15//8/1(2-2) 15//14/1(1-1) 15//15/1(2-8) , 15//16/1(0-2) of total 10-15 marla out of whoch 8-6 marla of 15//1/4(4-12) , 15//2/1(0-10), 15//8/3/(2-4) , 15//9/3(2-15), 15//10/1(1-15), 15//12/5(0-0), 15//13/2(3-5), 15//14/3(0-7), 15//16/3(0-7), 15//16/3(4-7), 15//17/1(0-18) 16//5/1(2-13) 14//22/3(4-0), 14//23/3(0-7) marla	Yes
26	Kartar Singh (Overlap with PB_GDP _BEAS_04)	1.78	Gurdaspur	Batala	Talwara	38//16(8-0), 38//17(8-0), 38//18(8-0), 38//19(8-0), 39//19(6-14) , 39//20(1-12) , 39//22(0-6) of total 40-12 marla and 1/2 part bakdar 20-6 marla of khasra no. 40//3/2(4-18), 40//4/2(3-16), 40//8(1-1), 40//14(0-2), 40//15/1(2-6) marla of total 12-3 marla aalam of total 32-9 marla	Yes
27	Kulwinder Singh & Balwinder Singh (Not Recommended)	0.8	Gurdaspur	Batala	Madi Panwa	101//1 (8-0),101//2/1 (4-0), 101//9/2(2-7), 101//10/1 (4-0), 101//12/1(6-0), 101//6(8-0), 101//7(7-12), 101//8(8-16), 101//9/1(4-0), 101//12/2(2-11), 101//14/1(3-11), 101//15(5-10)	Yes
TOTAL		**67.52**					

Source: *District Mining Office, Gurdaspur*

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d) M-Sand plants with location:

Sl. No.	Plant Name	Owner	District	Tehsil	Village	Geolocation		Quantity (Weight) / Capacity (MT/ year)
						Latitude	Longitude	
1	M/s Gurdaspur Stone Crusher	Parav Gupta	Gurdaspur	Dinanagar	Chachian Chodiyan	32° 1' 55.344" N	75° 19' 48.396" E	146000
2	M/s Shri Sai Stone Crusher	Davinder Salaria	Gurdaspur	Dinanagar	Chachian Chodiyan	32°03'21.8"N	75°33'04.3"E	102200
3	M/s Rama Crushing Unit	Davinder Singh	Gurdaspur	Dinanagar	Bianpur	32° 4' 54.948" N	75° 34' 22.1304" E	116800
4	M/s Radha Shyam Sunder Stone Crusher	Rishabh Kundra	Gurdaspur	Gurdaspur	Bhaini Paswal	31° 33' 55.48"N	75° 18' 41.15"E	146000
5	M/s Ramwal Bajri Co.	Chander Mohan Walia	Gurdaspur	Dinanagar	Ramwal	32° 6' 51.51"N	75° 34' 7.89"E	51100
6	M/s Rama Aggregate Unit	Davinder Salaria	Gurdaspur	Dinanagar	Ramwal	32° 6' 26.1"N	75° 35' 32.87"E	51100
7	M/s Pankaj Screener	Raj Kumar	Gurdaspur	Dinanagar	Bianpur	32° 4' 52.74"N	75° 34' 43.22"E	51100
8	M/s Rama Stone Crushing Udyog Samiti	Jagdev Singh	Gurdaspur	Dinanagar	Bianpur	32° 3' 1.44"N	75° 20' 43.91"E	255500
9	M/s Guru Nanak Dev Ji Stone Crusher	Sukhdeep Singh	Gurdaspur	Dinanagar	Sidhpur P.O Bianpur	32° 5' 13.08"N	75° 34' 55.56"E	116800
TOTAL								**1036600**

Source: *District Mining Office, Gurdaspur*

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ANNEXURE – II

- **List of Potential Mining Leases (existing & proposed)**
  - **Rivers**
  - **Patta Lands/khatedari Land: (existing & proposed)**
  - **De-Siltation Location: (Lakes/Ponds/Dams etc.) (existing & proposed)**
  - **M-Sand Plants: (existing & proposed)**

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a) List of existing mining leases of the district with location, area for each minor mineral

Sl. No.	River Details	Name of the mines or Desilting sites	Lease Details	Hadbast No.	Area (Ha)	Khasra No.	Coordinates		Distance in (km) from PA/BR/WC	Distance from Forest Area (in km)	Mining Leases within 500 meters (if yes cluster area)	Total excavation in MT	Period of EC validity	Mineral to be mined (Sand /Bajri /RBM etc.)	Existing /Proposed
							Latitude	Longitude							
1	-	CHAKRAM SAHAI	19-2-2020(5+2)	-	19.20	7R/11,12,13,14,15,16,18,19,20,21,22,23,24,25 8R/15,16, 9 R24/2,25 12Rf1,2,3,4,5, 16,17,24,25, 13R/1,2,3,4, 4/1,5,6,7/1,7/2, 8,9,10,14/2,15, 16,17/1,20,21,22,23,24,25, 20R/4/2,5,6/1 24 R/2	32° 11' 22.045"N, 32° 11' 22.038"N, 32° 11' 23.018"N, 32° 11' 23.011"N, 32° 11' 21.051"N, 32° 11' 21.016"N, 32° 11' 22.976"N, 32° 11' 22.983"N, 32° 11' 26.903"N, 32° 11' 26.860"N, 32° 11' 7.260" N, 32° 11' 7.267" N, 32° 11' 9.227"N, 32° 11' 9.234" N, 32° 11' 11.194"N, 32° 11' 11.230"N, 32° 11' 15.150"N, 32° 11' 15.129"N, 32° 11' 13.169"N, 32° 11' 13.154"N, 32° 11' 17.074"N, 32° 11' 17.096"N, 32° 11' 19.056"N, 32° 11' 19.091"N, 32° 11' 21.065"N, 32° 11' 3.369" N,	75° 20' 46.068"E, 75° 20' 48.629"E, 75° 20' 48.632"E, 75° 20' 51.193"E, 75° 20' 51.186"E, 75° 21' 3.990"E, 75° 21' 3.998"E, 75° 21' 1.437"E, 75° 21' 1.452"E, 75° 21' 16.818"E, 75° 21' 16.742"E, 75° 21' 14.181"E, 75° 21' 14.189"E, 75° 21' 11.628"E, 75° 21' 11.635"E, 75° 20' 58.831"E, 75° 20' 58.846"E, 75° 21' 6.529"E, 75° 21' 6.521"E, 75° 21' 11.643"E, 75° 21' 11.658"E, 75° 21' 3.975"E, 75° 21' 3.983"E, 75° 20' 51.178"E, 75° 20' 46.064"E, 75° 21' 6.484" E,	9.05	2.30	-	1.7 LAC TPA	19/02/2023	Sand	Existing

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							32° 11' 3.340" N, 32° 11' 1.380" N, 32° 11' 1.409" N	75° 21' 16.727" E, 75° 21' 16.719"E, 75° 21' 6.476"E							
2	-	Raji Beli	3/5/2024(7)	-	14.50	2//12/3(1-16),18/4(0-9), 6//5(5-10), 5//1/1(2-18), 5//4/1(6-4), 7//5/1(4-4),6(8-0),16(8-0),25/1(5-16), 25/2(0-0), 15(8-0),5//21/1(3-8), 7//5/2 (3-18), 8//1/1(3-12), 10/3(3-12),11(7-9), 20(8-0), 21(8-0), 9//1(8-0),10(5-2), 10//5(0-6),6(0-9), 8//14(8-0), 6//15/2(6-0),16/1(7-16), 17/2(7-2),18{7-12),23(5-11), 24(7-11), 25(7-11) 3 2//19/1(3-8), 22/2(3-8),23(8-0), 3/1(7-5), 7/3(6-4),8/1(4-0), 12(5-16),19(8-0), 20/2(6-9),	32°11' 53.9607"N 32°11' 52.2931"N, 32°11' 48.5125"N, 32°11' 48.5073"N, 32°11' 46.467"N, 32°11' 46.472"N, 32°11' 44.4993"N, 32°11' 44.4923"N, 32°11' 42.4953"N 32°11' 42.5024"N, 32°11' 41.6431"N, 32°11' 38.7939"N, 32°11' 32.8149"N, 32°11' 32.8226"N, 32°11' 28.8757"N, 32°11' 28.8863"N, 32°11' 26.91"N, 32°11' 26.9173"N, 32°11' 26.0748"N, 32°11' 25.4725"N, 32°11' 26.819"N, 32°11' 26.8826"N, 32°11' 30.7857"N, 32°11' 30.7925"N, 32°11' 29.2006"N, 32°11' 29.6664"N, 32°11' 38.7474"N, 32°11' 38.7589"N, 32°11' 40.5932"N, 32°11' 42.472"N, 32°11' 42.4572"N 32°11' 44.4838"N, 32°11' 44.4768"N,	75°20' 53.5811"E, 75°20' 58.7693"E, 75°20' 58.7549"E, 75°21' 0.634"E, 75°21' 0.6261"E, 75°20' 58.8152"E, 75°20' 58.8077"E, 75°21' 1.35"E, 75°21' 1.3424"E, 75°20' 58.7903"E, 75°20' 58.787"E, 75°21' 3.7219"E, 75°21' 3.3646"E, 75°21' 3.509"E, 75°21' 2.7432"E, 75°20' 58.8986"E, 75°20' 58.8911"E, 75°20' 56.2576"E, 75°20' 56.2544"E, 75°20' 50.9491"E, 75°20' 51.0266"E, 75°20' 53.6546"E, 75°20' 53.6695"E, 75°20' 51.194"E, 75°20' 51.188"E, 75°20' 48.5296"E, 75°20' 48.564"E ,75°20' 44.3708"E ,75°20' 44.0006"E, 75°20' 43.168"E, 75°20' 48.5567"E, 75°20' 48.5644"E, 75°20' 51.1388"E,	9.54	3.11	-	636502 TPA	03/05/2025	Sand	Existing

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						5//3/2(0-16), 8/2(40),21/2(a-0). 22(8-0), 8//1/2 (0-16), 1/3(0-8),1/4(2-16) 2(8-0), 9{80),10/1{18) ,10/2(2-12), 8//12/3{0-4), 18/2(5-4),22(8-0), 23/1{54), 9//2(8-0),9(3-13), 5//13(7-6) 8//5/2(2-17), 15(614),5//14/3 (4-4),15/1(28), 16/4(2-8),17(5-16), 25/1(C-11), 8//8(8-0),6(7-2), 7/1(3-16), 13(8-0), 7/2(3-1), 18/2(5-4), 5//14/1(2-0), 5//14 /2(1-16), 8//7/2(3-1)	32°11' 38.6686"N 32°11' 38.6619"N, 32°11' 48.4877"N, 32°11' 48.4946"N, 32°11' 52.3691"N, 32°11' 52.3622"N 32°11' 38.7001"N, 32°11' 38.6931"N, 32°11' 35.2548"N, 32°11' 35.2546"N, 32°11' 37.6087"N	75°20' 51.1167"E, 75°20' 53.5499"E , 75°20' 53.5873"E, 75°20' 51.0704"E, 75°20' 51.0852"E, 75°20' 53.575"E, 75°20' 58.7757"E, 75°21' 1.3162"E, 75°20' 58.7626"E, 75°20' 58.8252"E 75°21' 1.3121"E							
3	-	Gurchak	3/5/2024(7)	-	6.79	1R/25(4-12), 7R/3(4-7),4(7-9), 5/1(1-8), 5/2(1-12) , 5/3(5-0),6(2-Q), 7(8-0} 8(7-12), 9(8-13), 10(4-18),11(8-0), 12(8-0),13(6-19),	32°1' 53.1893"N, 32°1' 51.2365"N, 32°1' 51.2395"N, 32°1' 53.1816"N, 32°1' 53.1826"N, 32°1' 51.2528"N, 32°1' 51.2566"N, 32°2' 0.6338"N	74°56' 55.2078"E, 74°56' 55.2089"E, 74°57' 2.9273"E, 74°57' 2.9263"E, 74°57' 5.5012"E, 74°57' 5.5022"E, 74°57' 15.5979"E, 74°57' 15.5933"E	1.95	1.36	-	296994 TPA	03/05/2025	Sand	Existing

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						14(7-7),15(7-19), 16(616), 17/1(40),17/2(4-0),18(8-0), 19/1(5-2), 19/2(1-12), 19/3(0-16), 8R/14(5-16), 15(9-11},16{8-0),17(8-0), 18(5-Q)								
4	-	Kissana	30-9-2022 (5+2)	-	1.92	6//8,13,18,23, 9//2,9	31° 54' 4.593" N , 31° 54' 5.126" N , 31° 53' 57.286" N, 31° 53' 57.297" N, 31° 53' 57.253" N, 31° 53' 57.241"N, 31° 53' 53.321"N, 31°53'53.3326"N	75° 33' 18.768" E, 75° 33' 21.324" E, 75° 33' 21.277" E, 75° 33' 18.724" E, 75° 33' 28.935" E, 75° 33' 31.488" E, 75° 33' 31.464" E, 75°33' 28.9114"E	1.15	27.16	-	83980 TPA	30/09/2023	Sand	Existing
5	-	Mughlan	30-9-2022 (5+2)	-	4.39	-	31° 54' 43.097"N, 31° 54' 43.086"N, 31° 54' 39.166"N, 31° 54' 39.177"N, 31° 54' 39.155"N, 31° 54' 43.075"N, 31° 54' 43.063"N, 31° 54' 40.405"N, 31° 54' 37.168"N, 31° 54' 33.246"N, 31° 54' 33.264"N, 31° 54' 35.224"N, 31° 54' 35.246"N, 31° 54' 37.206"N, 31° 54' 37.184"N, 31° 54' 39.144"N, 31° 54' 31.293"N,	75° 32' 57.008" E, 75° 32' 59.561" E, 75° 32' 59.537" E, 75° 32' 56.984" E, 75° 33' 2.091" E, 75° 33' 2.114" E, 75° 33' 4.858" E, 75° 33' 6.824" E, 75° 33' 8.240" E, 75° 33' 8.862" E, 75° 33' 4.609" E, 75° 33' 4.620" E, 75° 32' 59.514" E, 75° 32' 59.526" E, 75° 33' 4.632" E, 75° 33' 4.644" E, 75° 33' 7.150" E,	3	26.46	-	192049 TPA	30/09/2023	Sand	Existing

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							31° 54' 31.282"N, 31° 54' 29.322"N, 31° 54' 29.326"N, 31° 54' 30.787"N, 31° 54' 27.365"N, 31° 54' 27.362"N, 31° 54' 26.153"N, 31° 54' 26.321"N, 31° 54' 26.206"N, 31° 54' 25.388"N, 31° 54' 25.391"N	75° 33' 9.703" E, 75° 33' 9.691" E, 75° 33' 8.642" E, 75° 33' 7.147" E, 75° 33' 8.929" E, 75° 33' 9.680" E, 75° 33' 9.672" E, 75° 33' 9.185" E, 75° 33' 12.226" E 75° 33' 12.834"E, 75° 33' 12.221" E						
TOTAL					**46.8**									
Source: *District Mining Office, Gurdaspur*														

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➢ List of potential Mining Leases (Proposed)

Sl. No.	River Details	Lease Details	Area (In Ha)	Coordinates		Depth	Bulk Density	Distance in (km) from PA/BR/ WC	Distance From Forest Area (In Km)	Mining Leases Within 500 meters (if Yeas cluster area In Ha)	Total mineral reserve (MT)	Total mineral to be mined (MT)	Mineral to be mined (Sand/ Bajri/ RBM etc.)	Existing / Proposed
				Latitude	Longitude									
01	Ravi	PB_GDP_RAVI_01	6.14	32°11'25.20"N 32°11'22"N 32°11'21"N 32°11'25"N 32°11'28"N	75°23'29.17"E 75°23'24.17"E 75°23'37"E 75°23'50"E 75°23'48"E	2.13	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	190988.37	114593.02	Sand	Not Recommended
02	Ravi	PB_GDP_RAVI_02	5.02	32°11'22.20"N 32°11'21.09"N 32°11'18.97"N 32°11'15.59"N 32°11'14.44"N 32°11'15.76"N 32°11'16.91"N 32°11'17.48"N	75°21'8.17"E 75°21'11.17"E 75°21'24.80"E 75°21'29.76"E 75°21'23.52"E 75°21'18.05"E 75°21'16.41"E 75°21'14.40"E	2.01	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	147316.92	88,390.15	Sand	Proposed
03	Ravi	PB_GDP_RAVI_03	8.74	32°11'26.43"N 32°11'24.49"N 32°11'21.30"N 32°11'14.72"N 32°11'18.23"N 32°11'20.61"N 32°11'22.30"N 32°11'26.11"N	75°20'57.16"E 75°20'59.89"E 75°21'6.66"E 75°21'13.61"E 75°21'1.31"E 75°20'55.96"E 75°20'54.03"E 75°20'48.34"E	2.20	1.46	No Bridge protected area, wildlife area not available within a	No Forest Is Available With In 1km	Yes, 50.59	280728.80	168,437.28	Sand	Proposed

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				32°11'28.37"N 32°11'24.38"N	75°20'47.10"E 75°20'50.57"E			1 km						
04	Ravi	PB_GDP_RAVI_04	13.21	32°11'51.53"N 32°11'48.23"N 32°11'39.48"N 32°11'27.96"N 32°11'27.94"N 32°11'28.82"N 32°11'31.02"N 32°11'31.83"N 32°11'35.57"N 32°11'50.35"N	75°20'35.67"E 75°20'39.91"E 75°20'46.22"E 75°20'59.34"E 75°20'54.06"E 75°20'49.73"E 75°20'45.46"E 75°20'44.55"E 75°20'43.21"E 75°20'32.13"E	2.50	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	482165.00	289,299.00	Sand	Proposed
05	Ravi	PB_GDP_RAVI_05	10.44	32°11'48.83"N 32°11'40.74"N 32°11'27.94"N 32°11'27.58"N 32°11'28.58"N 32°11'39.73"N 32°11'43.64"N 32°11'36.36"N 32°11'48.30"N 32°11'50.16"N	75°20'28.39"E 75°20'20.58"E 75°20'13.94"E 75°20'11.39"E 75°20'10.55"E 75°20'13.41"E 75°20'15.52"E 75°20'12.93"E 75°20'21.35"E 75°20'24.25"E	2.60	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	396302.40	237,781.44	Sand	Proposed
06	Ravi	PB_GDP_RAVI_06	13.18	32°11'29.59"N 32°11'25.28"N 32°11'8.53"N 32°10'57.99"N 32°10'58.54"N 32°11'2.91"N 32°11'22.98"N	75°20'6.74"E 75°20'5.92"E 75°20'7.65"E 75°20'3.69"E 75°20'2.59"E 75°19'57.81"E 75°20'2.67"E	2.12	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	407947.36	244,768.42	Sand	Proposed

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07	Ravi	PB_GDP_RAVI_07	10.65	32°1'44.388"N 32°1'47.062"N 32°1'51.887"N 32°2'1.743"N 32°2'5.142"N 32°2'2.748"N 32°1'58.877"N 32°1'53.239"N 32°1'48.689"N	74°57'38.549"E 74°57'40.691"E 74°57'43.947"E 74°57'50.831"E 74°57'56.075"E 74°58'0.389"E 74°57'57.306"E 74°57'53.559"E 74°57'46.969"E	2.00	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	310980.00	186,588.00	Sand	Proposed
08	Ravi	PB_GDP_RAVI_08	16.01	32°2'5.285"N 32°2'5.658"N 32°2'5.791"N 32°2'4.031"N 32°2'3.102"N 32°1'58.293"N 32°1'56.945"N 32°1'54.566"N 32°1'54.77"N 32°1'54.664"N 32°1'56.185"N 32°1'56.68"N 32°1'58.232"N 32°2'0.574"N 32°2'0.41"N 32°1'56.809"N	74°56'20.588"E 74°56'21.797"E 74°56'30.052"E 74°56'38.799"E 74°56'45.576"E 74°56'51.311"E 74°56'52.69"E 74°56'53.965"E 74°56'51.84"E 74°56'49.156"E 74°56'44.278"E 74°56'39.357"E 74°56'36.393"E 74°56'33.144"E 74°56'29.329"E 74°56'21.116"E	2.47	1.46	No Bridge protected area, wildlife area not available within a 1 km	0.61	No	577352.62	346,411.57	Sand	Proposed
09	Beas	PB_GDP_BEAS_01	21.43	31°55'41.80"N 31°55'28.01"N 31°55'21.96"N 31°55'16.94"N 31°55'13.97"N 31°55'8.73"N 31°55'3.27"N 31°55'7.52"N 31°55'21.92"N	75°32'7.09"E 75°32'8.25"E 75°32'9.82"E 75°32'12.77"E 75°32'15.67"E 75°32'23.01"E 75°32'27.43"E 75°32'27.90"E 75°32'21.48"E	2.01	1.37	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	590117.91	354,070.75	Sand	Proposed

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10	Beas	PB_GDP_BEAS_02	11.04	31°48'48.90"N 31°48'45.70"N 31°48'38.90"N 31°48'35.93"N 31°48'28.95"N 31°48'26.84"N 31°48'29.40"N 31°48'30.37"N 31°48'36.21"N 31°48'43.50"N	75°33'12.28"E 75°33'10.46"E 75°33'9.75"E 75°33'10.09"E 75°33'16.16"E 75°33'18.85"E 75°33'20.99"E 75°33'21.02"E 75°33'19.63"E 75°33'15.99"E	2.36	1.37	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	356945.28	214,167.17	Sand	Proposed
11	Beas	PB_GDP_BEAS_03	30.77	31°44'18.45"N 31°44'10.72"N 31°44'0.53"N 31°43'48.63"N 31°43'42.98"N 31°43'55.82"N 31°44'2.00"N 31°44'9.18"N	75°31'53.29"E 75°31'50.84"E 75°31'49.69"E 75°31'55.05"E 75°32'2.84"E 75°32'4.00"E 75°32'6.92"E 75°32'5.34"E	2.38	1.37	No Bridge protected area, wildlife area not available within a 1 km	0.40	No	1003286.62	601,971.97	Sand	Proposed
12	Beas	PB_GDP_BEAS_04	27.82	31°40'5.70"N 31°40'3.43"N 31°40'7.39"N 31°40'11.01"N 31°40'15.08"N 31°40'22.85"N 31°40'31.07"N 31°40'34.40"N 31°40'37.54"N 31°40'40.30"N 31°40'43.87"N 31°40'41.47"N 31°40'38.75"N 31°40'35.49"N 31°40'32.06"N 31°40'29.54"N	75°28'21.25"E 75°28'22.50"E 75°28'28.23"E 75°28'31.92"E 75°28'39.23"E 75°28'43.58"E 75°28'50.91"E 75°28'52.06"E 75°28'50.43"E 75°28'52.07"E 75°28'57.00"E 75°28'49.40"E 75°28'44.24"E 75°28'41.94"E 75°28'41.63"E 75°28'40.77"E	2.56	1.37	No Bridge protected area, wildlife area not available within a 1 km	0.91	No	975703.04	585,421.82	Sand	Proposed

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				31°40'26.34"N 31°40'23.23"N 31°40'13.58"N 31°40'9.79"N	75°28'37.63"E 75°28'33.93"E 75°28'25.27"E 75°28'22.89"E									
13	Beas	PB_GDP_BEAS_05	13.58	31°39'1.84"N 31°38'56.85"N 31°38'52.12"N 31°38'47.85"N 31°38'42.54"N 31°38'40.90"N 31°38'47.34"N 31°38'56.47"N	75°28'6.37"E 75°28'1.73"E 75°27'59.90"E 75°27'59.93"E 75°28'1.60"E 75°28'4.53"E 75°28'7.10"E 75°28'15.30"E	2.67	1.37	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	496742.82	298,045.69	Sand	Proposed
14	BEAS	PB_GDP_BEAS-06	19.33	31°38'2.77"N 31°38'7.68"N 31°38'12.43"N 31°38'14.90"N 31°38'15.40"N 31°38'11.53"N 31°38'2.50"N 31°38'1.77"N 31°38'1.74"N 31°38'0.62"N	75°25'15.49"E 75°25'23.40"E 75°25'32.75"E 75°25'39.15"E 75°25'42.79"E 75°25'47.69"E 75°25'37.11"E 75°25'34.86"E 75°25'27.04"E 75°25'19.93"E	2.59	1.37	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	685886.39	411531.83	Sand	Proposed
TOTAL			**207.36**								**69,02,463.47**	**41,41,478.12**		

Source: *Field Survey and DGPS Survey Data*

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WRD, Punjab

PREPARED BY: **SUB – DIVISION COMMITTEE OF GURDASPUR DISTRICT**
ASSISTED BY: **RSP GREEN DEVELOPMENT AND LABORATORIES PVT. LTD**

(b) List of Patta Lands / Khatedari land:(Proposed)

Sl No.	Owner	Area (HA)	District	Tehsil	Village	Khasra No.	Agriculture Land (Yes/No)
1	Sarbjeet Kaur (Overlap with PB_GDP _RAVI_03)	4.8	Gurdaspur	Dinanagar	Chak ram sahai	11//16(8-0),17(8-0),24(8-0),25(8-0), 12//18(8-0), 19(9-0), 20(8-0), 2013//20(5-19),21(8-0), 22(5-16), 23(8-0),24(8-0),25(8-0), 14//10/2(6-18),11(8-0),19(8-0), 20(8-0),21(8-0), 22(8-0), 23(8-0), 24(8-0),25 (8-0), 15//16/1(2-12), 16/2(5-4), 21(8-0), 25/2(7-16) , 16//20(6-18),21(5-2), 18//1(8-0), 2(8-0),3/1(6-8),9(8-0),19//4/2(5-0), 6(8-0), 7/1(5-0), 20//1(8-0),2(8-0), 3(8-0),21//4(8-0),5(8-0), 22//4(8-0),5/1(4-0), 5/2(4-0)	Yes

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2	Manpreet Singh (Overlap with PB_GDP _RAVI_02 & 03)	8.12	Gurdaspur	Dinanagar	Chak ram sahai	11//16(8-0),17(8-0),24(8-0),25(8-0), 12//18(8-0), 19(9-0), 20(8-0), 2013//20(5-19),21(8-0),22(5-16), 23(8-0),24(8-0), 25(8-0), 14//10/2(6-18),11(8-0),19(8-0), 20(8-0),21(8-0), 22(8-0),23(8-0), 24(8-0),25 (8-0), 15//16/1(2-12),16/2(5-4), 21(8-0), 25/2(7-16) , 16//20(6-18),21(5-2), 18//1(8-0),2(8-0), 3/1(6-8),9(8-0) , 19//4/2(5-0), 6(8-0), 7/1(5-0), 20//1(8-0), 2(8-0),3(8-0), 21//4(8-0),5(8-0), 22//4(8-0),5/1(4-0), 5/2(4-0)	Yes
3	Shivbeer Singh (Not Recommended)	1.56	Gurdaspur	Dinanagar	Marara	3//6/1(3-3) 6/2(2-4) 8(7-0) 9(7-2) 12/1(2-19 13/1(3-2) 15/1/1/1(0-16), 4//9(3/7) 1-(4-11) 11(8-0) 12/1(4-16), 5//13(6-10) 17(8-9) 18(8-0) 23/2(1-11), 8//26(9-17)	Yes
4	Sarbjeet Kaur (Overlap with PB_GDP _RAVI_05)	3.58	Gurdaspur	Dinanagar	Toor	35//4/2(4-16), 35//5/1(1-16), 35//7/1(4-16), 35//14/2(1-12) 35//14/3(3-4) 35//15/2(4-4), 23//16/2(4-4) 23//17/2(3-1) 23//24/2(3-12) , 23//25(7-4) 23//24/3(1-4), 24//3(8-0) 4/1(4-0) 4/2(4-0) 5(8-0) 7(8-0), 8//26(9-17)	Yes

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5	Manpreet Singh (Overlap with PB_GDP _RAVI_06)	10.12	Gurdaspur	Dinanagar	Raji Beli	2//12/3(1-16) 18/4(0-9) 19/1(3-8) 22/2(3-8) 23(8-0), 6//5(5-10) 15/2(6-0) 16/1(7-16) 17/2(7-2) 18(7-12) 23(5-11) 24(7-11) 25(7-11), 5//1/1(2-18) 3/1(7-5) 4/1(6-4) 7/3(6-4) 8/1(4-0) 12(5-16) 13(7-6) 14/1(2-0) 14/2(1-16) 14/3(4-4) 15/1(2-8) 16/4(2-8) 17(5-16) 19(8-0) 20/2(6-9) 21/1(3-8) 25/1(0-11), 7//5/1(4-4) 5/2(3-16) 6)8-0) 15(8-0) 16(8-0) 25/1(5/16) 25/2(0-0), 8//1/1, 8//5/2, 8//10/3, 8//11,15,20, 21, 9//1,10, 10//5,6, 2//19/1, 2//22/2, 2//23, 5//1/1, 5//3/1, 5//4/1,5//7/3, 5//8/1, 5//12, 5//14/3, 5//15/1, 5//16/4, 5//17, 5//19, 5//20/2, 5//25/1, 6//5, 8//1/1(3-12) 5/2(2-17) 6(7-2) 7/1(3-16) 7/2(3-1), 8(8-0) 10/3(3-12) 11(7-9) 13(8-0) 14(8-0) 15(6-14) 20(8-0) 21(8-0) 9//1(8-0) 10(5-2) , 10//5(0-6) 6(0-9)	Yes
6	Salvinder Kaur	1.6	Gurdaspur	Dinanagar	Marara	2//15/1(3-7), 3//10(6-18), 3//11/1(3-7), 2//7(3-16), 2//12(7-6), 2//14(7-2), 4//16/2(3-15), 2//19/2/1, 16//13/2, 2//19/2/2(1-13)	Yes
7	Rajwant Kaur	1.19	Gurdaspur	Dinanagar	Mamka	8R/13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0) , 18(8-0), 19(8-0), 20(2-18), 21(4-6), 22(8-0), 23(8-0), 24(8-0), 25(8-0), 9R/ 9(8-0), 11(8-0), 20(8-0)	Yes
8	Balbir Singh (Overlap with PB_GDP _RAVI_06)	0.44	Gurdaspur	Dinanagar	Raji beli	7R/7/1(6-4), 14/2(6-4), 17/1(0-16), 17/2(5-12), 24/2(3-6), 6R/29/1(0-6)	Yes

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9	Rakesh Kumar (Overlap with PB_GDP _RAVI_05)	1.2	Gurdaspur	Dinanagar	Toor	24R/23 (7-7) 24R/13/ 16(8-0) 17/1(1-16) 17/1(1-16) 17/2(5-4) 18(5-4) 18(7-11) 19/1(0-15) 19/2(0-16) 20/1(1/11) 24/1(2-15) , 25R/20/2(8-4)	Yes
10	Gurnam Singh (Overlap with PB_GDP _RAVI_06)	0.63	Gurdaspur	Dinanagar	Raji beli	7R/3/4(0-12) 4(8-0) 13(4-16) 14/1(1-14) 17/3(0-13),18/1(2-19)	Yes
11	Akash Narang (Overlap with PB_GDP _RAVI_04 & 05)	6.63	Gurdaspur	Dinanagar	Toor	33/17/1(7-0), 25R/23/3(4-1), 24(7-7), 25/1(2-4), 25/2(5-3), 26R/21(7-7), 32R/1(8-0), 10(2-4), 11/2(5-16), 33R/3/2(4-12), 4(8-0), 5(8-0), 6/2(2-18), 7(8-0), 8/1(4-12), 13/2(4-12), 33R/14(8-0), 15(8-0), 16/1(1-12), 16/2(6-8), 17/2(1-0), 32R/22/1(2-0), 33R/6/1 of total 129 kanal 19 marla	Yes
12	Piyush Narang (Overlap with PB_GDP _RAVI_04 & 05)	2.23	Gurdaspur	Dinanagar	Toor	24R/19/3 (5-16), 24R/22(8-0), 34R/2/2(3-0), 9/1(5-4), 12/1(4-0), 19(8-0), 22(3-13), 143(0-2), 34R/9/2(2-16), 12/2(0-13), 12/4(2-0) of total 43 kanal 4 marla	Yes
13	Jagdev Singh, Ashwani Kumar, Joginder Singh (Not Recommended)	5.4	Gurdaspur	Dinanagar	Chechian Chhaurian	29//7(8-0), 19//23/2/2/1 (1-11) , 29//4 (8), 29//14/1 (0-19), 28//16 , 28//17 (8-0), 29//19 (8-0), 29//20 (8-0), 28//25 (8-0), 29//18(8-0), 19//17(8-0), 19//18 (8-0), 19//19/2 (4-13), 19//23/2/2(1-12), 19//24(8-0), 19//25 (8-0), 29//14/1/1/1(3-15), 32//16(7-12)	Yes
14	Jagdev Singh (Not Recommended)	3.048	Gurdaspur	Dinanagar	Fakarpur	3//7(7-19), 3//8(7-7), 3//9 (7-16), 3//10/1(1-12), 3//11/2 (1-12), 3//12,(8-0), 3//13(8-0), 3//14(8-14), 3//17(7-9)	Yes

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15	Balbir Kaur W/O Satnam Singh (Overlap with PB_GDP _RAVI_04)	2.24	Gurdaspur	Dinanagar	Toor	151(0-2), 27//21(8-13), 27//22/1(2-3), 31//1(8-0) 31//2(7-16), 31//10(8-0), 32//5/2(3-0), 32//6/1(3-0).	Yes
16	Harbhajan Kaur W/o Kehar Singh (Not Recommended)	1.62	Gurdaspur	Dinanagar	Sidhpur	33//16(7-8),17(8-0),18(8-0),23(8-0),24(8-0),25/1(6-8)	Yes
17	Sukhdeep Singh S/o Parshan Singh, Gurjeet Singh s/o Jankar Singh, (Not Recommended)	1.42	Gurdaspur	Dinanagar	Sidhpur	17//4(8-0), 7(8-0), 11(6-12), 12(7-2), 13(7-2), 14/1(2-13), 6//24(5-16), 17//8(8-0), 9(7-12), 10(8-0)	Yes
18	Balraj Singh (Overlap with PB_GDP _RAVI_07)	0.6	Gurdaspur	Dera Baba Nanak	Gunia	12/15/1, 15//4/2, 15//6/1, 15//7/1, 41//1, 12//6, 27//8, 15//5	Yes
19	Karnail Singh (Overlap with PB_GDP _RAVI_07)	0.8	Gurdaspur	Dera Baba Nanak	Gunia	11//12/5/1, 23//6/1, 23//14,15,16,17,24, 41//9, 2//6,15,16, 3//10,11,20, 16//25/1, 17//21/2, 22//10/3	Yes
20	Karnail Singh (Overlap with PB_GDP	2.44	Gurdaspur	Dera Baba Nanak	Gunia	11//16, 11//17,11//18/1, 11//19/2, 11//20, 12//15/2, 12//16, 20//13, 20//13, 20//18/2	Yes

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	_RAVI_07)						
21	Tarsem Singh (Overlap with PB_GDP _RAVI_07)	0.65	Gurdaspur	Dera Baba Nanak	Gunia	11/25, 41//5, 63, 10//20/2, 10/21/1, 11//24/2.15//25/4, 24//4, 24//5, 7//21/1, 10//12/2, 18//5, 19//1, 20//23/2, 20//18/1	Yes
22	Pritam Singh (Overlap with PB_GDP _RAVI_07)	0.37	Gurdaspur	Dera Baba Nanak	Gunia	11//4/2/2, 11//7/1, 11//14/2, 21//1/2, 41//61, 32//4/1, 32//5/1/1	Yes
23	Karnail Singh (Overlap with PB_GDP _RAVI_07)	0.8	Gurdaspur	Dera Baba Nanak	Gunia	11R/16-17	Yes
24	Satpal Singh (Not Recommended)	1.73	Gurdaspur	Batala	Bhol	604(8-0), 605(8-0), 608(8-0) of total 24-0 Kanal, 606(8-0)	Yes
25	Mohan Singh (Overlap with PB_GDP _BEAS_04)	1.92	Gurdaspur	Batala	Rampur	15//1/2(0-1), 15//2/3(2-5), 15//3(0-7), 15//7/1(1-9), 15//8/1(2-2) 15//14/1(1-1) 15//15/1(2-8) , 15//16/1(0-2) of total 10-15 marla out of whoch 8-6 marla of 15//1/4(4-12) , 15//2/1(0-10), 15//8/3/(2-4) , 15//9/3(2-15), 15//10/1(1-15), 15//12/5(0-0), 15//13/2(3-5), 15//14/3(0-7), 15//16/3(0-7), 15//16/3(4-7), 15//17/1(0-18) 16//5/1(2-13) 14//22/3(4-0), 14//23/3(0-7) marla	Yes

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26	Kartar Singh (Overlap with PB_GDP _BEAS_04)	1.78	Gurdaspur	Batala	Talwara	38//16(8-0), 38//17(8-0), 38//18(8-0), 38//19(8-0), 39//19(6-14) , 39//20(1-12) , 39//22(0-6) of total 40-12 marla and 1/2 part bakdar 20-6 marla of khasra no. 40//3/2(4-18), 40//4/2(3-16), 40//8(1-1), 40//14(0-2), 40//15/1(2-6) marla of total 12-3 marla aalam of total 32-9 marla	Yes
27	Kulwinder Singh & Balwinder Singh (Not Recommended)	0.8	Gurdaspur	Batala	Madi Panwa	101//1 (8-0),101//2/1 (4-0), 101//9/2(2-7), 101//10/1 (4-0), 101//12/1(6-0), 101//6(8-0), 101//7(7-12), 101//8(8-16), 101//9/1(4-0), 101//12/2(2-11), 101//14/1(3-11), 101//15(5-10)	Yes
TOTAL		**67.52**					

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b) List of De-siltation location (Lake, Pond, Dams, River)

Name	Maintain/Controlled by Sate Govt./PSU etc.	Location		District	Tehsil	Village	Size (Ha)	Existing/Proposed
		Latitude	Longitude					
PB_GDP_RAVI_DESIL_01	Sate Govt.	32° 1'58.15"N 32° 2'12.37"N 32° 2'13.81"N 32° 2'14.54"N 32° 2'13.33"N 32° 2'11.28"N 32° 2'3.67"N	74°55'40.18"E 74°55'42.63"E 74°55'40.45"E 74°55'36.69"E 74°55'32.27"E 74°55'25.85"E 74°55'24.65"E	Gurdaspur	Dera Baba Nanak	Mansur	16.70	Proposed
PB_GDP_RAVI_DESIL_02	Sate Govt.	32° 2'0.00"N 32° 1'59.08"N 32° 1'59.04"N 32° 1'58.09"N 32° 1'58.28"N 32° 1'59.09"N 32° 2'1.45"N 32° 2'4.55"N 32° 2'7.99"N 32° 2'10.10"N 32° 2'10.73"N 32° 2'10.79"N 32° 2'9.83"N 32° 2'9.83"N 32° 2'11.50"N 32° 2'12.47"N	74°55'42.77"E 74°55'45.16"E 74°55'47.34"E 74°55'55.81"E 74°55'58.49"E 74°56'2.87"E 74°56'5.25"E 74°56'7.11"E 74°56'5.98"E 74°56'3.88"E 74°56'1.52"E 74°55'58.54"E 74°55'54.46"E 74°55'53.11"E 74°55'48.57"E 74°55'44.13"E	Gurdaspur	Dera Baba Nanak	Mansur	21.79	Proposed
TOTAL							**38.49**	
Source: *District Mining Office, Gurdaspur and field survey data*								

Note: The quantity of desilting in these sites shall be assessed as per actual sites condition at the time of desilting and got approved from the competent authority.

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c) M-Sand plants with location:

Plant Name	Owner	District	Tehsil	Village	Geolocation		Quantity (Weight) (MT/year)	Existing/Proposed
					Latitude	Longitude		
M/s Gurdaspur Stone Crusher	Parav Gupta	Gurdaspur	Dinanagar	Chachian Chodiyan	32° 1' 55.344"N	75° 19' 48.396"E	146000	Existing
M/s Shri Sai Stone Crusher	Davinder Salaria	Gurdaspur	Dinanagar	Chachian Chodiyan	32°03'21.8"N	75°33'04.3"E	102200	Existing
M/s Rama Crushing Unit	Davinder Singh	Gurdaspur	Dinanagar	Bianpur	32° 4' 54.948"N	75° 34' 22.1304"E	116800	Existing
M/s Radha Shyam Sunder Stone Crusher	Rishabh Kundra	Gurdaspur	Gurdaspur	Bhaini Paswal	31° 33' 55.48"N	75° 18' 41.15"E	146000	Existing
M/s Ramwal Bajri Co.	Chander Mohan Walia	Gurdaspur	Dinanagar	Ramwal	32° 6' 51.51"N	75° 34' 7.89"E	51100	Existing
M/s Rama Aggregate Unit	Davinder Salaria	Gurdaspur	Dinanagar	Ramwal	32° 6' 26.1"N	75° 35' 32.87"E	51100	Existing
M/s Pankaj Screener	Raj Kumar	Gurdaspur	Dinanagar	Bianpur	32° 4' 52.74"N	75° 34' 43.22"E	51100	Existing
M/s Rama Stone Crushing Udyog Samiti	Jagdev Singh	Gurdaspur	Dinanagar	Bianpur	32° 3' 1.44"N	75° 20' 43.91"E	255500	Existing
M/s Guru Nanak Dev Ji Stone Crusher	Sukhdeep Singh	Gurdaspur	Dinanagar	Sidhpur P.O Bianpur	32° 5' 13.08"N	75° 34' 55.56"E	116800	Existing
TOTAL							**1036600**	
Source: *District Mining Office, Gurdaspur*								

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ANNEXURE – III

- **Final list of Cluster and Contiguous Clusters**

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➢ Cluster details

River Name	Cluster No.	Lease No.	Location (Riverbed /Patta Land)	Village	Area (in Ha)	Total Mineral Reserve (MT)	Total Minable Reserve (MT)
Ravi	01	PB_GDP _RAVI_02 to PB_GDP _RAVI_06	Riverbed	Chak Ram Sahai 1, Chak Ram Sahai 2, Raji Beli, Toor, Mamka Khizarpur	50.59	1714460.48	1,028,676.29
							Source: *Field Survey Data*

➢ Contiguous Cluster details:

River Name	Contiguous Cluster No.	Cluster No.	Number of leases in the cluster	Location (Riverbed /Patta Land)	Distance between clusters	Village	Area of Cluster (Ha)	Total Minable Reserve (MT)
NA								

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ANNEXURE – IV

- **Final Transportation Routes for individual leases and leases in Cluster(s):**

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➢ Final Transportation Routes for individual leases details (Riverbed):

Sl. No.	Lease No	Transportation Route No	Number Of Tippers/ Day Of All The Lease	Number Of Tippers/Day Of All The Lease On Route	Length Of Route In Km	Type Of Road (Black Topped/ Unpaved)	Recommendation For Road (Black Topped/Unpaved)	The Road Will Be Constructed By Govt/ Lease Owner	Route Map & Location
1	PB_GDP_RAVI_02	C - C'	49	49	2.17	Kacha road	1. Treatment of road from Local Resources. 2. Regular Sprinkling of Water. 3. Management of traffic	Lease Owner	
2	PB_GDP_RAVI_03	D - D'	93	93	2.19	Kacha road		Lease Owner	
3	PB_GDP_RAVI_04	E - E'	160	160	1.96	Kacha road		Lease Owner	
4	PB_GDP_RAVI_05	F - F'	132	132	2.25	Kacha road		Lease Owner	
5	PB_GDP_RAVI_06	G - G', H - H'	135	135	2.15 / 2.17	Kacha road		Lease Owner	
6	PB_GDP_RAVI_07	I - I'	103	103	1.66	Kacha road		Lease Owner	
7	PB_GDP_RAVI_08	J - J', K - K'	192	192	1.86 / 1.59	Kacha road		Lease Owner	
8	PB_GDP_BEAS_01	L - L', M - M'	196	196	2.48 / 2.63	Kacha road		Lease Owner	
9	PB_GDP_BEAS_02	N - N'	118	118	1.5	Kacha road		Lease Owner	
10	PB_GDP_BEAS_03	O - O'	167	167	2.23	Kacha road		Lease Owner	
11	PB_GDP_BEAS_04	P - P', Q - Q'	162	162	2.15 / 1.26	Kacha road		Lease Owner	

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12	PB_GDP_BEAS_05	R - R', S - S'	165	165	2.28 / 1.29	Kacha road		Lease Owner	
13	PB_GDP_BEAS_06	T - T', U - U'	127	127	2.28 / 1.26	Kacha road		Lease Owner	
	TOTAL		**1799**	**1799**					

Source: *Field Survey Data*

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➢ Final Transportation Routes for individual leases details (Agriculture):

Sl. No.	Land Owner	Transportation Route No.	No. Of Tippers/ Days of lease	No. Of tippers / Days of all the lease on the Route	Length of the route in KM	Type of Road(Black top / Unpaved	Recommendations for Road Black Top/ Unpaved	Road will be constructed by Govt/ Lease owner	Route map and loaction
1	Salvinder Kaur	A - A'	35	35	1	Kacha road	1. Treatment of road from Local Resources. 2. Regular Sprinkling of Water. 3.Management of traffic	Lease Owner	Annexure - XI
2	Rajwant Kaur	B - B'	26	26	1.13	Kacha road		Lease Owner	
	Total		**61**	**61**					

Source: *Field Survey Data*

Note: The above-mentioned transportation routes are as per the present infrastructure, which may change according to the development / identification of new routes, after temporary acquisition of land if required. The final transportation routes shall be as per the approved mining plan and as per the environment clearance granted by the competent authority.

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➢ Final Transportation Routes for leases in Cluster details

Cluster No.	Transportation Route No.	Number of tippers / days of cluster	Number of tippers / days of all the clusters on route	Length of Route in km	Type of Road (Black Topped / unpaved)	Recommendation for road (Black Topped / unpaved)	The road will be Constructed by Govt. / Lease Owner	Route Map & Location
01	C - C' D - D' E - E' F - F' G - G', H - H'	114	114	12	Kacha road	1. Treatment of road from Local Resources. 2. Regular Sprinkling of Water. 3.Management of traffic	Lease Owner	Annexure - XI

Source: *Field Survey Data*

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ANNEXURE – V

- **Final list of Potential Mining Leases : (Proposed)**
- **Final list of Patta land: (Proposed)**
- **De-siltation Location: (Lakes/Ponds/Dams etc.)(Proposed)**
- **Final list of Sand/M – Sand Source: (Proposed)**

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➢ Final List of potential Mining Leases (Proposed)

Sl. No.	River Details	Lease Details	Area (In Ha)	Coordinates		Depth	Bulk Density	Distance in (km) from PA/BR/ WC	Distance From Forest Area (In Km)	Mining Leases Within 500 meters (if Yeas cluster area In Ha)	Total mineral reserve (MT)	Total mineral to be mined (MT)	Mineral to be mined (Sand/ Bajri/ RBM etc.)	Existing / Proposed
				Latitude	Longitude									
01	Ravi	PB_GDP_RAVI_02	5.02	32°11'22.20"N 32°11'21.09"N 32°11'18.97"N 32°11'15.59"N 32°11'14.44"N 32°11'15.76"N 32°11'16.91"N 32°11'17.48"N	75°21'8.17"E 75°21'11.17"E 75°21'24.80"E 75°21'29.76"E 75°21'23.52"E 75°21'18.05"E 75°21'16.41"E 75°21'14.40"E	2.01	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	147316.92	88,390.15	Sand	Proposed
02	Ravi	PB_GDP_RAVI_03	8.74	32°11'26.43"N 32°11'24.49"N 32°11'21.30"N 32°11'14.72"N 32°11'18.23"N 32°11'20.61"N 32°11'22.30"N 32°11'26.11"N 32°11'28.37"N 32°11'24.38"N	75°20'57.16"E 75°20'59.89"E 75°21'6.66"E 75°21'13.61"E 75°21'1.31"E 75°20'55.96"E 75°20'54.03"E 75°20'48.34"E 75°20'47.10"E 75°20'50.57"E	2.20	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	280728.80	168,437.28	Sand	Proposed

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03	Ravi	PB_GDP_RAVI_04	13.21	32°11'51.53"N 32°11'48.23"N 32°11'39.48"N 32°11'27.96"N 32°11'27.94"N 32°11'28.82"N 32°11'31.02"N 32°11'31.83"N 32°11'35.57"N 32°11'50.35"N	75°20'35.67"E 75°20'39.91"E 75°20'46.22"E 75°20'59.34"E 75°20'54.06"E 75°20'49.73"E 75°20'45.46"E 75°20'44.55"E 75°20'43.21"E 75°20'32.13"E	2.50	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	482165.00	289,299.00	Sand	Proposed
04	Ravi	PB_GDP_RAVI_05	10.44	32°11'48.83"N 32°11'40.74"N 32°11'27.94"N 32°11'27.58"N 32°11'28.58"N 32°11'39.73"N 32°11'43.64"N 32°11'36.36"N 32°11'48.30"N 32°11'50.16"N	75°20'28.39"E 75°20'20.58"E 75°20'13.94"E 75°20'11.39"E 75°20'10.55"E 75°20'13.41"E 75°20'15.52"E 75°20'12.93"E 75°20'21.35"E 75°20'24.25"E	2.60	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	396302.40	237,781.44	Sand	Proposed
05	Ravi	PB_GDP_RAVI_06	13.18	32°11'29.59"N 32°11'25.28"N 32°11'8.53"N 32°10'57.99"N 32°10'58.54"N 32°11'2.91"N 32°11'22.98"N	75°20'6.74"E 75°20'5.92"E 75°20'7.65"E 75°20'3.69"E 75°20'2.59"E 75°19'57.81"E 75°20'2.67"E	2.12	1.46	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	Yes, 50.59	407947.36	244,768.42	Sand	Proposed
06	Ravi	PB_GDP_RAVI_07	10.65	32°1'44.388"N 32°1'47.062"N 32°1'51.887"N 32°2'1.743"N	74°57'38.549"E 74°57'40.691"E 74°57'43.947"E 74°57'50.831"E	2.00	1.46	No Bridge protected area,	No Forest Is Available With In	No	310980.00	186,588.00	Sand	Proposed

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				32°2'5.142"N 32°2'2.748"N 32°1'58.877"N 32°1'53.239"N 32°1'48.689"N	74°57'56.075"E 74°58'0.389"E 74°57'57.306"E 74°57'53.559"E 74°57'46.969"E			wildlife area not available within a 1 km	1km					
07	Ravi	PB_GDP_RAVI_08	16.01	32°2'5.285"N 32°2'5.658"N 32°2'5.791"N 32°2'4.031"N 32°2'3.102"N 32°1'58.293"N 32°1'56.945"N 32°1'54.566"N 32°1'54.77"N 32°1'54.664"N 32°1'56.185"N 32°1'56.68"N 32°1'58.232"N 32°2'0.574"N 32°2'0.41"N 32°1'56.809"N	74°56'20.588"E 74°56'21.797"E 74°56'30.052"E 74°56'38.799"E 74°56'45.576"E 74°56'51.311"E 74°56'52.69"E 74°56'53.965"E 74°56'51.84"E 74°56'49.156"E 74°56'44.278"E 74°56'39.357"E 74°56'36.393"E 74°56'33.144"E 74°56'29.329"E 74°56'21.116"E	2.47	1.46	No Bridge protected area, wildlife area not available within a 1 km	0.61	No	577352.62	346,411.57	Sand	Proposed
08	Beas	PB_GDP_BEAS_01	21.43	31°55'41.80"N 31°55'28.01"N 31°55'21.96"N 31°55'16.94"N 31°55'13.97"N 31°55'8.73"N 31°55'3.27"N 31°55'7.52"N 31°55'21.92"N	75°32'7.09"E 75°32'8.25"E 75°32'9.82"E 75°32'12.77"E 75°32'15.67"E 75°32'23.01"E 75°32'27.43"E 75°32'27.90"E 75°32'21.48"E	2.01	1.37	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	590117.91	354,070.75	Sand	Proposed

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09	Beas	PB_GDP_BEAS_02	11.04	31°48'48.90"N 31°48'45.70"N 31°48'38.90"N 31°48'35.93"N 31°48'28.95"N 31°48'26.84"N 31°48'29.40"N 31°48'30.37"N 31°48'36.21"N 31°48'43.50"N	75°33'12.28"E 75°33'10.46"E 75°33'9.75"E 75°33'10.09"E 75°33'16.16"E 75°33'18.85"E 75°33'20.99"E 75°33'21.02"E 75°33'19.63"E 75°33'15.99"E	2.36	1.37	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	356945.28	214,167.17	Sand	Proposed
10	Beas	PB_GDP_BEAS_03	30.77	31°44'18.45"N 31°44'10.72"N 31°44'0.53"N 31°43'48.63"N 31°43'42.98"N 31°43'55.82"N 31°44'2.00"N 31°44'9.18"N	75°31'53.29"E 75°31'50.84"E 75°31'49.69"E 75°31'55.05"E 75°32'2.84"E 75°32'4.00"E 75°32'6.92"E 75°32'5.34"E	2.38	1.37	No Bridge protected area, wildlife area not available within a 1 km	0.40	No	1003286.62	601,971.97	Sand	Proposed
11	Beas	PB_GDP_BEAS_04	27.82	31°40'5.70"N 31°40'3.43"N 31°40'7.39"N 31°40'11.01"N 31°40'15.08"N 31°40'22.85"N 31°40'31.07"N 31°40'34.40"N 31°40'37.54"N 31°40'40.30"N 31°40'43.87"N 31°40'41.47"N 31°40'38.75"N 31°40'35.49"N 31°40'32.06"N 31°40'29.54"N	75°28'21.25"E 75°28'22.50"E 75°28'28.23"E 75°28'31.92"E 75°28'39.23"E 75°28'43.58"E 75°28'50.91"E 75°28'52.06"E 75°28'50.43"E 75°28'52.07"E 75°28'57.00"E 75°28'49.40"E 75°28'44.24"E 75°28'41.94"E 75°28'41.63"E 75°28'40.77"E	2.56	1.37	No Bridge protected area, wildlife area not available within a 1 km	0.91	No	975703.04	585,421.82	Sand	Proposed

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				31°40'26.34"N 31°40'23.23"N 31°40'13.58"N 31°40'9.79"N	75°28'37.63"E 75°28'33.93"E 75°28'25.27"E 75°28'22.89"E									
12	Beas	PB_GDP_BEAS_05	13.58	31°39'1.84"N 31°38'56.85"N 31°38'52.12"N 31°38'47.85"N 31°38'42.54"N 31°38'40.90"N 31°38'47.34"N 31°38'56.47"N	75°28'6.37"E 75°28'1.73"E 75°27'59.90"E 75°27'59.93"E 75°28'1.60"E 75°28'4.53"E 75°28'7.10"E 75°28'15.30"E	2.67	1.37	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	496742.82	298,045.69	Sand	Proposed
13	BEAS	PB_GDP_BEAS-06	19.33	31°38'2.77"N 31°38'7.68"N 31°38'12.43"N 31°38'14.90"N 31°38'15.40"N 31°38'11.53"N 31°38'2.50"N 31°38'1.77"N 31°38'1.74"N 31°38'0.62"N	75°25'15.49"E 75°25'23.40"E 75°25'32.75"E 75°25'39.15"E 75°25'42.79"E 75°25'47.69"E 75°25'37.11"E 75°25'34.86"E 75°25'27.04"E 75°25'19.93"E	2.59	1.37	No Bridge protected area, wildlife area not available within a 1 km	No Forest Is Available With In 1km	No	685886.39	411531.83	Sand	Proposed
TOTAL			**201.22**								**6711475.16**	**4,026,885.10**		
Source: *Field Survey and DGPS Survey Data*														

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DISTRICT SURVEY REPORT OF GURDASPUR DISTRICT, PUNJAB

➢ Final List of proposed Patta Lands/Khatedari land:

Sl No.	Owner	Area (HA)	District	Tehsil	Village	Khasra No.	Depth (M)	Bulk Density	Total Reserve (MT)	Total Mineral to be Mined (MT)	Existing / Proposed
1	Salvinder Kaur	1.6	Gurdaspur	Dinanagar	Marara	2//15/1(3-7), 3//10(6-18), 3//11/1(3-7), 2//7(3-16), 2//12(7-6), 2//14(7-2), 4//16/2(3-15), 2//19/2/1, 16//13/2, 2//19/2/2(1-13)	2.70	1.45	62,640	37,584	Proposed
2	Rajwant Kaur	1.19	Gurdaspur	Dinanagar	Mamka	8R/13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0) , 18(8-0), 19(8-0), 20(2-18), 21(4-6), 22(8-0), 23(8-0), 24(8-0), 25(8-0), 9R/ 9(8-0), 11(8-0), 20(8-0)	2.76	1.45	47,623.8	28,574.28	Proposed
	TOTAL	**2.79**							**110,264**	**66,158**	

Source: *District Mining Office, Gurdaspur and field survey data*

Note: - 1. The average depth of each potential sandbar has been mentioned in cross-sections at Annexure IX. The Department of Forests and Wildlife Preservation, Government of Punjab, vide its notification no. 34/13/2017-Ft-5/1052756/1 Chandigarh, date 29/08/2017, has notified "River Beas with all its water channels from 52 Head Talwara to Harike Barrage including all Government areas in River Beas." as Beas River Conservation Reserve and mining in riverbed sites PB_GDP_BEAS_01 to 06 shall be carried out only after obtaining NOC though the Chief Wildlife Warden Punjab. No other mining site falls in protected area, wildlife sanctuary and eco-sensitive zone in District Gurdaspur.

(Source: DFO Wildlife, Pathankot)

2. The total nos. of sites which are taken in Annexure-V have been proposed and recommended by the respective Sub Division Level Committees after following the guidelines of SSMG-2016 and EMGS-2020.

Out of total 41 sites, 8 sites were not recommended by Sub Division Level Committees which are **(i) PB_GDP_RAVI-01, (ii) 05 Nos. agriculture mining sites in Tehsil Dinanagar and (iii) 02 agriculture sites in Tehsil Batala.**

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3. Out of total recommended 20 Nos. agriculture mining sites, 18 Nos. agriculture mining sites have fallen into riverbed (*overlapped with already identified potential riverbed mining sites in Annexure-I)* and have not been included in Annexure-V. The agricultural mining sites in Annexure-I at Sr. No. 1 & 2 fall into PB_GDP_RAVI_02 & 03 and Sr. No. 4, 5, 8, 9, 10, 11, 12, 15, 25 & 26 fall into PB_GDP_RAVI_04 & 05 where as Sr. No. 18, 19, 20, 21, 22 & 23 fall into PB_GDP_RAVI_07

❖ **Observations as per reports of Sub Division Level Committees: -**

1. Divisional Forest Officer, Gurdaspur has recommended site PB_GDP_RAVI-08 with observation to ensure demarcation before mining.
2. Divisional Forest Officer/Wildlife, Pathankot has recommended mining sites PB_GDP_BEAS-01, 02, 03, 04, 05 & 06 with the observation that these sites fall in Beas River Conservation Reserve and prior approval from National Board of Wildlife is required to undertake mining activities.
3. Executive Engineer, PWD(B&R) has recommended sites PB_GDP_RAVI-02, 03 & 04 with observation to halt mining activity within 1km from the proposed bridge when construction of the said bridge takes place.
4. Sub Division Level Committee, Dera Baba Nanak has recommended PB_GDP_RAVI-07 & 08 with observation to ensure no mining activity within 1.0 km of international border as per policy of the Government.
5. The sites mentioned in this annexure have been recommended by Sub-Divisional Committee as shown below: -

Sr. No.	Mining Sites as per Annexure – V	Village Name	Sub Division Level Commiee`	Sr. No. in SLDC Report	Page No.
1	Salvinder Kaur	Marara	SDLC Dinanagar	6	273
2	Rajwant Kaur	Mamka		7	
3	PB_GDP_RAVI_02	Chak Ram Sahai 1	SDLC Dinanagar	2	277
4	PB_GDP_RAVI_03	Chak Ram Sahai 2		3	
5	PB_GDP_RAVI_04	Raji Beli		4	
6	PB_GDP_RAVI_05	Toor		5	
7	PB_GDP_RAVI_06	Mamka Khizarpur		6	
8	PB_GDP_RAVI_07	Gunia	SDLC Dera Baba Nanak	1	279
9	PB_GDP_RAVI_08	Gurchak		2	
10	PB_GDP_BEAS_01	Kishanpur	SDLC Gurdaspur	1	284
11	PB_GDP_BEAS_02	Fau Barkat`		2	
12	PB_GDP_BEAS_03	Faaà Kulla	SDLC Batala	1	287
13	PB_GDP_BEAS_04	Rampur Talwara		2	
14	PB_GDP_BEAS_05	Kangra		3	
15	PB_GDP_BEAS_06	Balarwal		4	

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➢ Final List of Proposed De-siltation location (Lake, Pond, Dams, River):

Name	Maintain/Controlled by Sate Govt./PSU etc.	Location		District	Tehsil	Village	Size (Ha)
		Latitude	Longitude				
PB_GDP_RAVI_DESIL_01	Sate Govt.	32° 1'58.15"N 32° 2'12.37"N 32° 2'13.81"N 32° 2'14.54"N 32° 2'13.33"N 32° 2'11.28"N 32° 2'3.67"N	74°55'40.18"E 74°55'42.63"E 74°55'40.45"E 74°55'36.69"E 74°55'32.27"E 74°55'25.85"E 74°55'24.65"E	Gurdaspur	Dera Baba Nanak	Mansur	16.70
PB_GDP_RAVI_DESIL_02	Sate Govt.	32° 2'0.00"N 32° 1'59.08"N 32° 1'59.04"N 32° 1'58.09"N 32° 1'58.28"N 32° 1'59.09"N 32° 2'1.45"N 32° 2'4.55"N 32° 2'7.99"N 32° 2'10.10"N 32° 2'10.73"N 32° 2'10.79"N 32° 2'9.83"N 32° 2'9.83"N 32° 2'11.50"N 32° 2'12.47"N	74°55'42.77"E 74°55'45.16"E 74°55'47.34"E 74°55'55.81"E 74°55'58.49"E 74°56'2.87"E 74°56'5.25"E 74°56'7.11"E 74°56'5.98"E 74°56'3.88"E 74°56'1.52"E 74°55'58.54"E 74°55'54.46"E 74°55'53.11"E 74°55'48.57"E 74°55'44.13"E	Gurdaspur	Dera Baba Nanak	Mansur	21.79
TOTAL							**38.49**
Source: *District Mining Office, Gurdaspur and field survey data*							

Note: - The quantity of desilting in these sites shall be assessed as per the actual site conditions at the time of desilting and got approved from the competent authority.

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➢ Final List of Proposed M-Sand Plants:

Plant Name	Owner	District	Tehsil	Village	Geolocation		Quantity (Weight) (MT/year)	Existing/ Proposed
					Latitude	Longitude		
M/s Gurdaspur Stone Crusher	Parav Gupta	Gurdaspur	Dinanagar	Chachian Chodiyan	32° 1' 55.344" N	75° 19' 48.396" E	146000	Existing
M/s Shri Sai Stone Crusher	Davinder Salaria	Gurdaspur	Dinanagar	Chachian Chodiyan	32°03'21.8"N	75°33'04.3"E	102200	Existing
M/s Rama Crushing Unit	Davinder Singh	Gurdaspur	Dinanagar	Bianpur	32° 4' 54.948" N	75° 34' 22.1304"E	116800	Existing
M/s Radha Shyam Sunder Stone Crusher	Rishabh Kundra	Gurdaspur	Gurdaspur	Bhaini Paswal	31° 33' 55.48"N	75° 18' 41.15"E	146000	Existing
M/s Ramwal Bajri Co.	Chander Mohan Walia	Gurdaspur	Dinanagar	Ramwal	32° 6' 51.51"N	75° 34' 7.89"E	51100	Existing
M/s Rama Aggregate Unit	Davinder Salaria	Gurdaspur	Dinanagar	Ramwal	32° 6' 26.1"N	75° 35' 32.87"E	51100	Existing
M/s Pankaj Screener	Raj Kumar	Gurdaspur	Dinanagar	Bianpur	32° 4' 52.74"N	75° 34' 43.22"E	51100	Existing
M/s Rama Stone Crushing Udyog Samiti	Jagdev Singh	Gurdaspur	Dinanagar	Bianpur	32° 3' 1.44"N	75° 20' 43.91"E	255500	Existing
M/s Guru Nanak Dev Ji Stone Crusher	Sukhdeep Singh	Gurdaspur	Dinanagar	Sidhpur P.O Bianpur	32° 5' 13.08"N	75° 34' 55.56"E	116800	Existing
TOTAL							**1036600**	
Source: *District Mining Office, Gurdaspur*								

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ANNEXURE – VI

- **Final list of Cluster and Contiguous Clusters**

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DISTRICT SURVEY REPORT OF GURDASPUR DISTRICT, PUNJAB

➢ Cluster details

River Name	Cluster No.	Lease No.	Location (Riverbed/ Patta Land)	Village	Area (in Ha)	Total Mineral Reserve (MT)	Total Minable Reserve (MT)
Ravi	01	PB_GDP _RAVI_02 to PB_GDP _RAVI_06	Riverbed	Chak Ram Sahai 1, Chak Ram Sahai 2, Raji Beli, Toor, Mamka Khizarpur	50.59	1714460.48	1,028,676.29
							Source: *Field Survey Data*

➢ Contiguous Cluster details:

River Name	Contiguous Cluster No.	Cluster No.	Number of leases in the cluster	Location (Riverbed /Patta Land)	Distance between clusters	Village	Area of Cluster (Ha)	Total Minable Reserve (MT)
NA								

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ANNEXURE – VII

- **Final Transportation Routes for individual leases and leases in Cluster(s):**

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➢ Final Transportation Routes for individual leases details (Riverbed):

Sl. No.	Lease No	Transportation Route No	Number Of Tippers/ Day Of All The Lease	Number Of Tippers/Day Of All The Lease On Route	Length Of Route In Km	Type Of Road (Black Topped/ Unpaved)	Recommendation For Road (Black Topped/Unpaved)	The Road Will Be Constructed By Govt/ Lease Owner	Route Map & Location
1	PB_GDP_RAVI_02	C - C'	49	49	2.17	Kacha road	1. Treatment of road from Local Resources. 2. Regular Sprinkling of Water. 3. Management of traffic	Lease Owner	
2	PB_GDP_RAVI_03	D - D'	93	93	2.19	Kacha road		Lease Owner	
3	PB_GDP_RAVI_04	E - E'	160	160	1.96	Kacha road		Lease Owner	
4	PB_GDP_RAVI_05	F - F'	132	132	2.25	Kacha road		Lease Owner	
5	PB_GDP_RAVI_06	G - G', H - H'	135	135	2.15 / 2.17	Kacha road		Lease Owner	
6	PB_GDP_RAVI_07	I - I'	103	103	1.66	Kacha road		Lease Owner	
7	PB_GDP_RAVI_08	J - J', K - K'	192	192	1.86 / 1.59	Kacha road		Lease Owner	
8	PB_GDP_BEAS_01	L - L', M - M'	196	196	2.48 / 2.63	Kacha road		Lease Owner	
9	PB_GDP_BEAS_02	N - N'	118	118	1.5	Kacha road		Lease Owner	
10	PB_GDP_BEAS_03	O - O'	167	167	2.23	Kacha road		Lease Owner	
11	PB_GDP_BEAS_04	P - P', Q - Q'	162	162	2.15 / 1.26	Kacha road		Lease Owner	

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12	PB_GDP_BEAS_05	R - R', S - S'	165	165	2.28 / 1.29	Kacha road		Lease Owner	
13	PB_GDP_BEAS_06	T - T', U - U'	127	127	2.28 / 1.26	Kacha road		Lease Owner	
	TOTAL		**1799**	**1799**					

Source: *Field Survey Data*

➢ Final Transportation Routes for individual leases details (Agriculture):

Sl. No.	Land Owner	Transportation Route No.	No. Of Tippers/ Days of lease	No. Of tippers / Days of all the lease on the Route	Length of the route in KM	Type of Road(Black top / Unpaved	Recommendations for Road Black Top/ Unpaved	Road will be constructed by Govt/ Lease owner	Route map and loaction
1	Salvinder Kaur	A - A'	35	35	1	Kacha road	1. Treatment of road from Local Resources. 2. Regular Sprinkling of Water. 3.Management of traffic	Lease Owner	Annexure - XI
2	Rajwant Kaur	B - B'	26	26	1.13	Kacha road		Lease Owner	
	Total		**61**	**61**					

Source: *Field Survey Data*

Note: The above mentioned transportation routes are as per the present infrastructure, which may change according to the development / identification of new routes, after temporary acquisition of land if required. The final transportation routes shall be as per the approved mining plan and as per the environment clearance granted by the competent authority.

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➢ Final Transportation Routes for leases in Cluster details

Cluster No.	Transportation Route No.	Number of tippers / days of cluster	Number of tippers / days of all the clusters on route	Length of Route in km	Type of Road (Black Topped / unpaved)	Recommendation for road (Black Topped / unpaved)	The road will be Constructed by Govt. / Lease Owner	Route Map & Location
01	C - C' D - D' E - E' F - F' G - G', H - H'	114	114	12	Kacha road	1. Treatment of road from Local Resources. 2. Regular Sprinkling of Water. 3.Management of traffic	Lease Owner	Annexure - XI

Source: *Field Survey Data*

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ANNEXURE-VIII

- **SATTELITE IMAGE**
- **FINAL POTENTIAL SAND MINING SITES**
- **NO MINING ZONE**
- **ORIGINAL GROUND LEVEL (OGL)**
- **GROUND CONTROL POINT (GCP)**
- **RESTRICTED AREA**
- **RIGHT FPB**
- **LEFT FPB**

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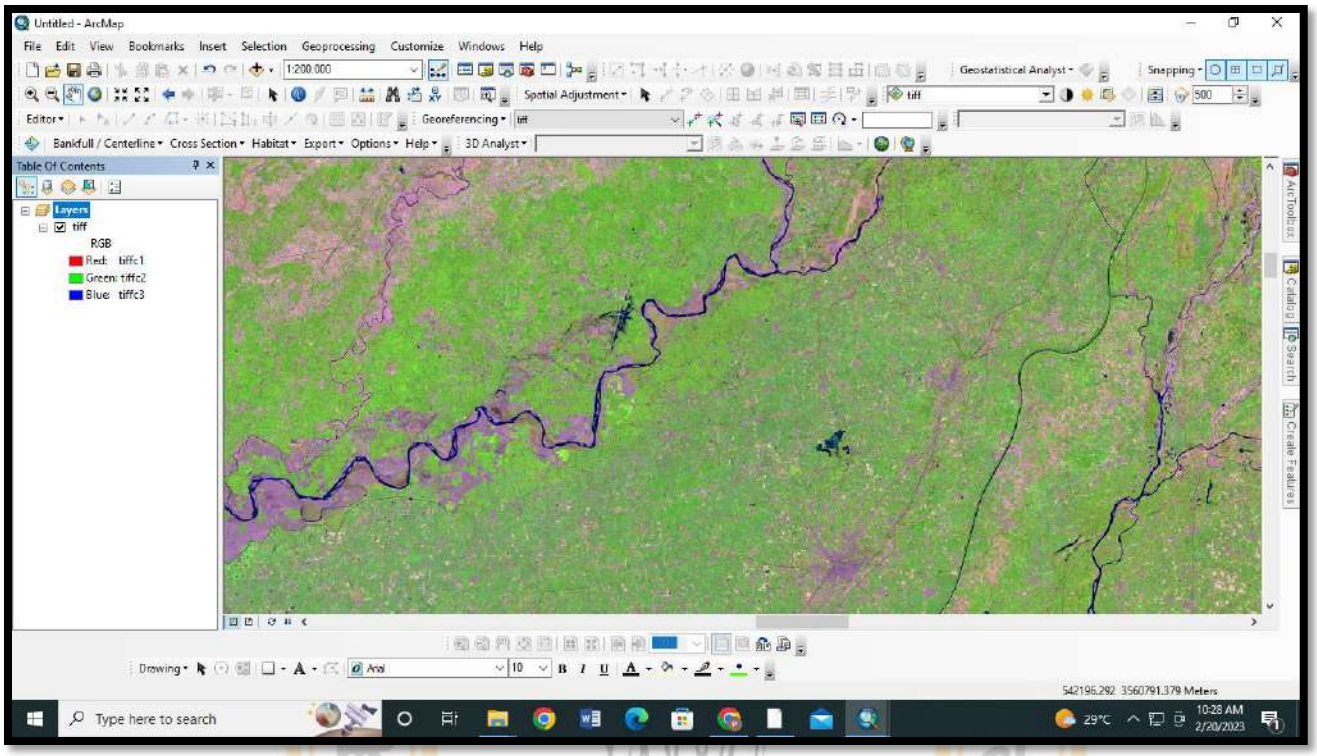
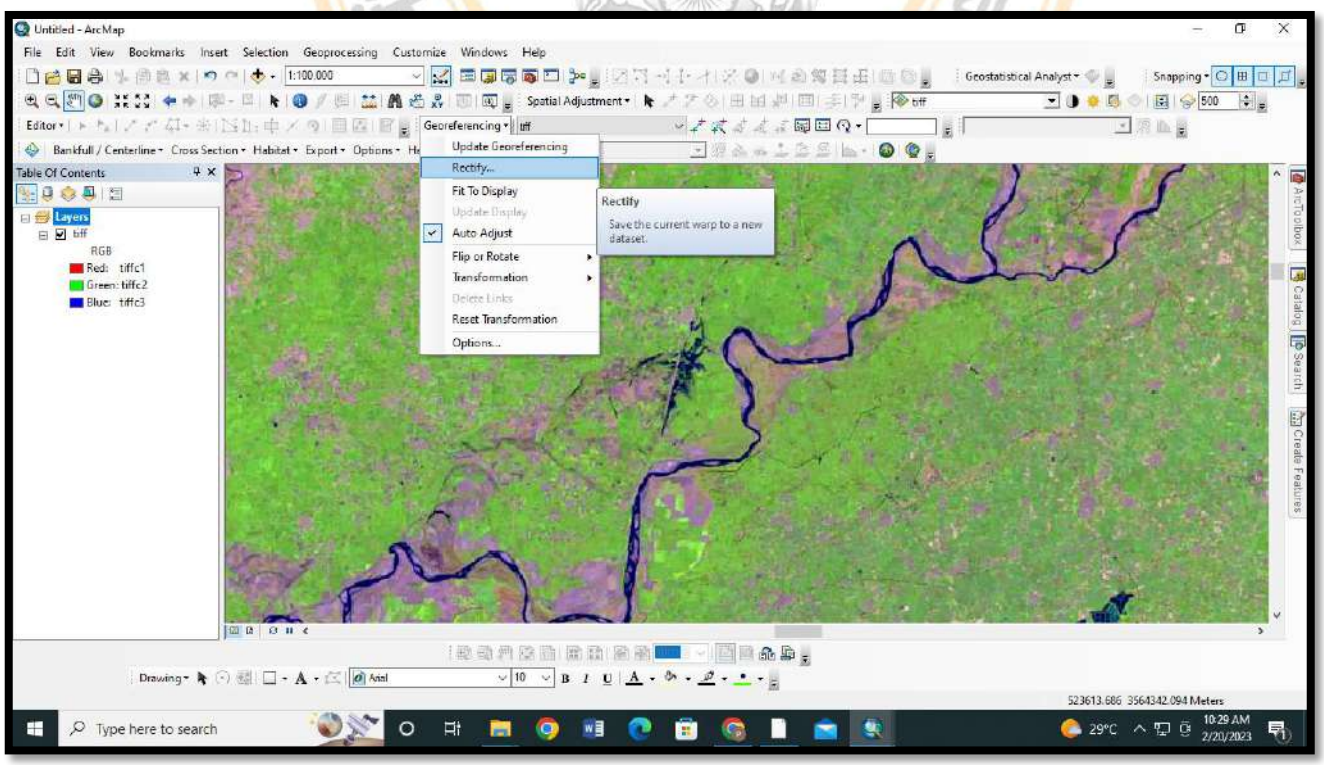


Satellite Image of the river Stretch under consideration



Georeferencing and rectification of the Satellite Image

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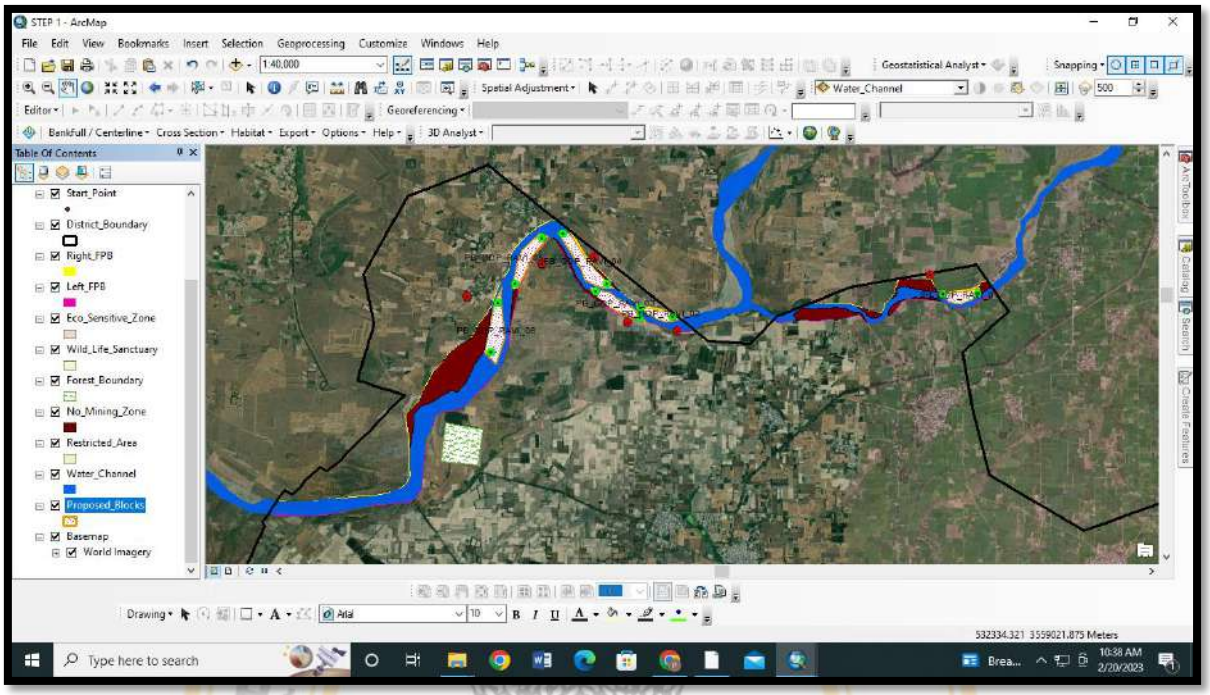
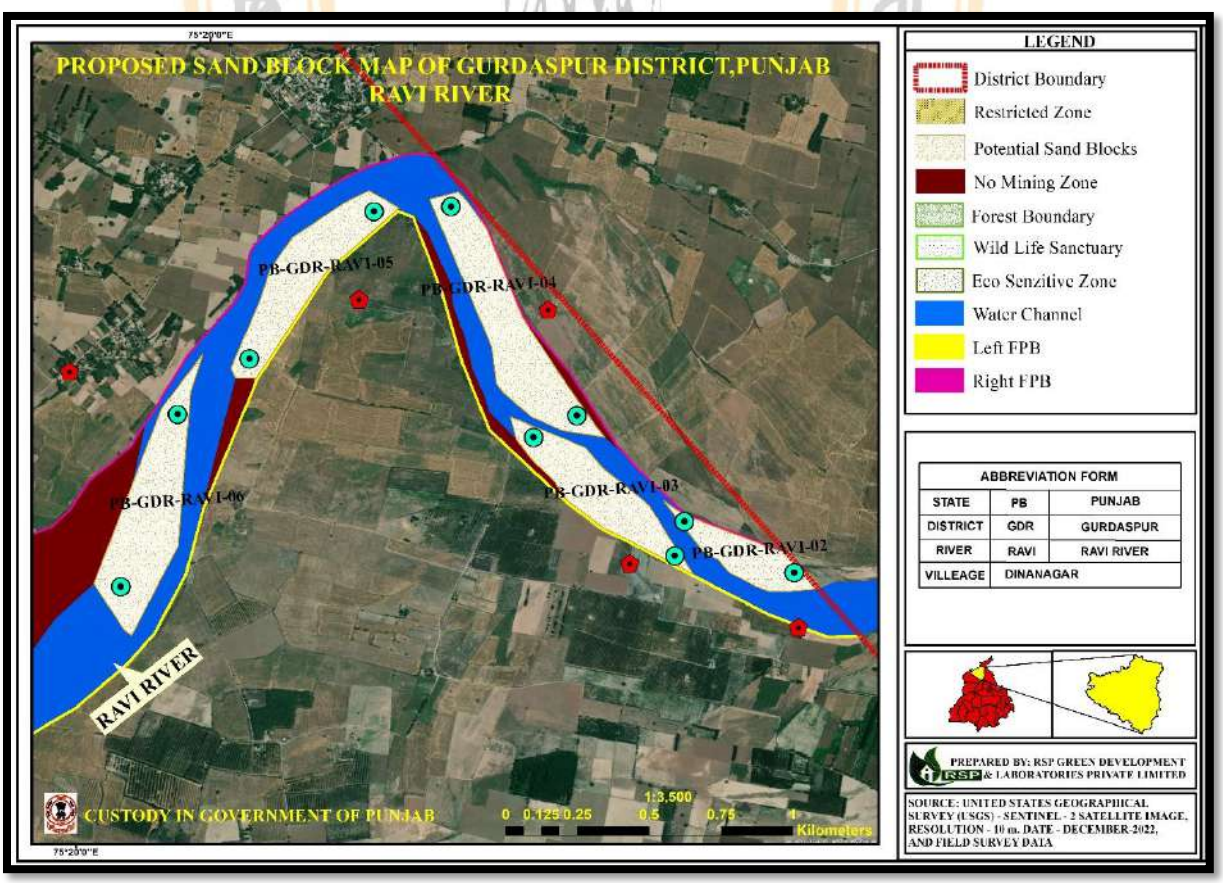


Digitization of the Satellite Image While Using Shape File



Map Depicting Deposition Zones, No Mining Zones, and Structures etc.

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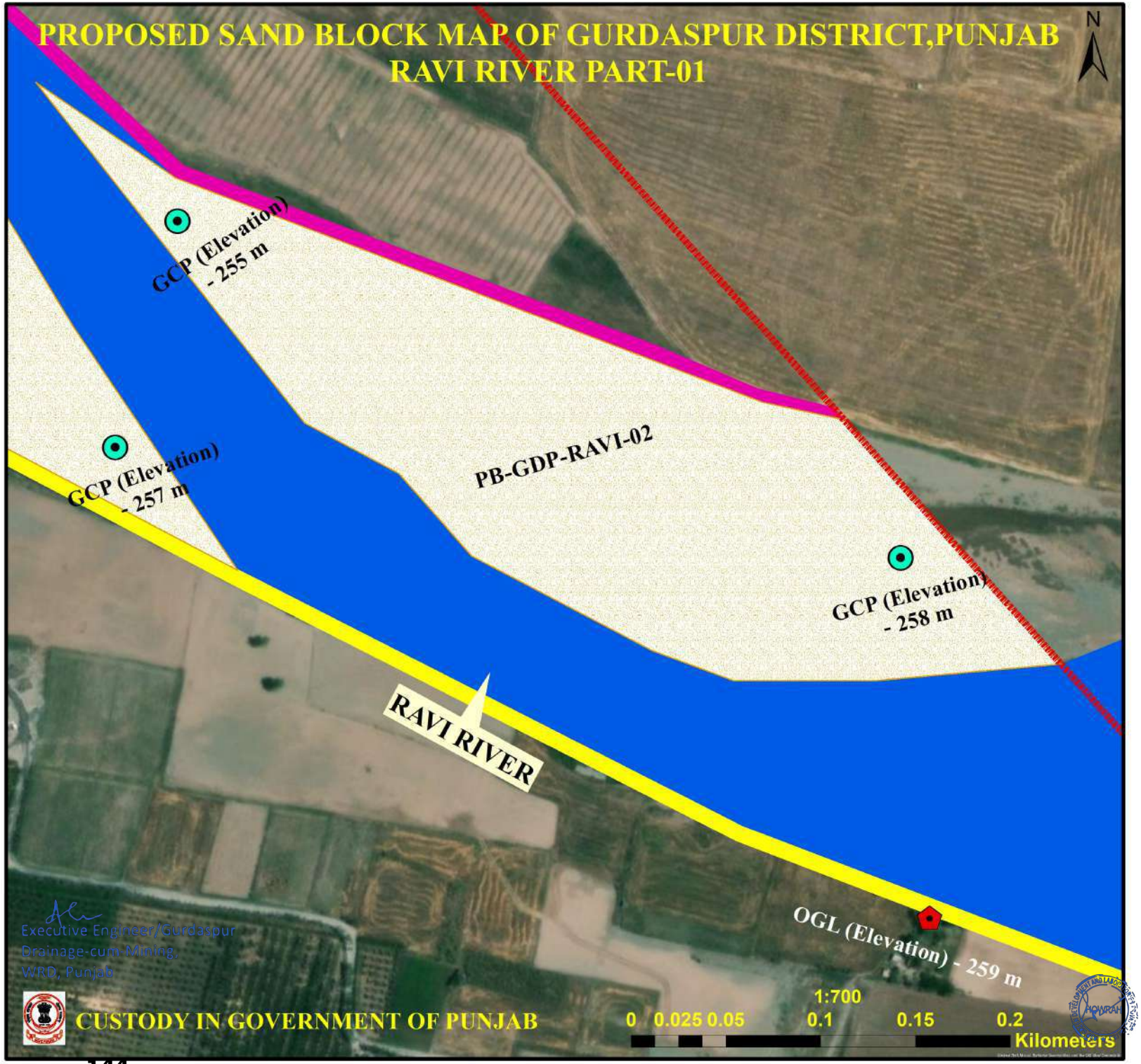
PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART-01

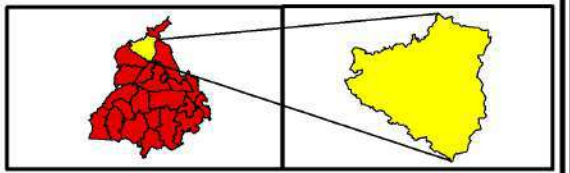


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER
VILLEAGE	CHAK RAM SAHAI 1	

CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-02	5.02



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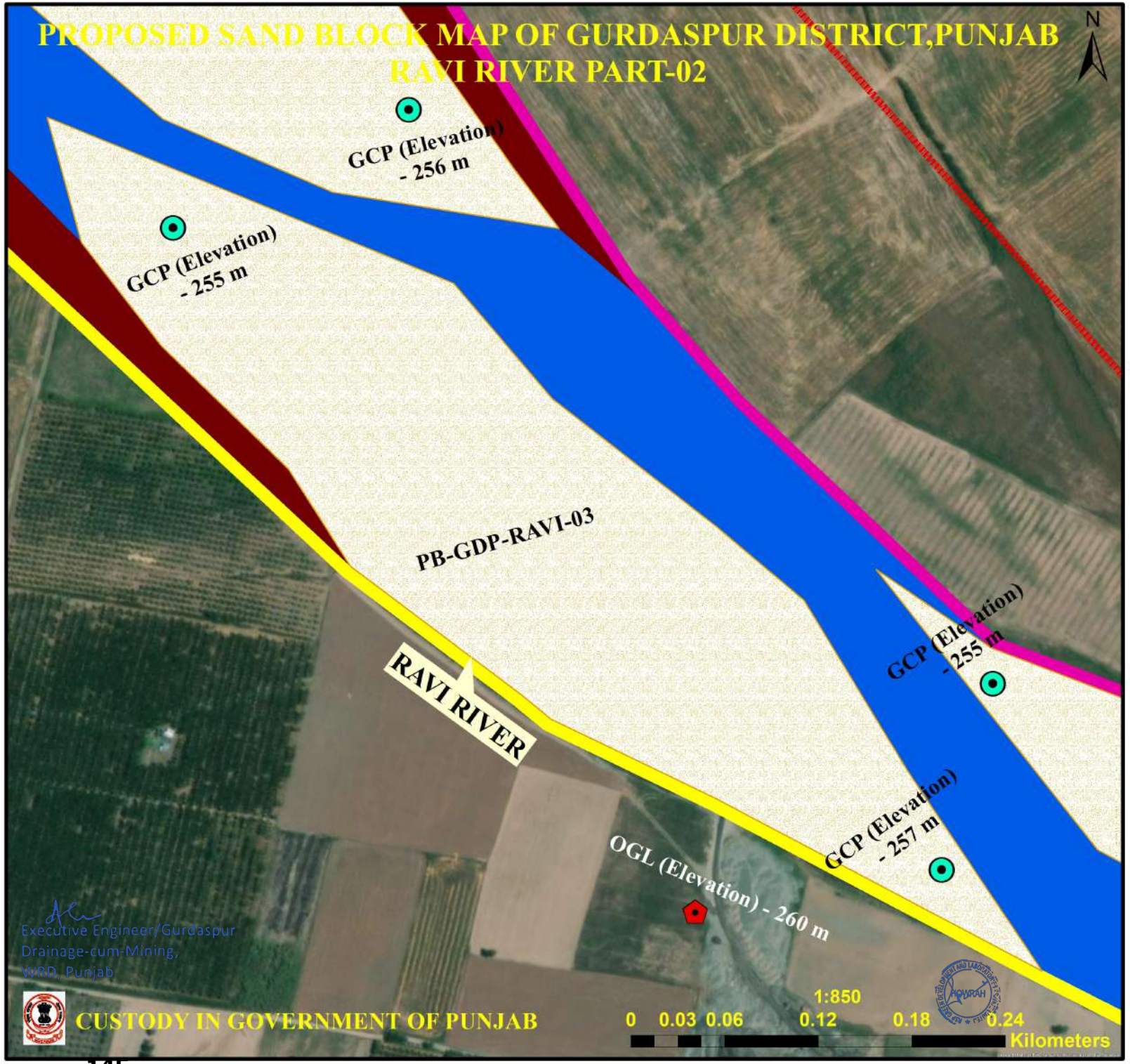
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART-02

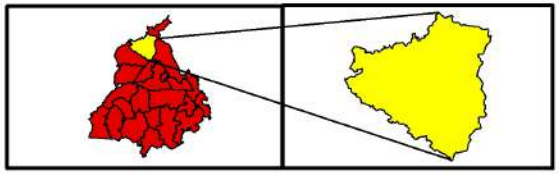


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER
VILLEAGE	CHAK RAM SAHAI 2	

CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-03	8.74



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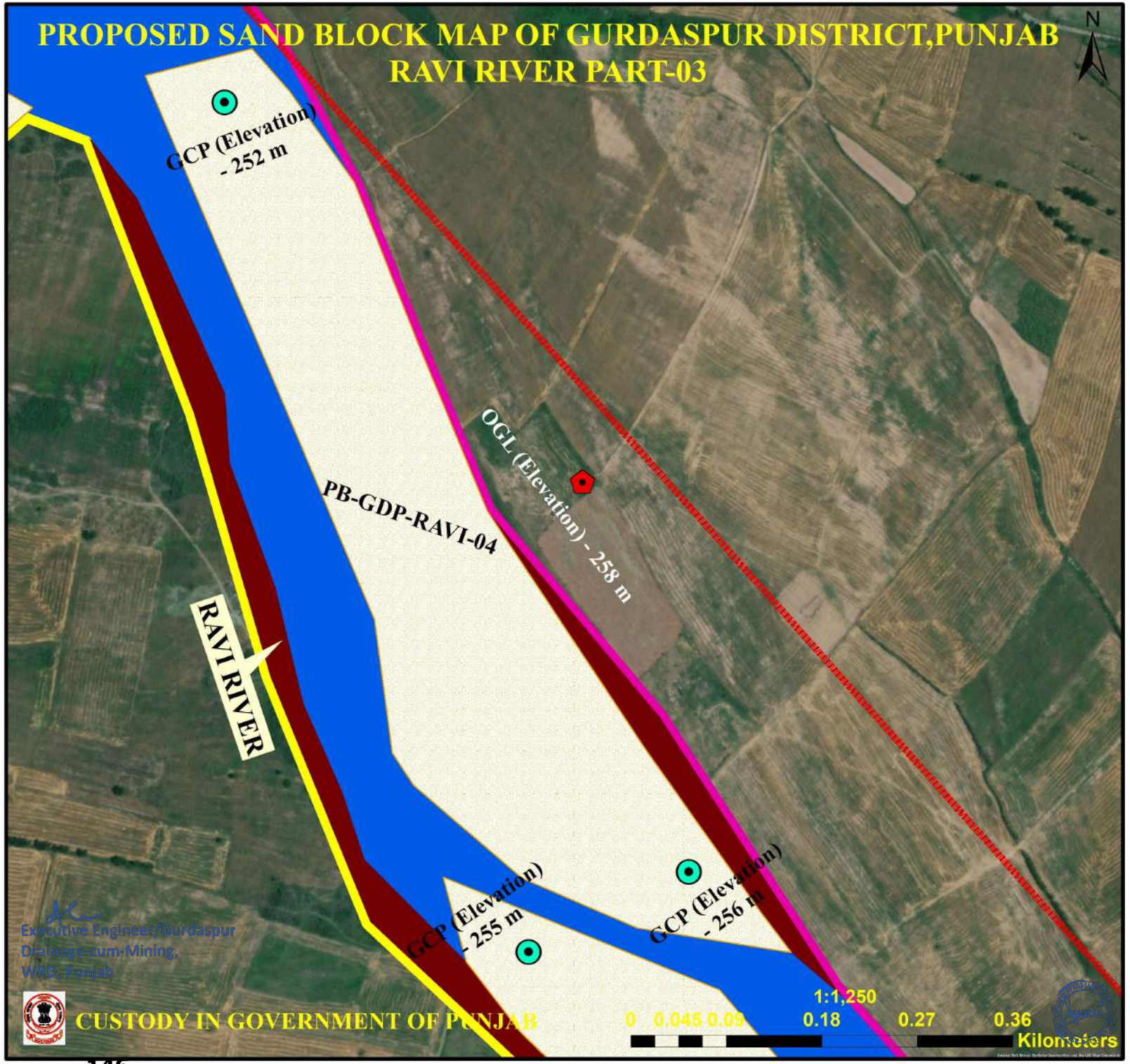
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART-03



Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

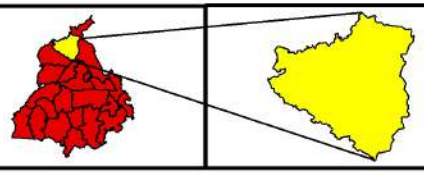
CUSTODY IN GOVERNMENT OF PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER
VILLEAGE	RAJI BELI	

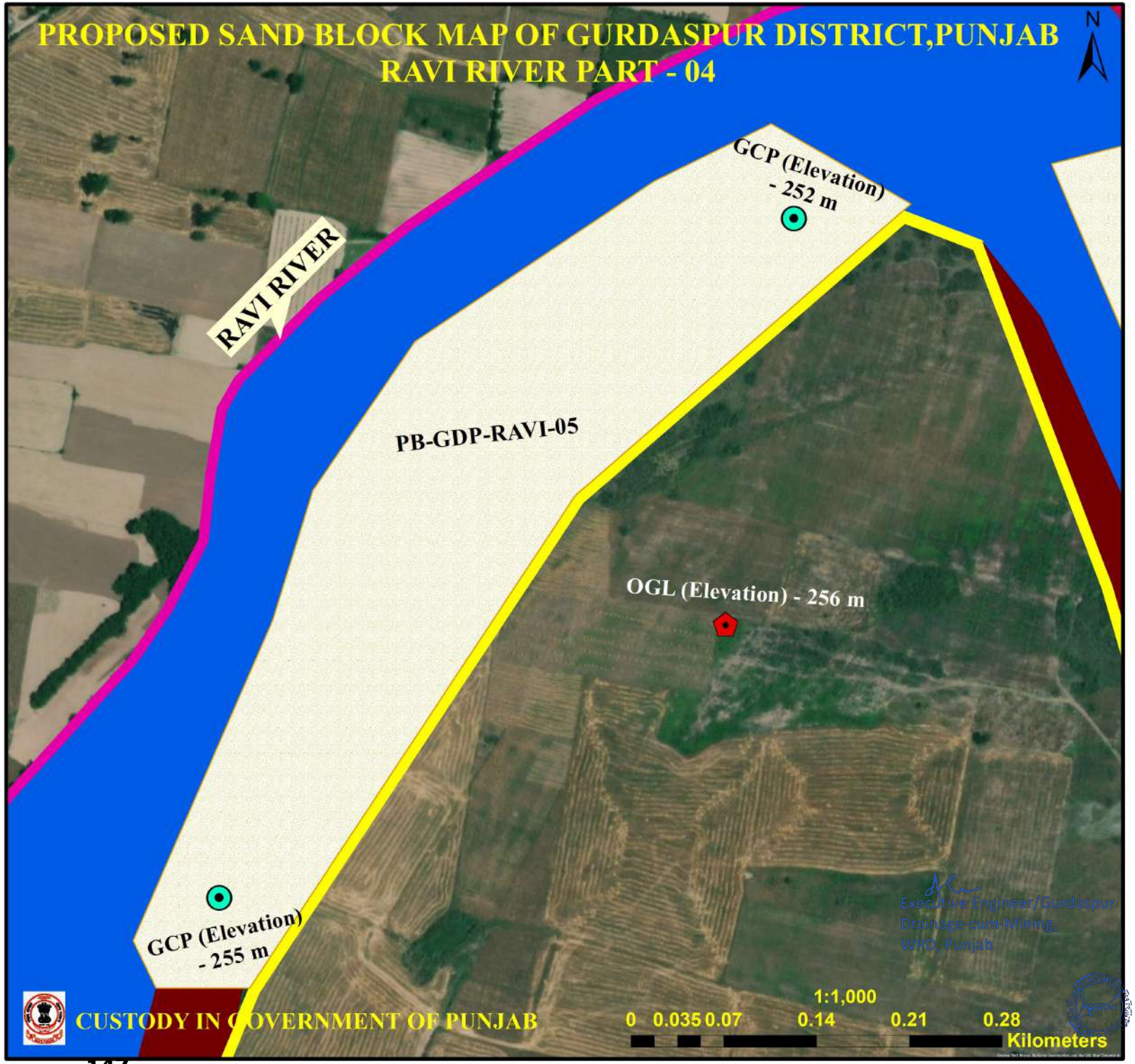
CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-04	13.21



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART - 04

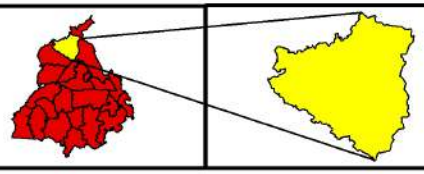


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER
VILLEAGE	TOOR	

CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-05	10.44

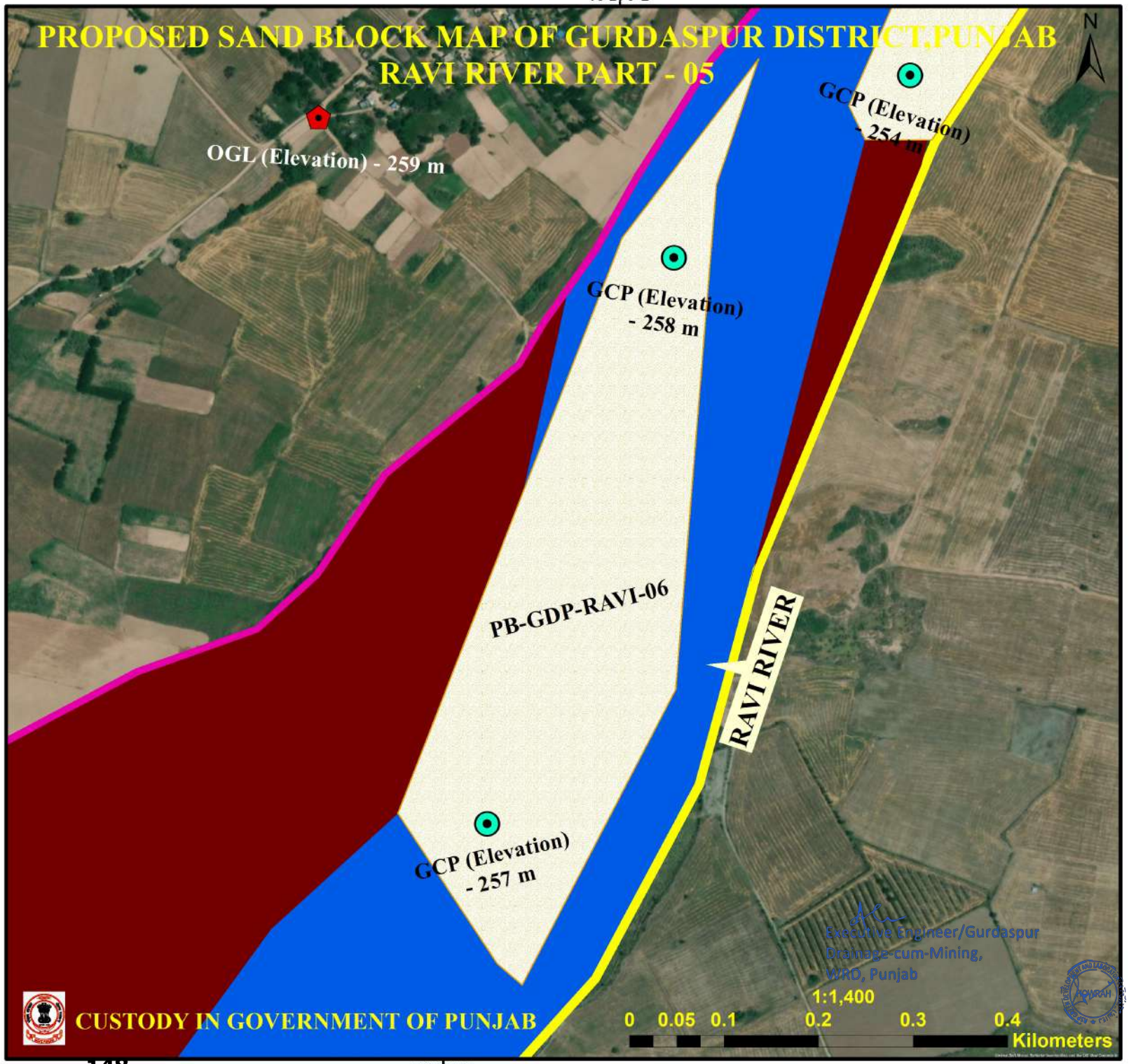


PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

75°20'0"E

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART - 05



75°20'0"E

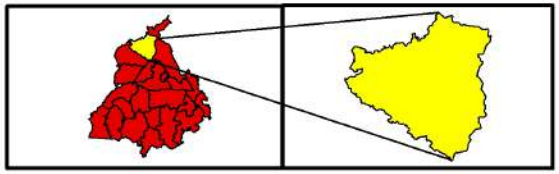
148

LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER
VILLEAGE	MAMKA KHIZARPUR	

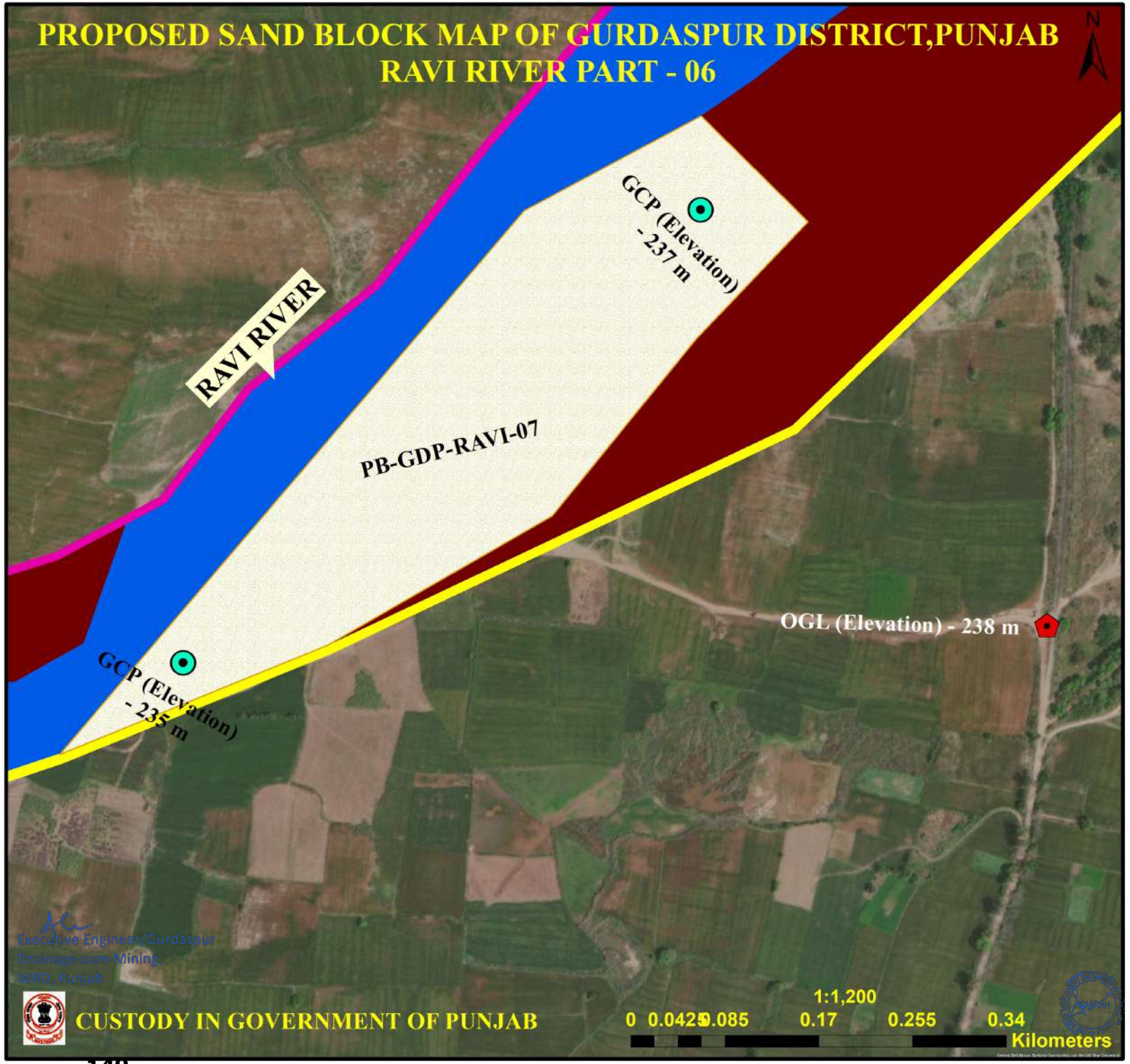
CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-06	13.18



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART - 06

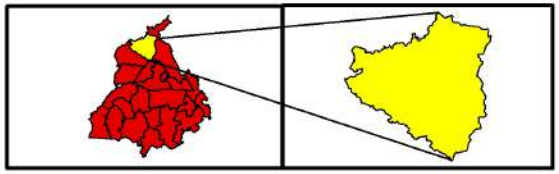


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER
VILLEAGE	GUNIA	

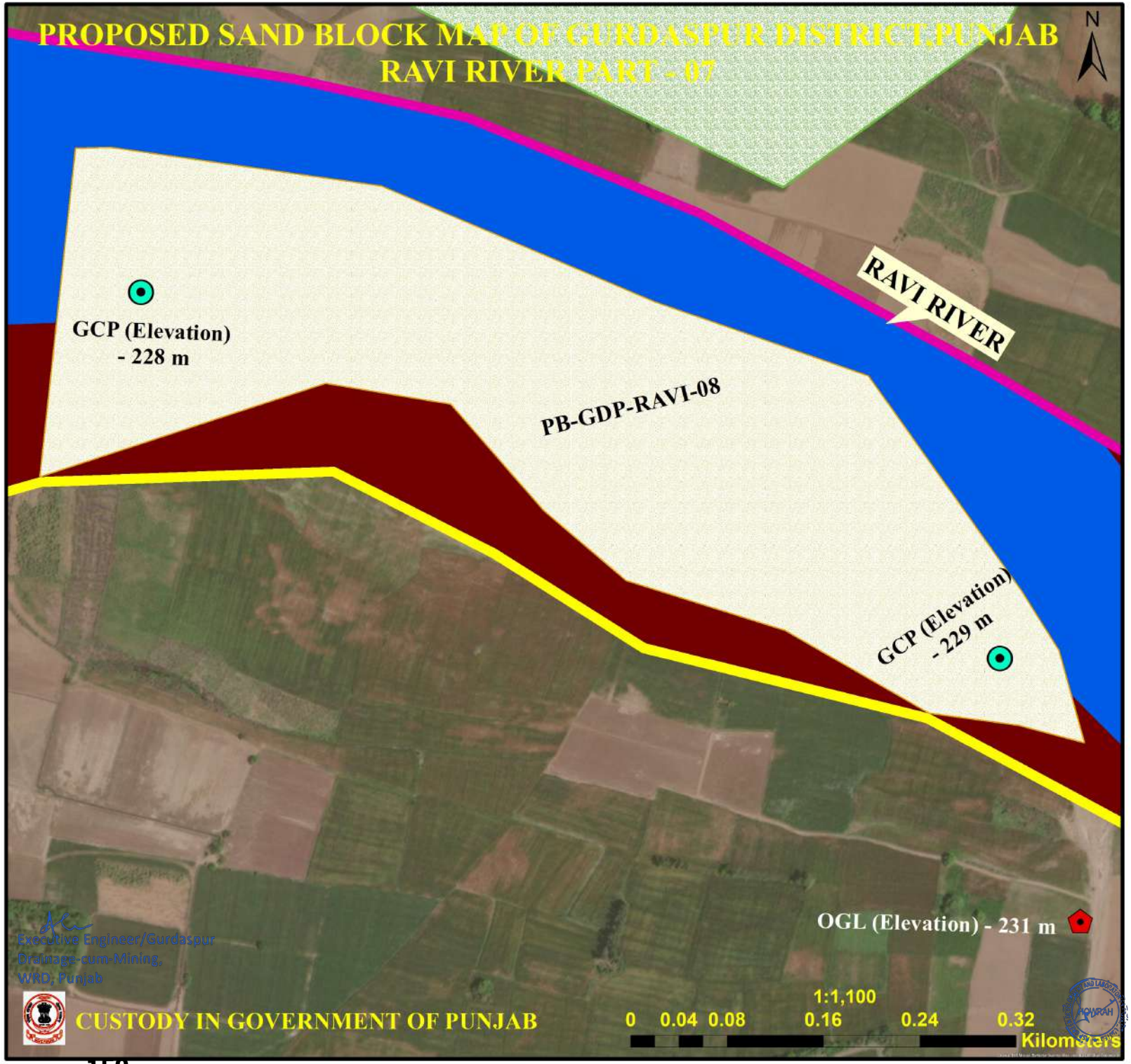
CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-07	10.65



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART - 07

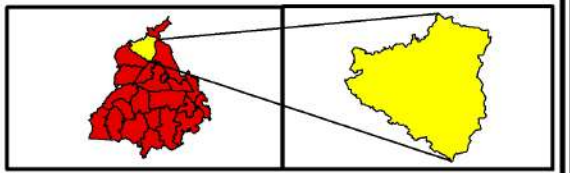


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER
VILLEAGE	GURCHAK	

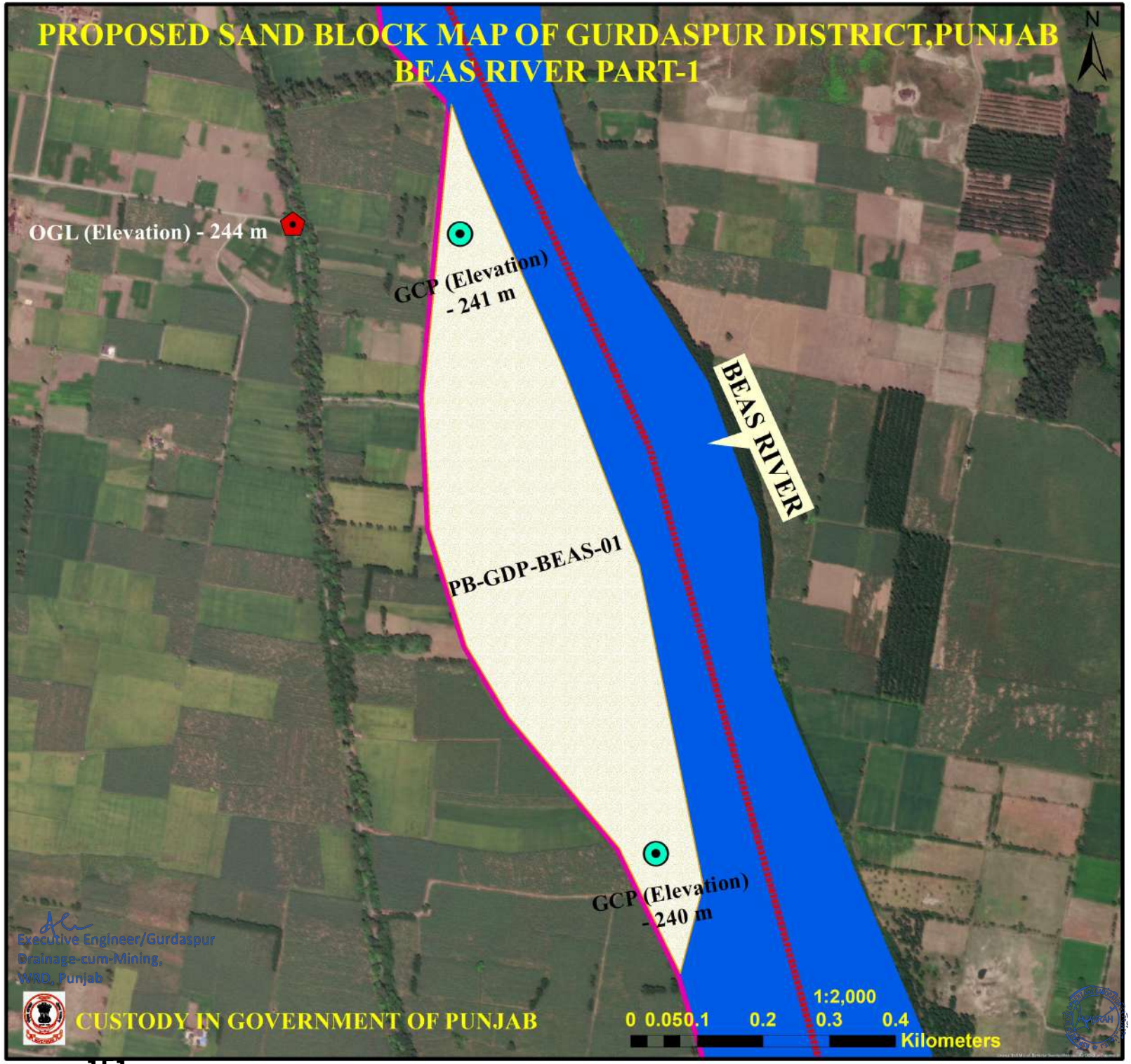
CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-08	16.01



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
BEAS RIVER PART-1



Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

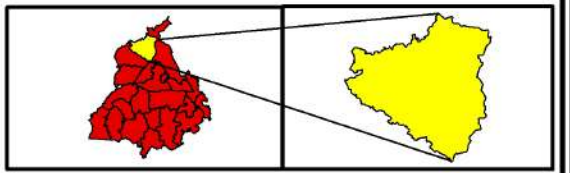
CUSTODY IN GOVERNMENT OF PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER
VILLEAGE	KISHANPUR	

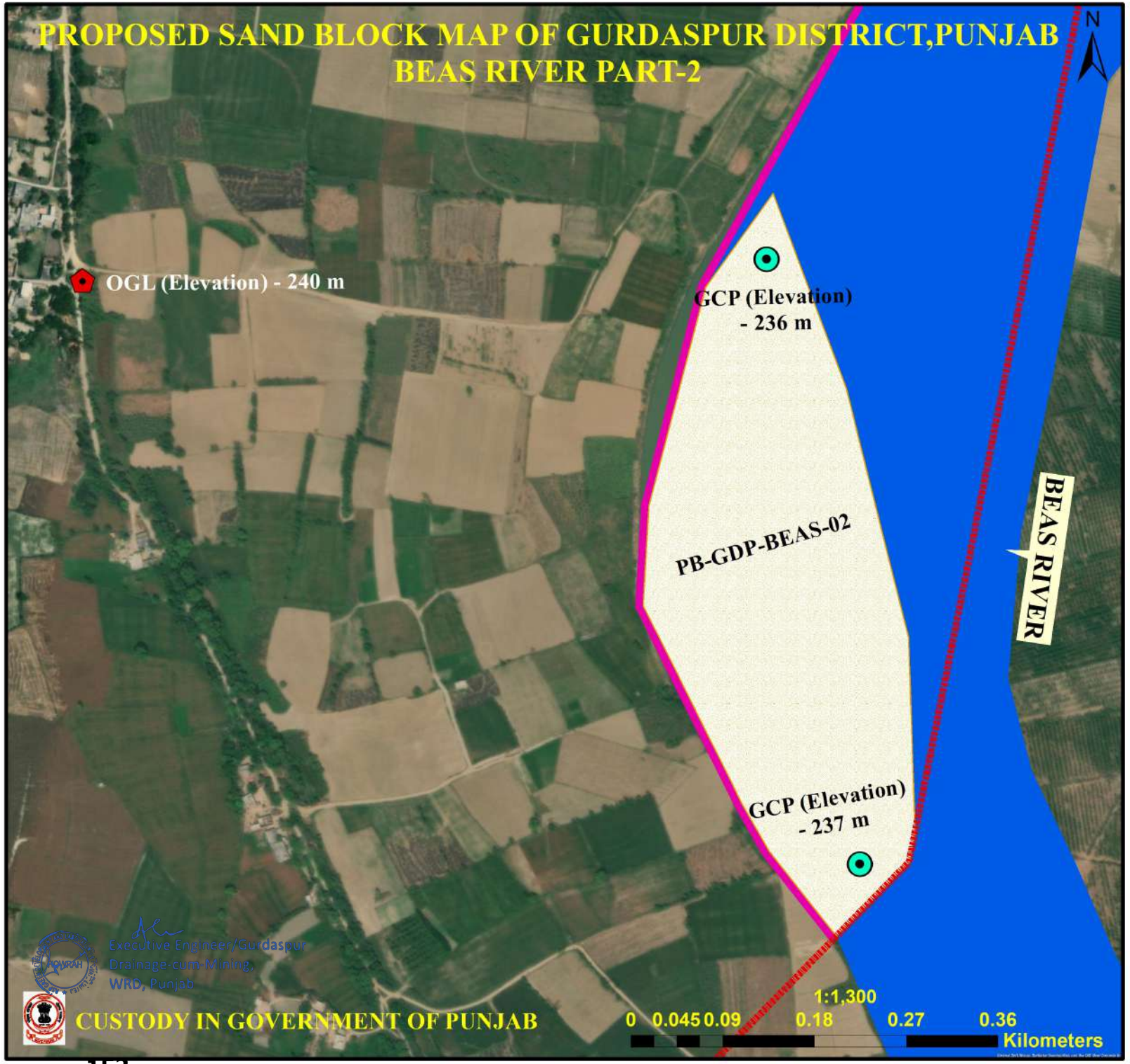
CODE	POTENTIAL AREA (Ha)
PB-GDP-BEAS-01	21.43



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
BEAS RIVER PART-2

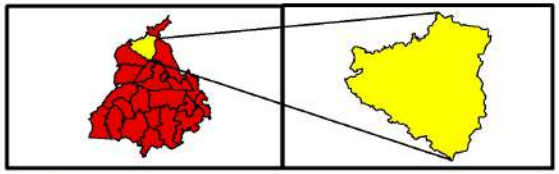


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER
VILLEAGE	FATTU BARKAT	

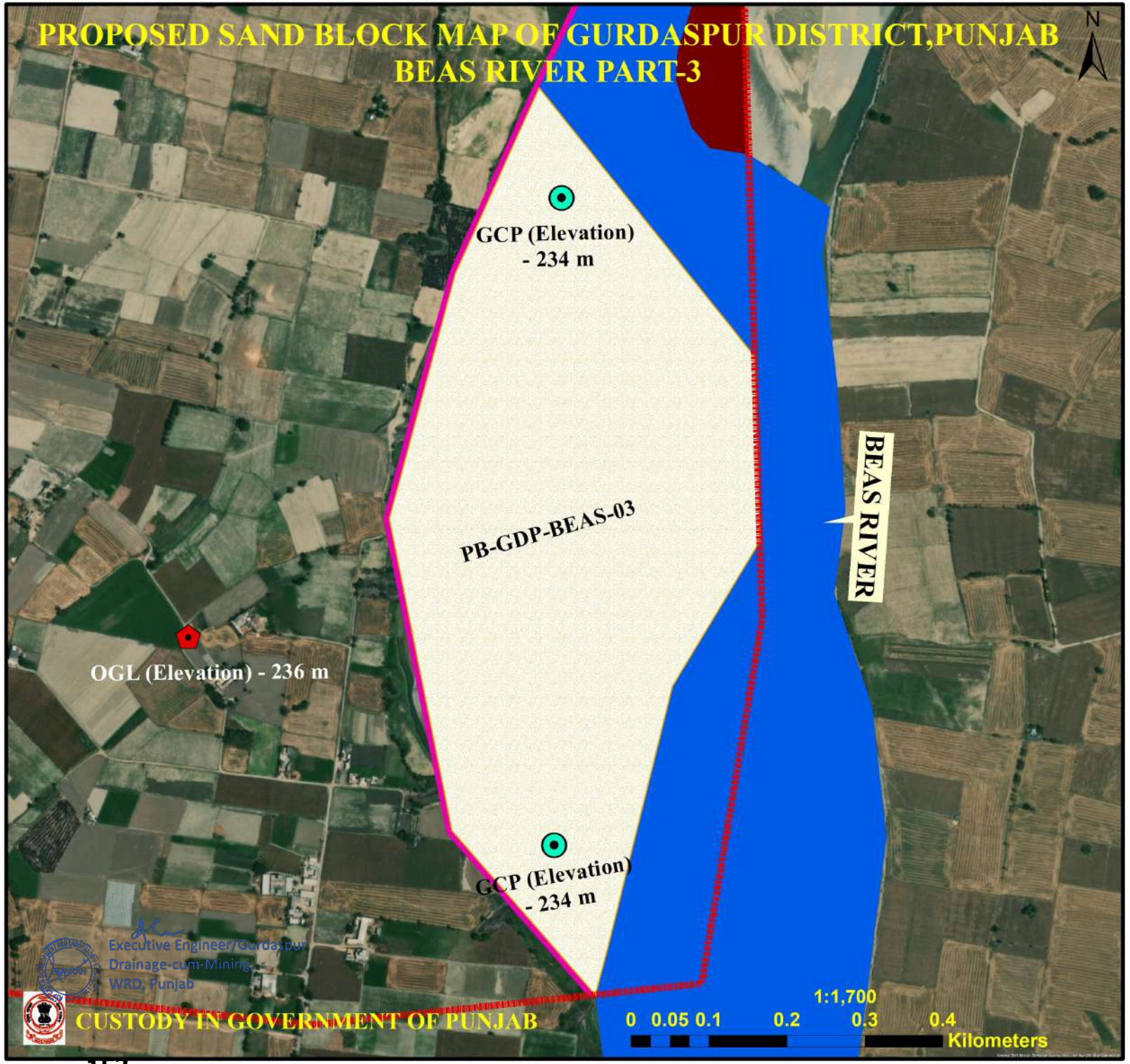
CODE	POTENTIAL AREA (Ha)
PB-GDP-BEAS-02	11.04



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
BEAS RIVER PART-3

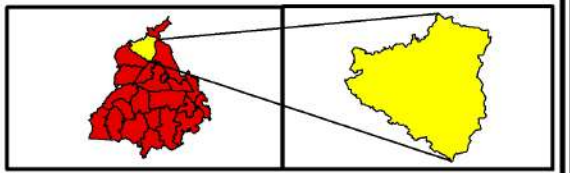


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER
VILLEAGE	FATTA KULLA	

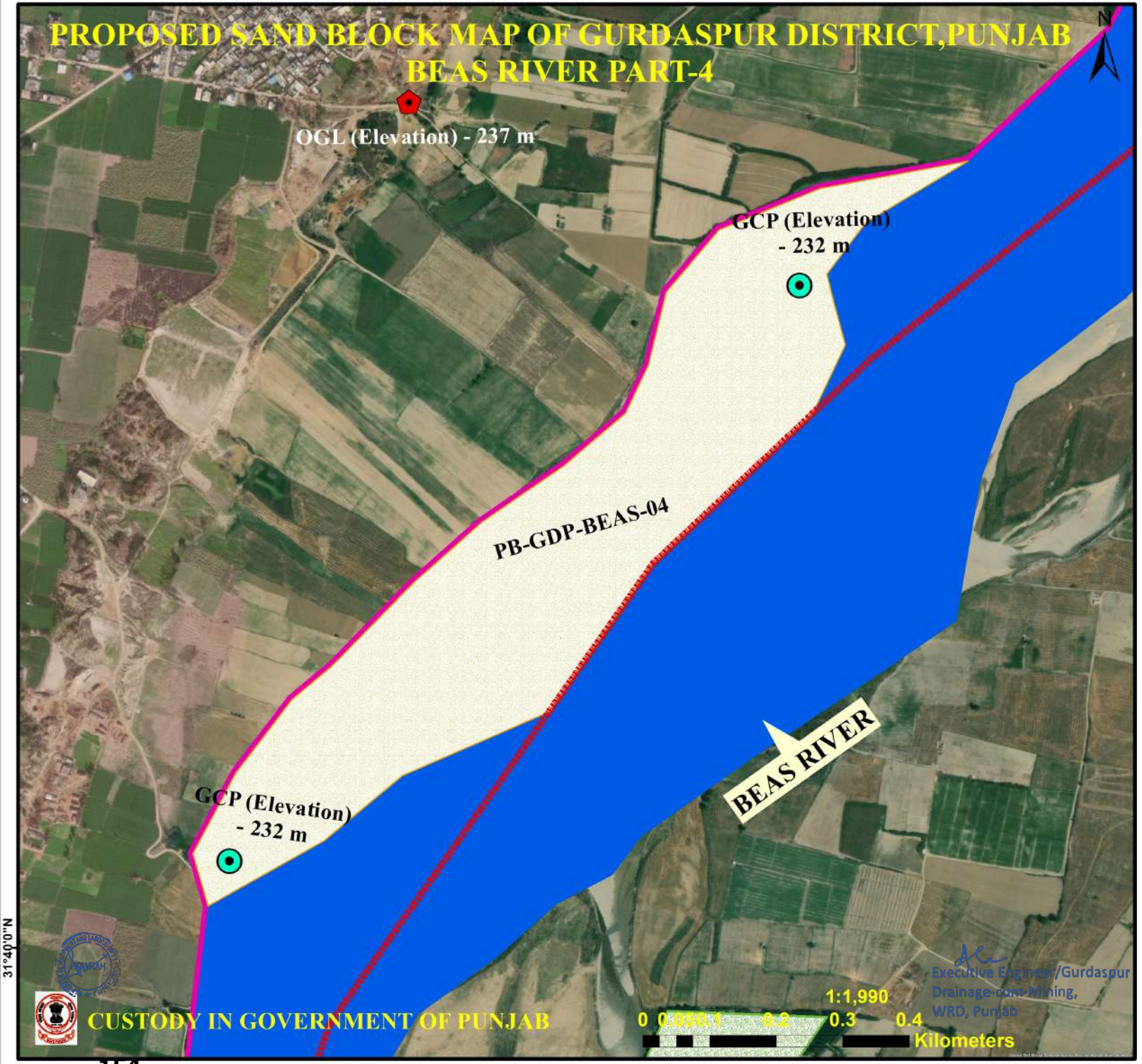
CODE	POTENTIAL AREA (Ha)
PB-GDP-BEAS-03	30.77



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
BEAS RIVER PART-4

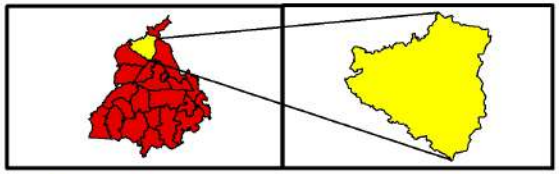


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER
VILLEAGE	RAMPUR TALWARA	

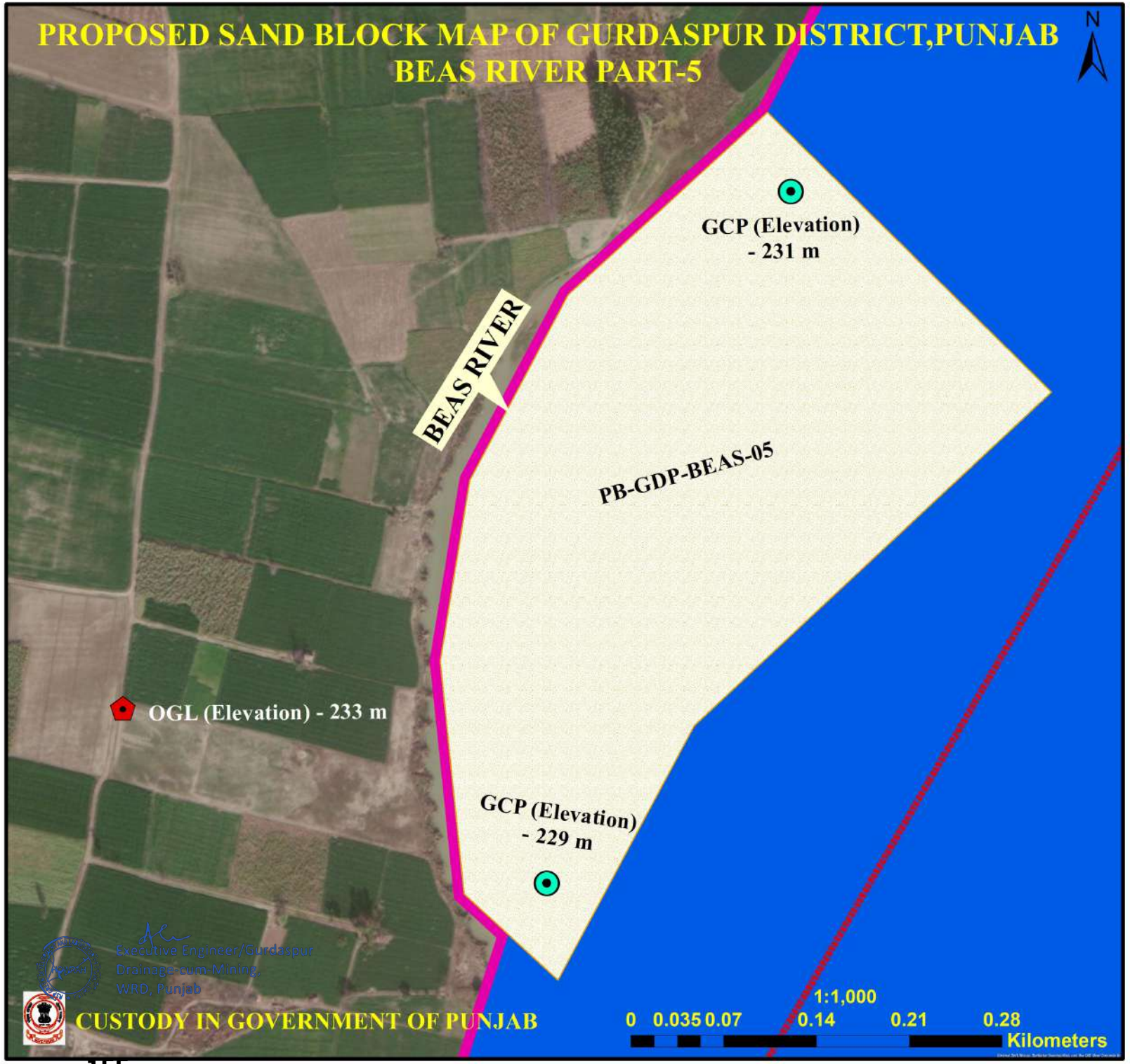
CODE	POTENTIAL AREA (Ha)
PB-GDP-BEAS-04	27.82



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
BEAS RIVER PART-5

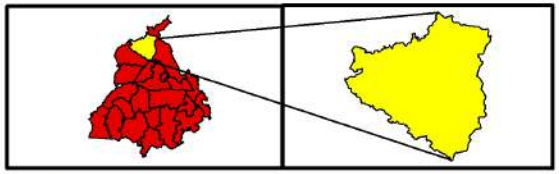


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER
VILLEAGE	KANGRA	

CODE	POTENTIAL AREA (Ha)
PB-GDP-BEAS-05	13.58



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

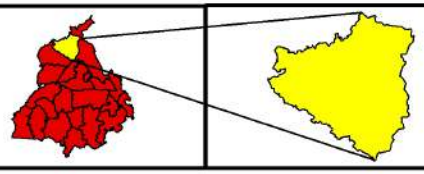
PROPOSED SAND BLOCK MAP OF GURDASPUR DISTRICT,PUNJAB
BEAS RIVER PART- 06

LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER
VILLEAGE	BALARWAL	

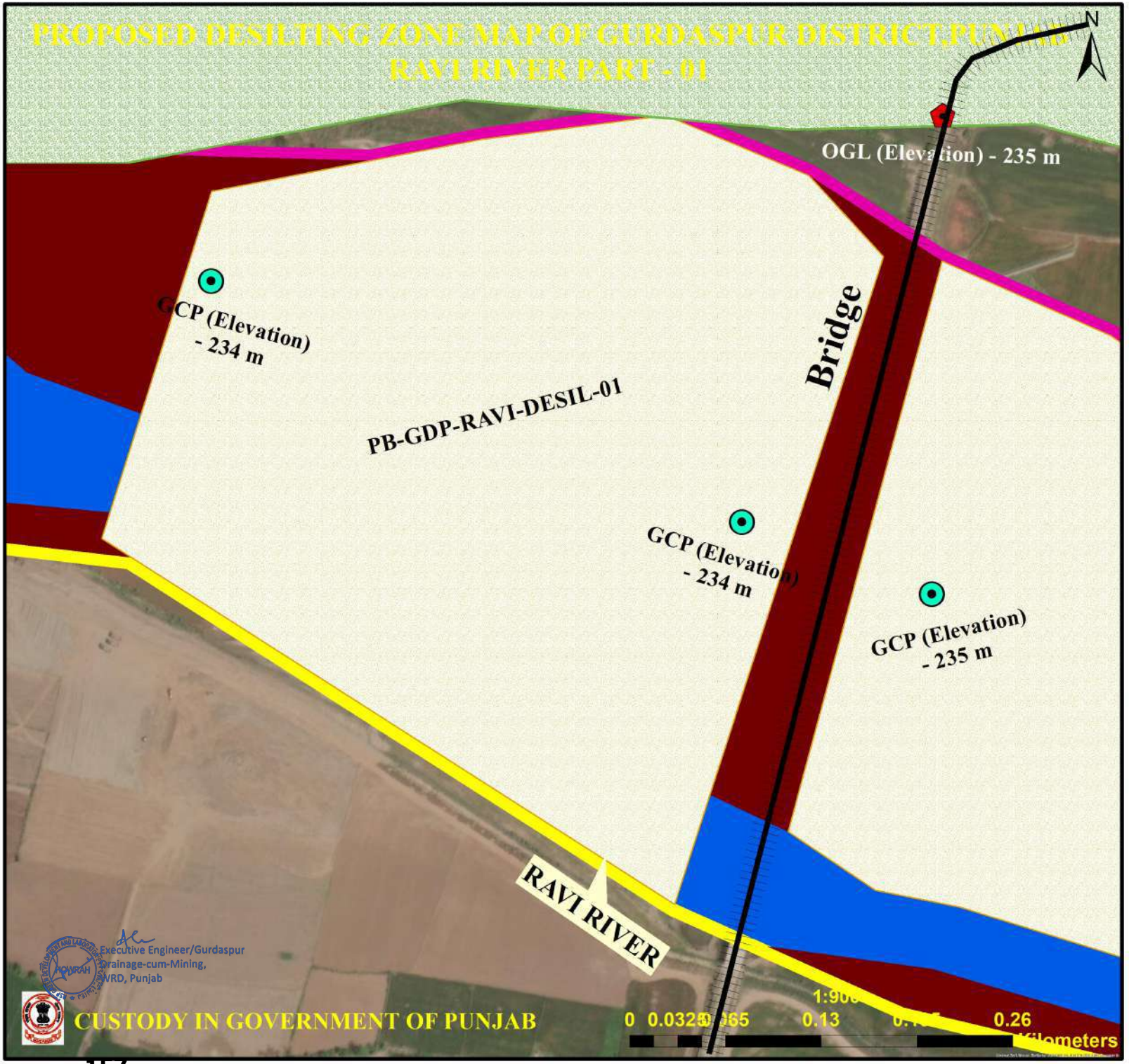
CODE	POTENTIAL AREA (Ha)
PB-GDP-BEAS-06	19.33



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED DESILTING ZONE MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART - 01



Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

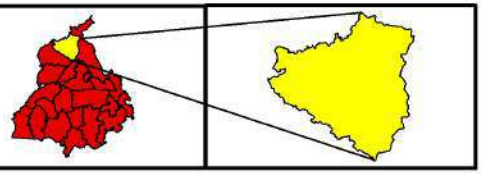
CUSTODY IN GOVERNMENT OF PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER

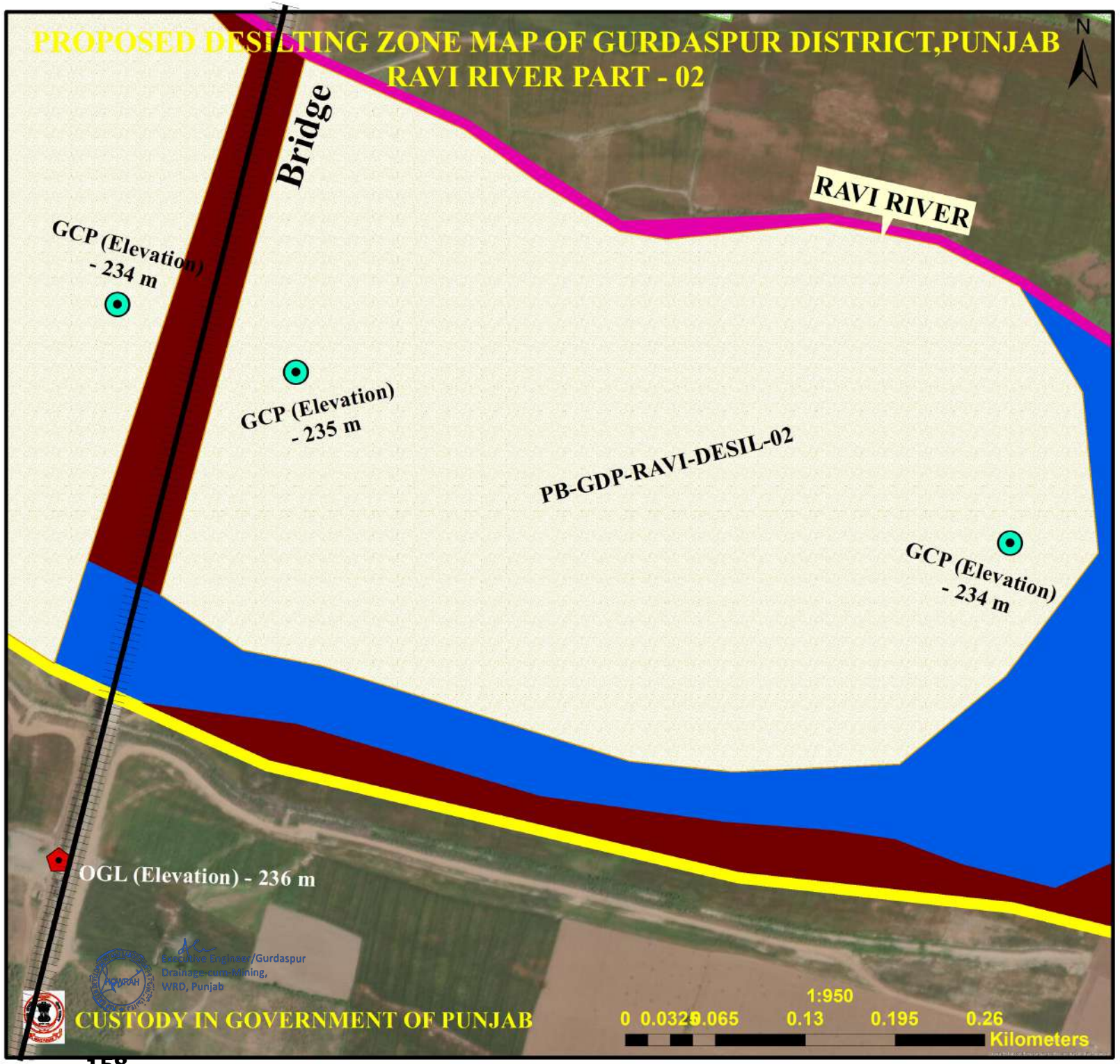
CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-DESIL-01	16.70



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

PROPOSED DESILTING ZONE MAP OF GURDASPUR DISTRICT,PUNJAB
RAVI RIVER PART - 02

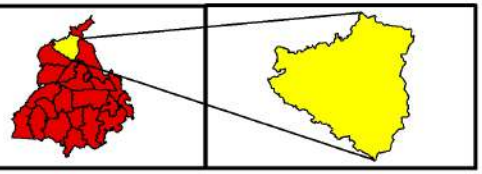


LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER

CODE	POTENTIAL AREA (Ha)
PB-GDP-RAVI-DESIL-02	21.79



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

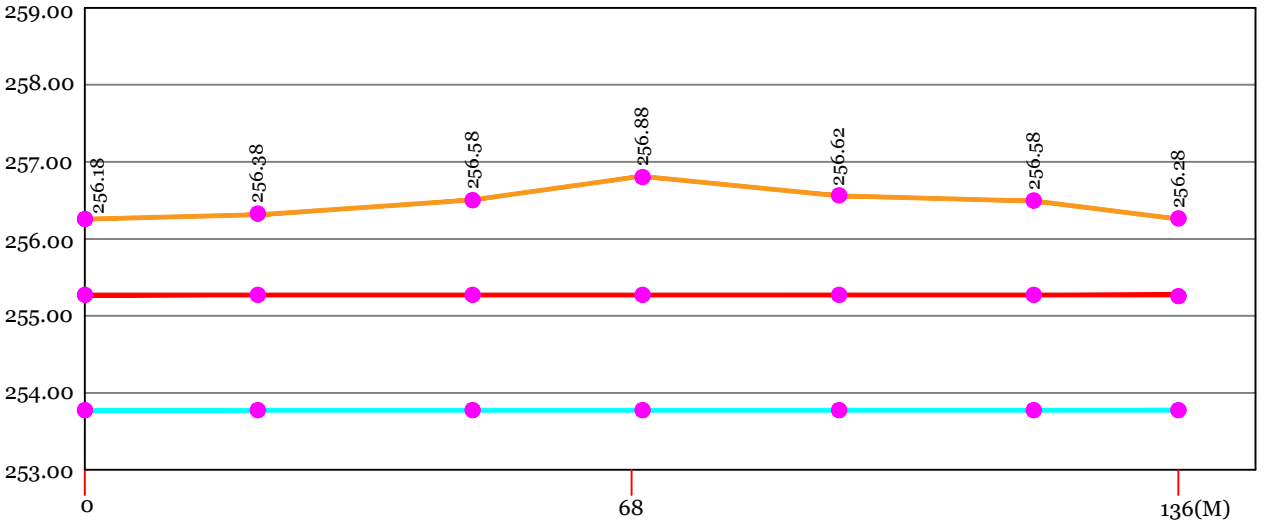
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

ANNEXURE-IX

Cross-section of the Final Proposed Zones with Thelweg point and L section of River

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

PRE MONSOON

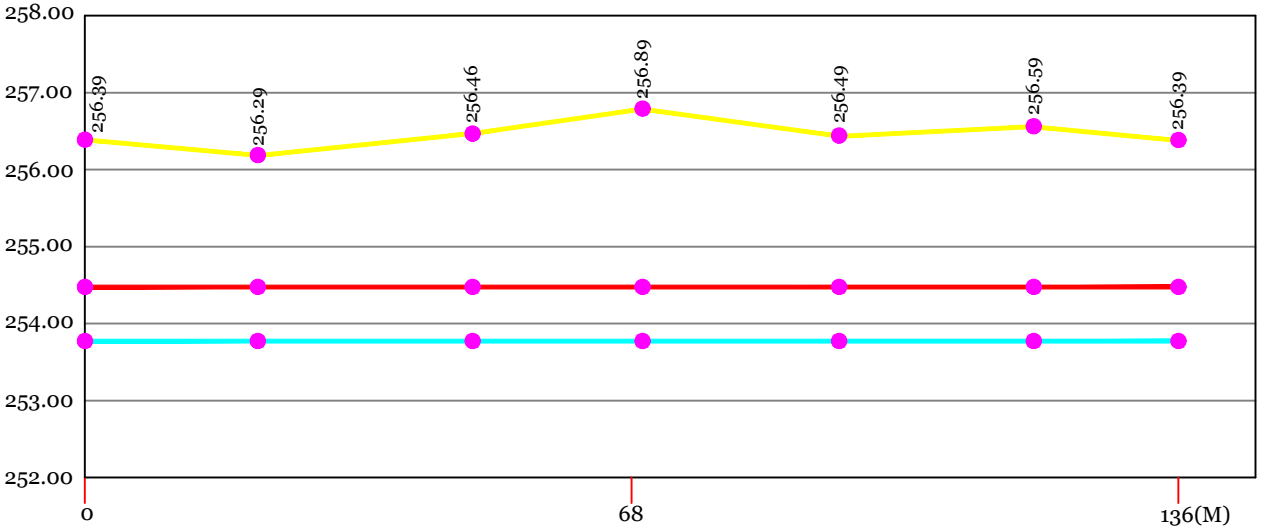


CROSS SECTION OF PB - GDP - RAVI - 02(A-A')

Ave Depth = (.9+1.1+1.3+1.6+1.34+1.3+1/7)= 1.22(M)

VOLUME = 50200 x 1.22 x 1.46 = 89416.24(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - RAVI - 02(A-A')

Ave Depth = (1.9+1.8+1.97+2.4+2+2+2.1+1.9/7)= 2.01(M)

VOLUME = 50200 x 2.01 x 1.46 = 147316.92(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

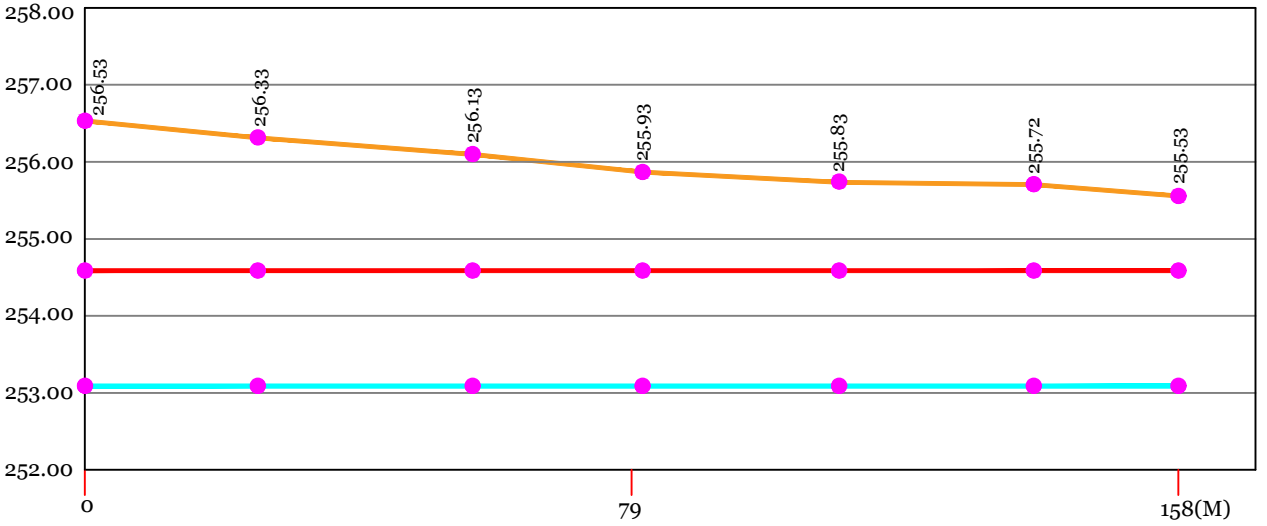
SOURCE : FIELD SURVEY

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

PREPARED BY : RSP GREEN DEVELPMENT AND LABORATORIES PVT. LTD

N.B. The levels given in above cross - section are nearly correct as per office records

PRE MONSOON

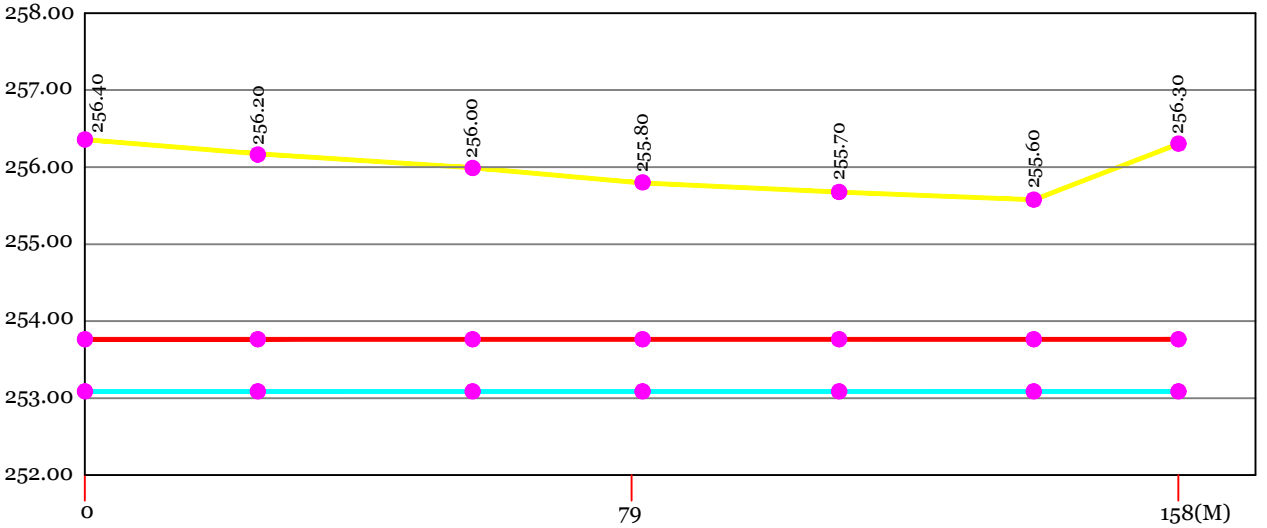


CROSS SECTION OF PB - GDP - RAVI - 03(A-A')

Ave Depth = (1.9+1.7+1.5+1.3+1.2+1.09+.9/7)= 1.37(M)

VOLUME = 87400 x 1.37 x 1.46 = 174817.48(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - RAVI - 03(A-A')

Ave Depth = (2.6+2.4+2.2+2+1.9+1.8+2.5/7)= 2.20(M)

VOLUME = 87400 x 2.20 x 1.46 = 280728.80(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

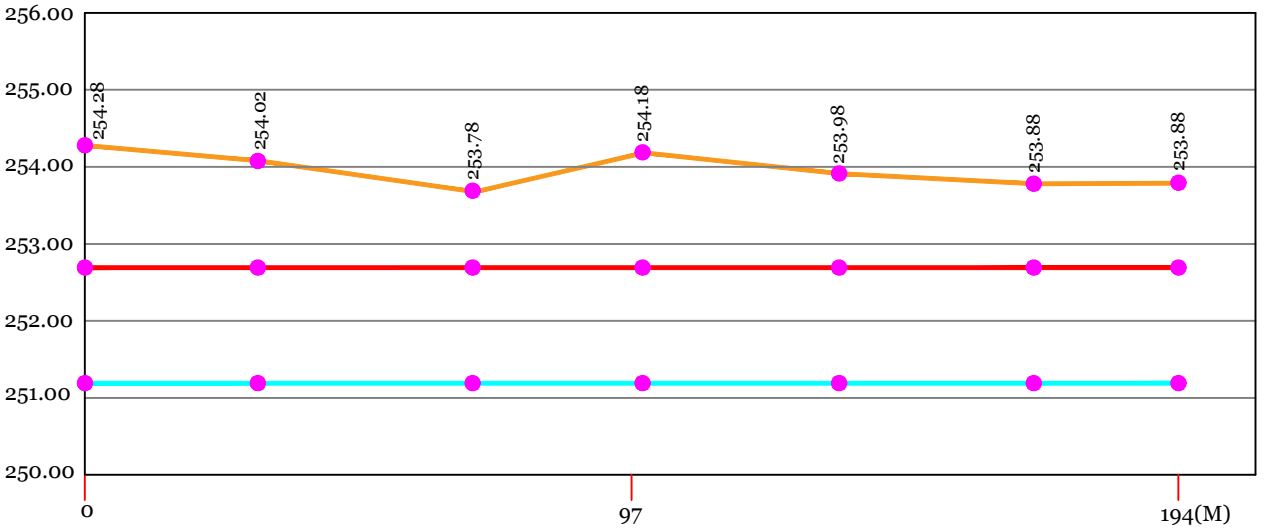
SOURCE : FIELD SURVEY

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

PREPARED BY : RSP GREEN DEVELPMENT AND LABORATORIES PVT. LTD

N.B. The levels given in above cross - section are nearly correct as per office records

PRE MONSOON

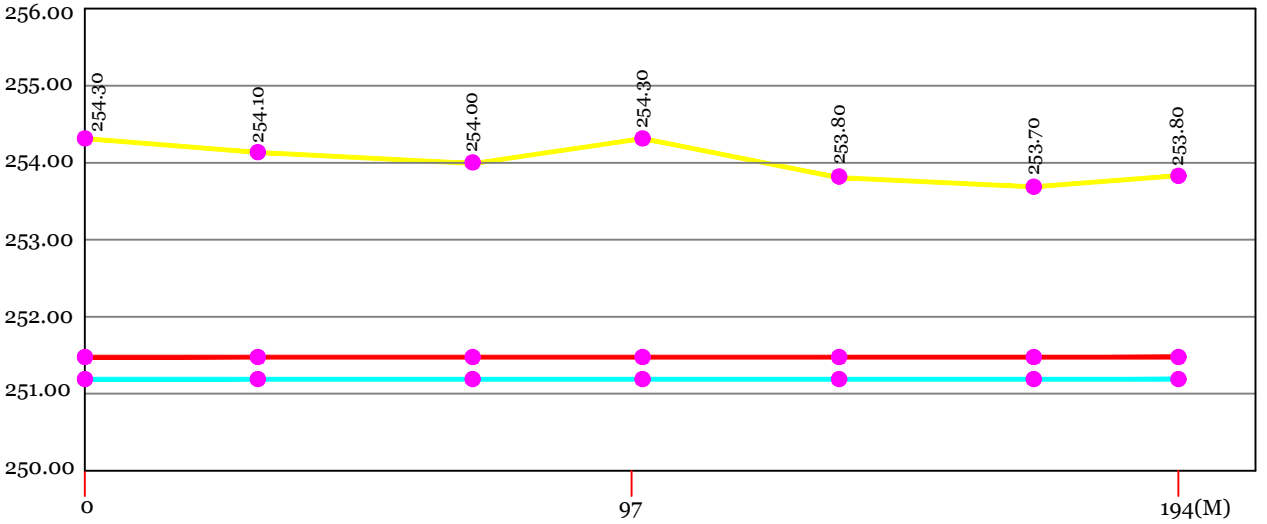


CROSS SECTION OF PB - GDP - RAVI - 04(A-A')

Ave Depth = (1.5+1.24+1+1.4+1.2+1.1+1.1/7)= 1.22(M)

VOLUME = 132100 x 1.22 x 1.46 = 235296.52(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - RAVI - 04(A-A')

Ave Depth = (2.8+2.6+2.5+2.8+2.3+2.2+2.3/7)= 2.5(M)

VOLUME = 132100 x 2.5 x 1.46 = 482165.00(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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WRD, Punjab

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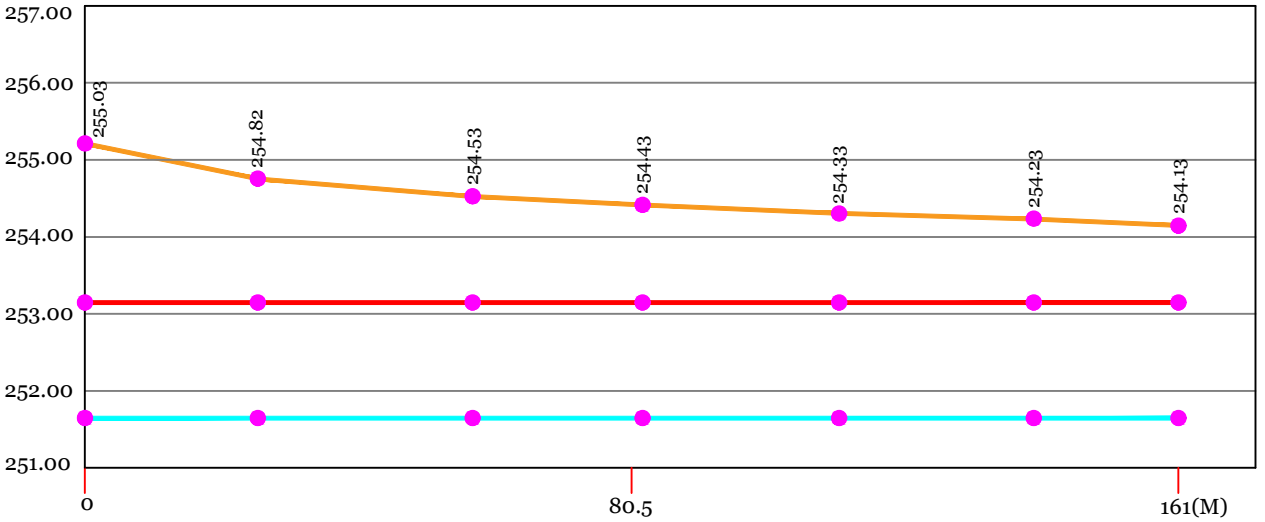
PRE MONSOON

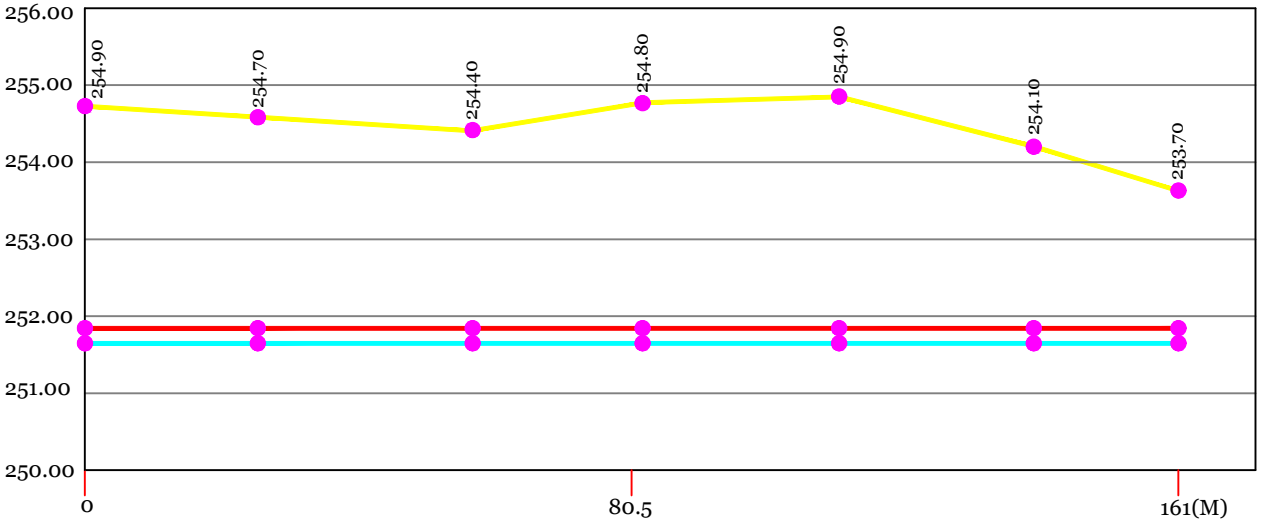


CROSS SECTION OF PB - GDP - RAVI - 05(A-A')

Ave Depth = (1.9+1.69+1.4+1.3+1.2+1.1+1/7)= 1.37(M)

VOLUME = 104400 x 1.37 x 1.46 = 208820.88(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - RAVI - 05(A-A')

Ave Depth = (3+2.8+2.5+2.9+3+2.2+1.8/7)= 2.6(M)

VOLUME = 104400 x 2.6 x 1.46 = 396302.40(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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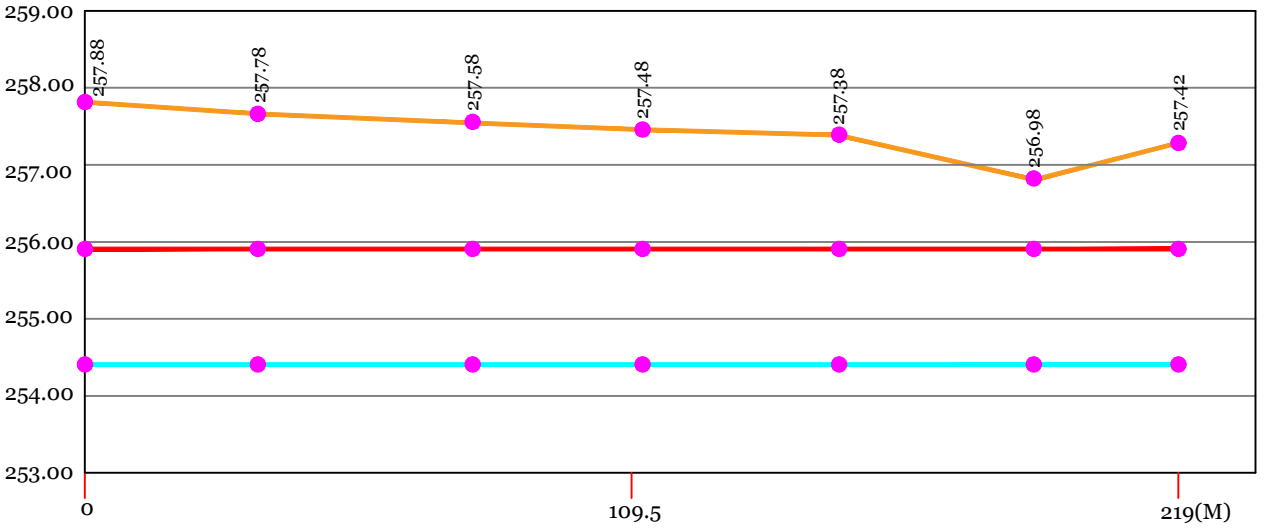
PRE MONSOON

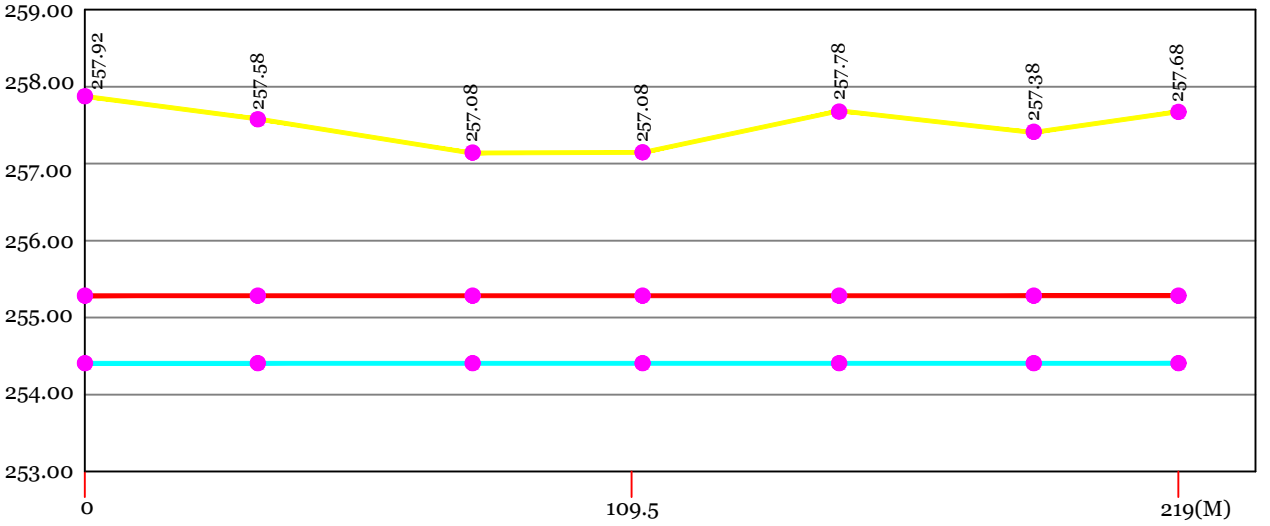


CROSS SECTION OF PB - GDP - RAVI - 06(A-A')

Ave Depth = (1.9+1.8+1.6+1.5+1.4+1+1.44/7)= 1.52(M)

VOLUME = 131800 x 1.52 x 1.46 = 292490.56(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - RAVI - 06(A-A')

Ave Depth = (2.5+2.2+1.7+1.7+2.4+2+2.3/7)= 2.12(M)

VOLUME = 131800 x 2.12 x 1.46 = 407947.36(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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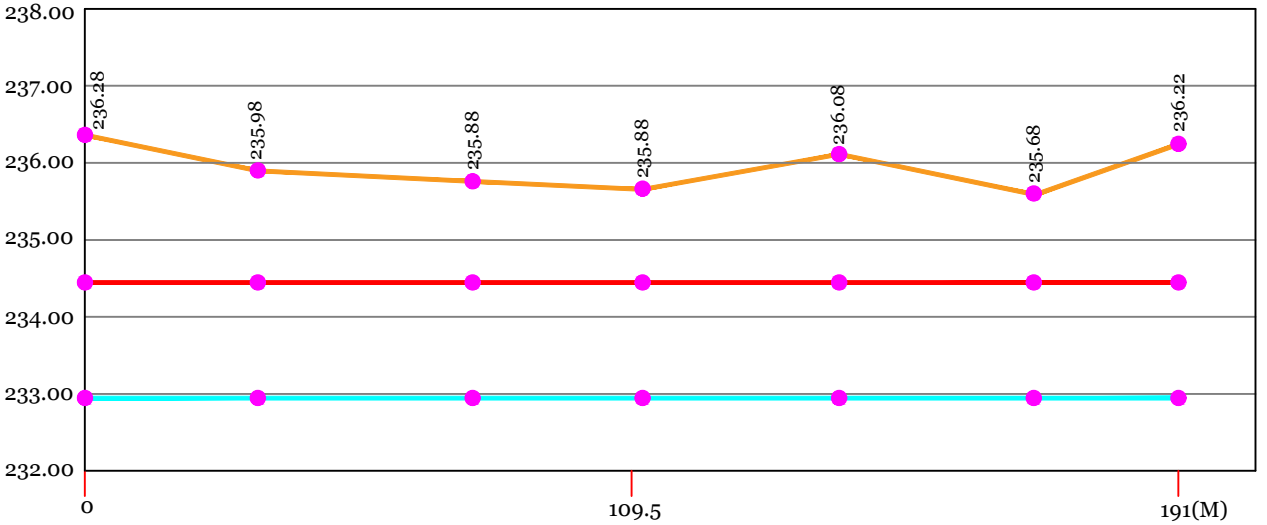
PRE MONSOON

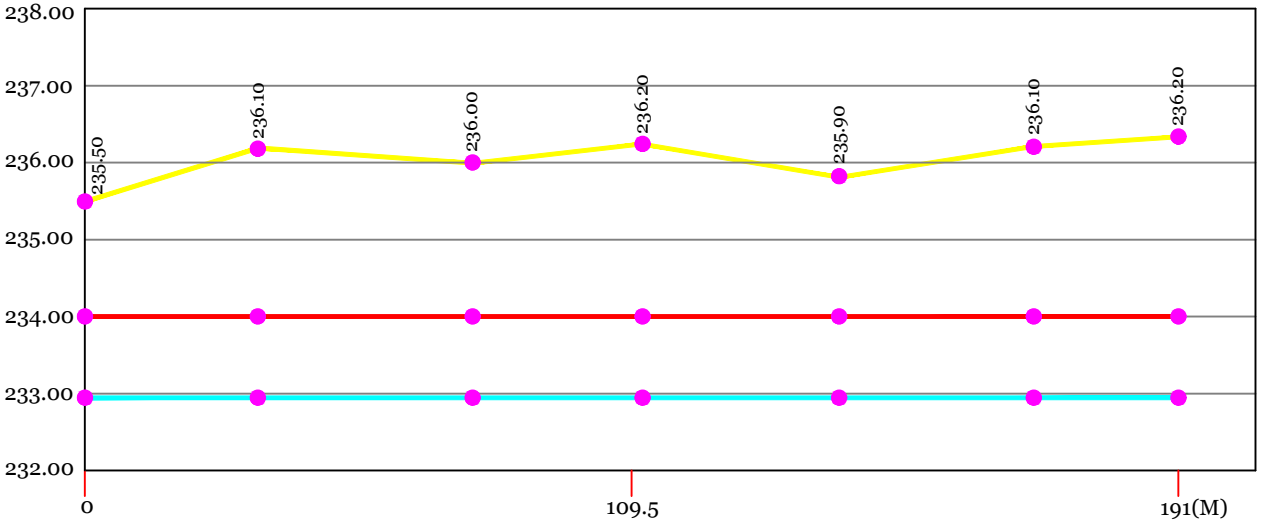


CROSS SECTION OF PB - GDP - RAVI - 07(A-A')

Ave Depth = (1.8+1.5+1.4+1.4+1.6+1.2+1.74/7)= 1.52(M)

VOLUME = 106500 x 1.52 x 1.46 = 236344.80(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - RAVI - 07(A-A')

Ave Depth = (1.5+2.1+2+2.2+1.9+2.1+2.2/7)= 2(M)

VOLUME = 106500 x 2 x 1.46 = 310980.00(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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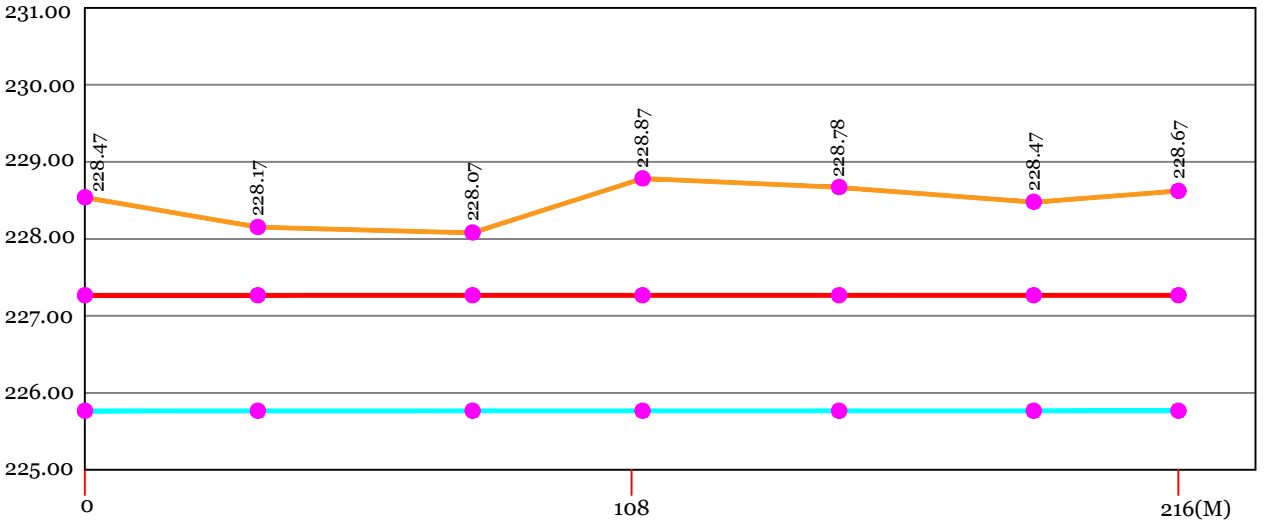
PRE MONSOON

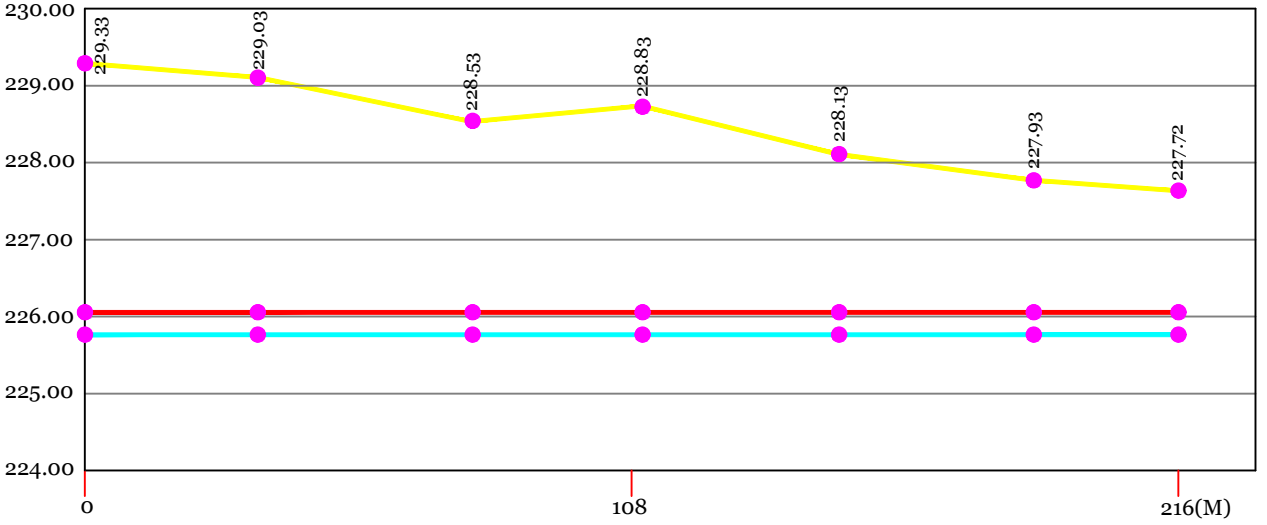


CROSS SECTION OF PB - GDP - RAVI - 08(A-A')

Ave Depth = (1.2+.9+.8+1.6+1.51+1.2+1.4/7)= 1.23(M)

VOLUME = 160100 x 1.23 x 1.46 = 287507.58(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - RAVI - 08(A-A')

Ave Depth = (3.3+3+2.5+2.8+2.1+1.9+1.69/7)= 2.47(M)

VOLUME = 160100 x 2.47 x 1.46 = 577352.62(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

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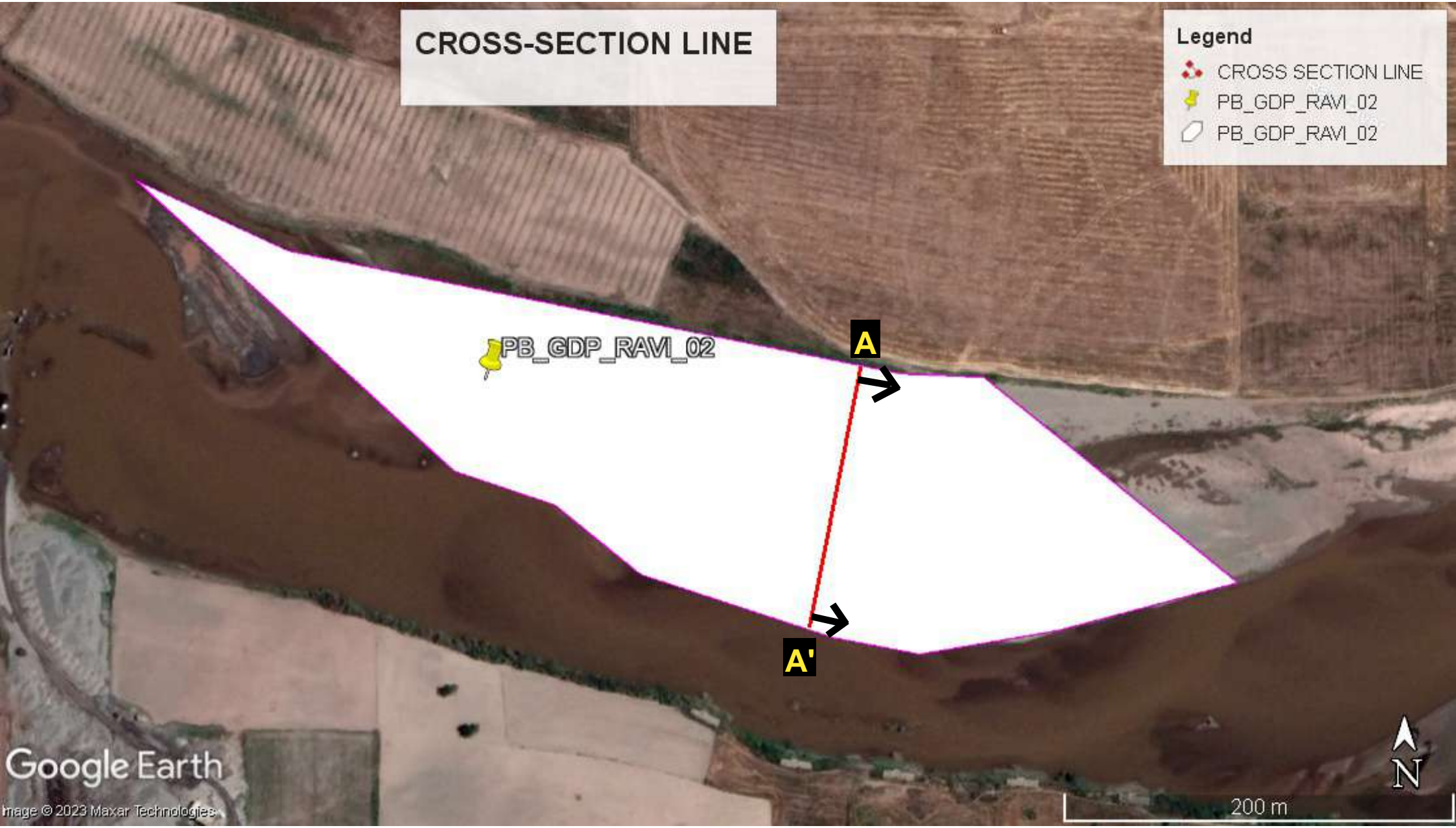
SOURCE : FIELD SURVEY



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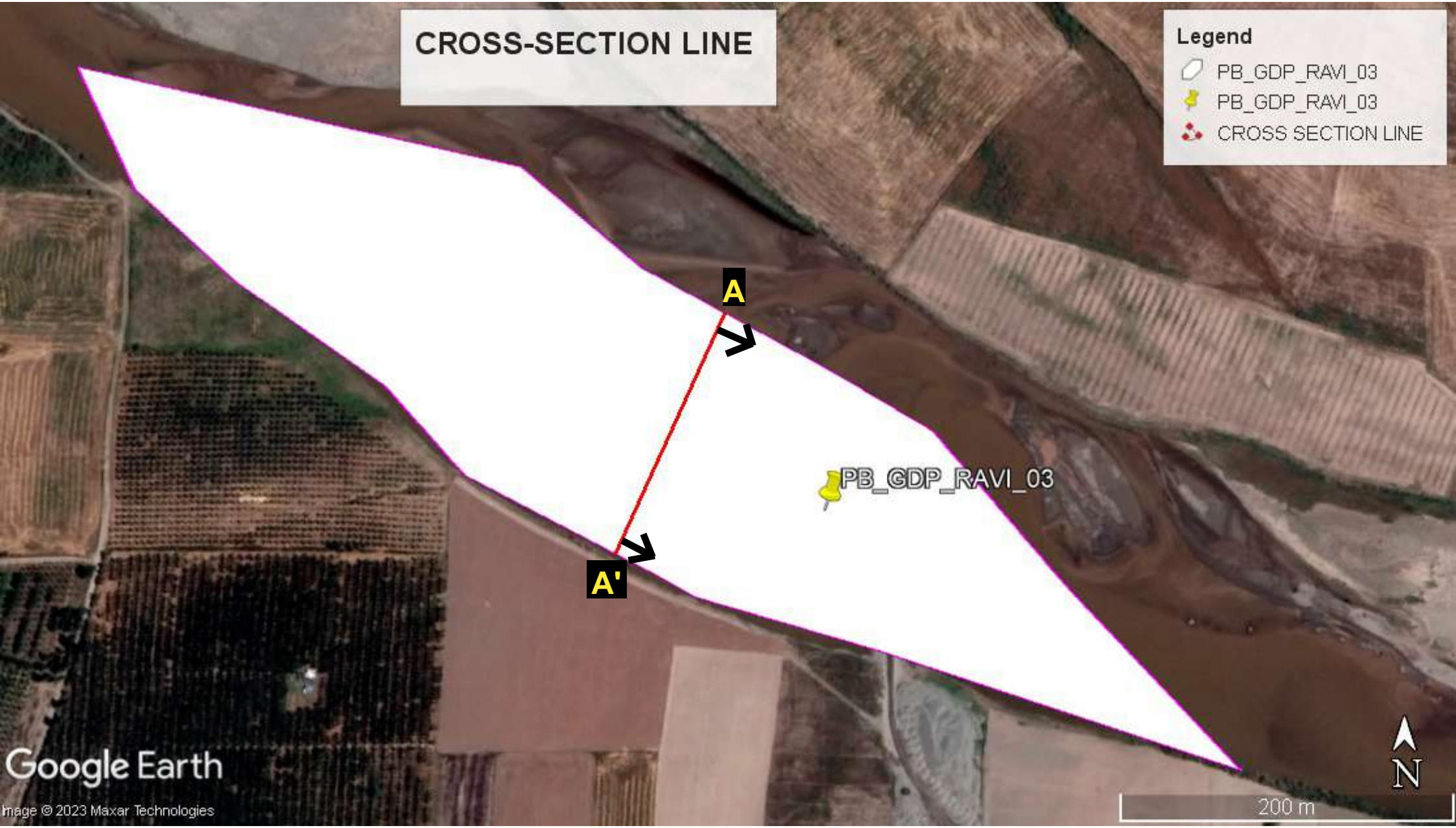
WRD, Punjab



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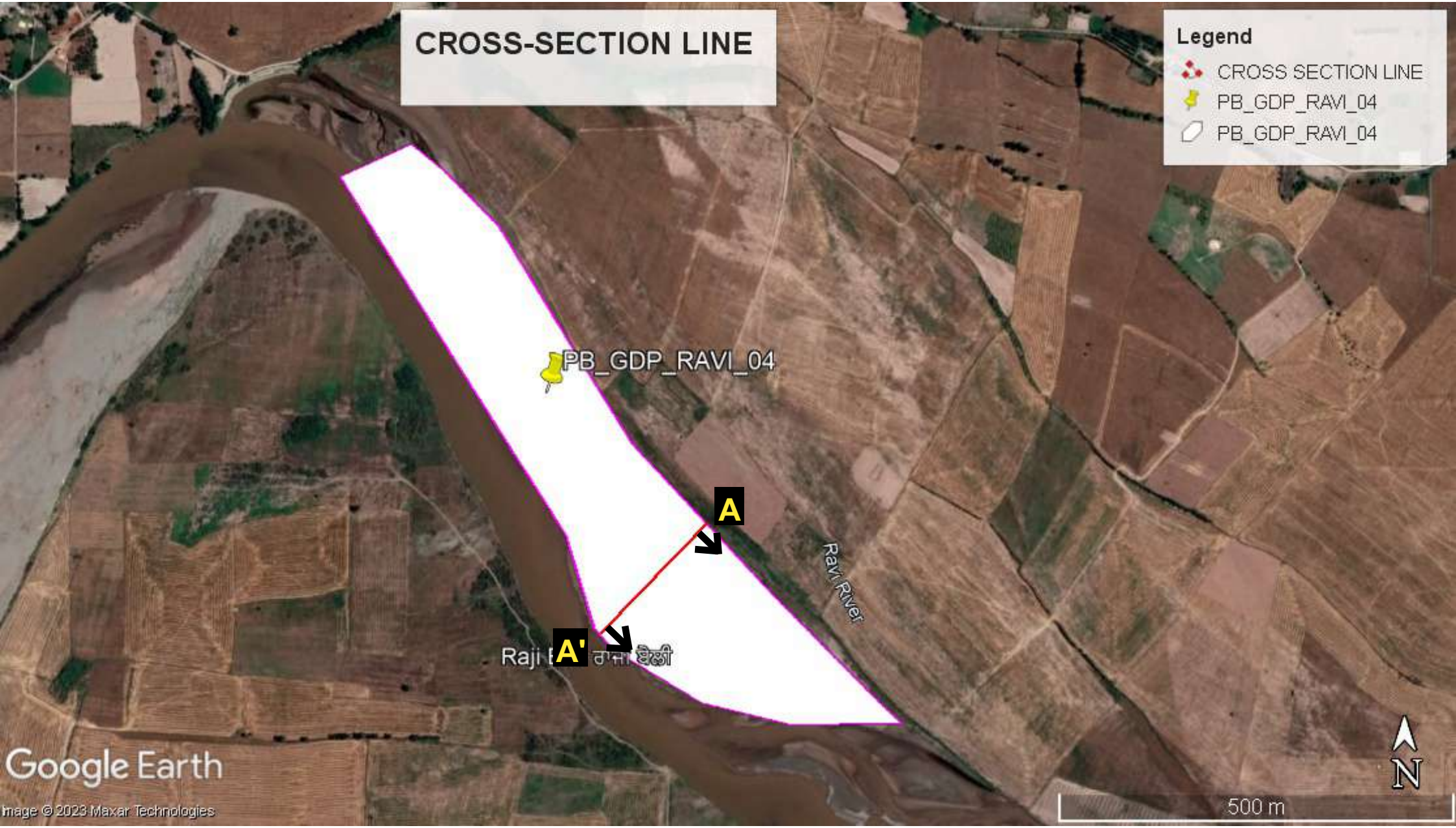
WRD, Punjab



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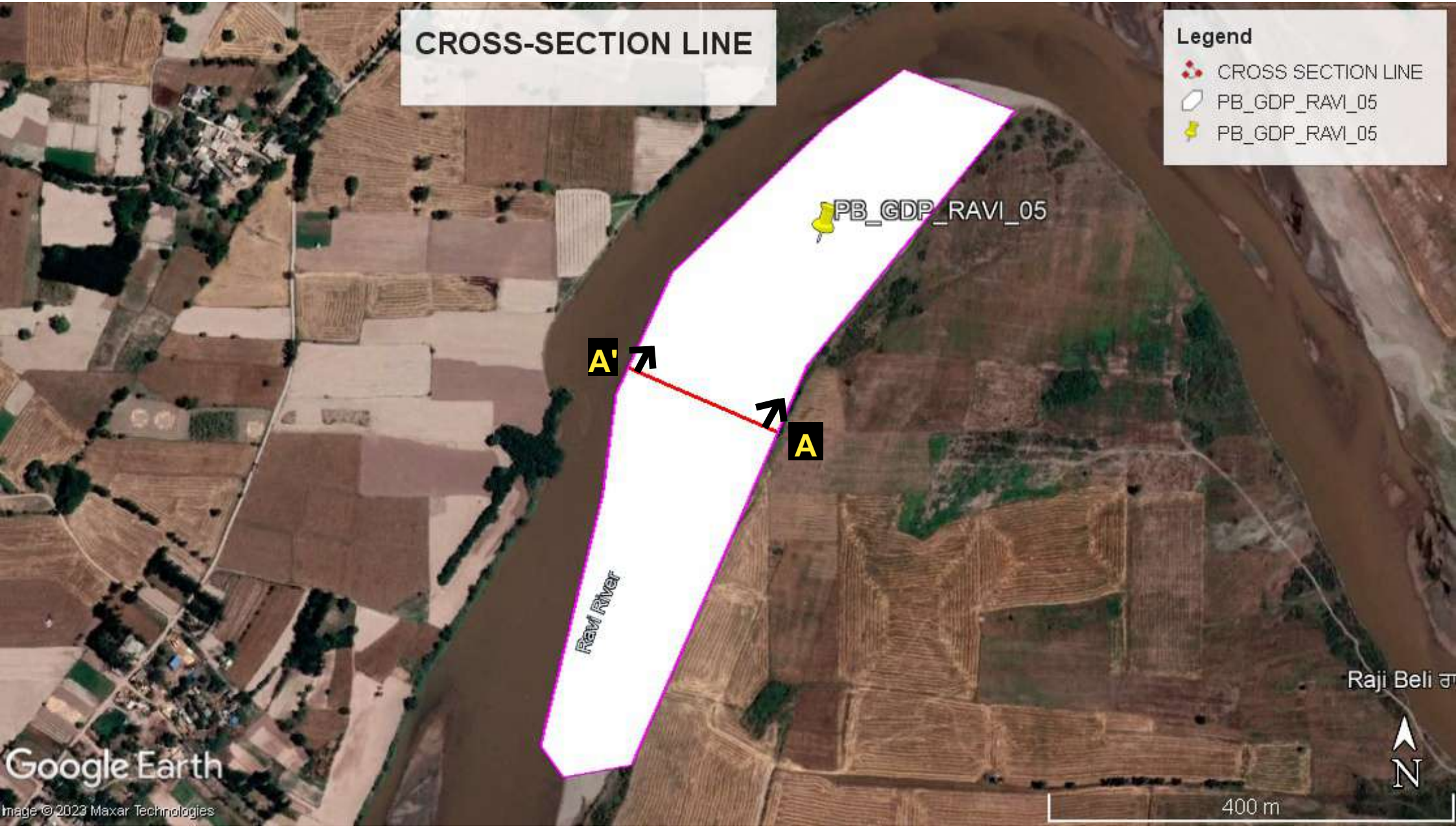
WRD, Punjab



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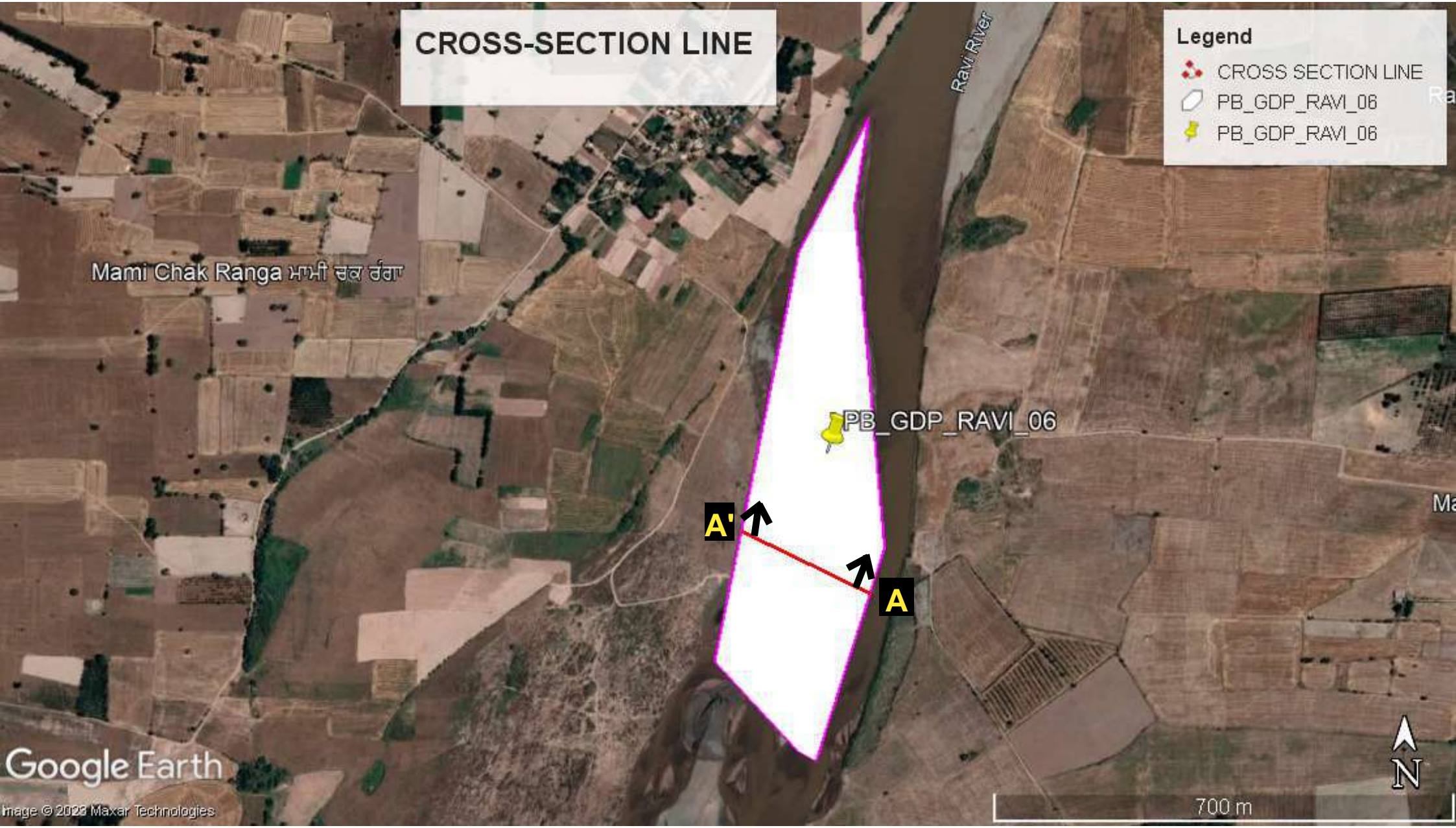
WRD, Punjab



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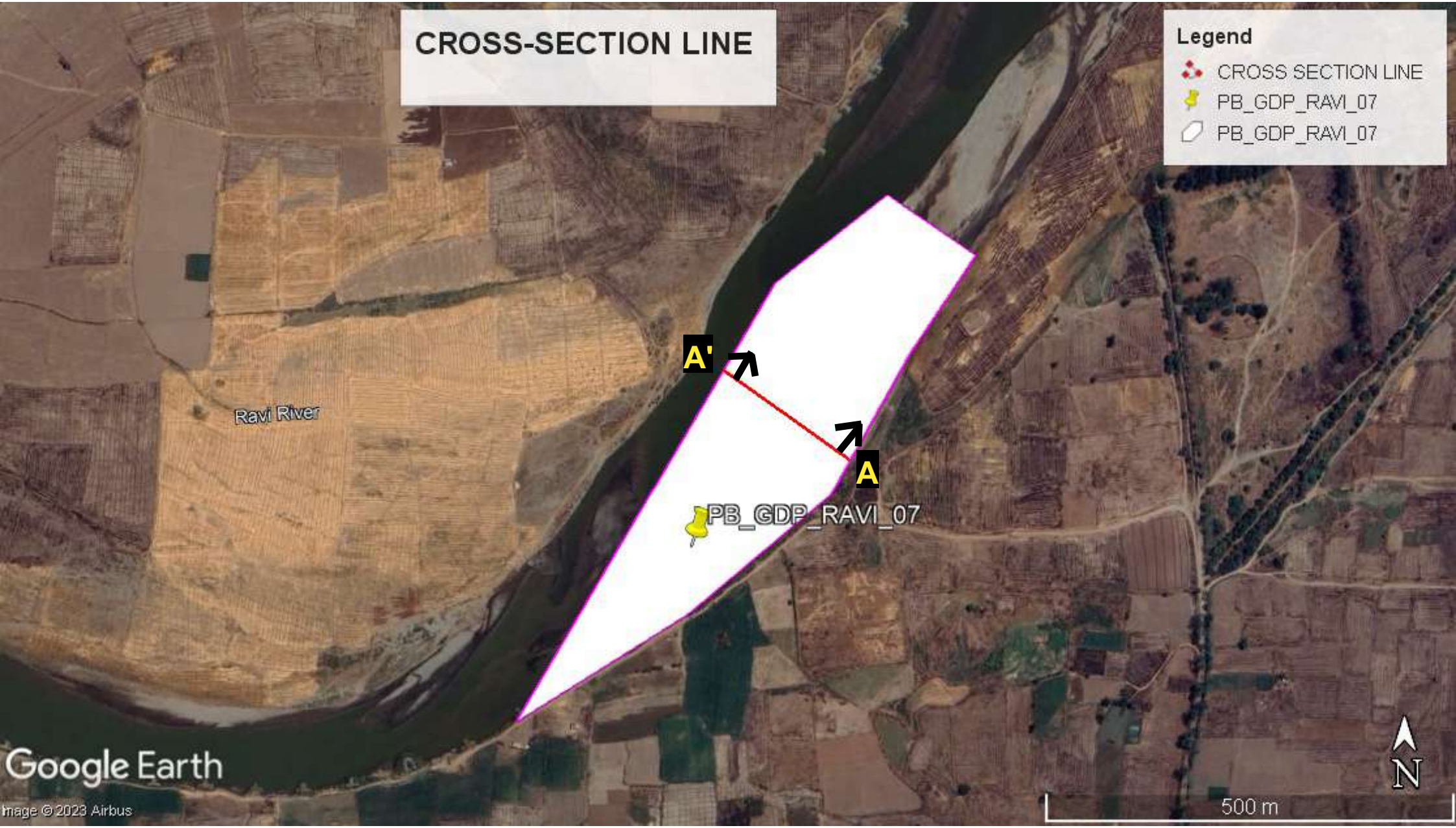
WRD, Punjab



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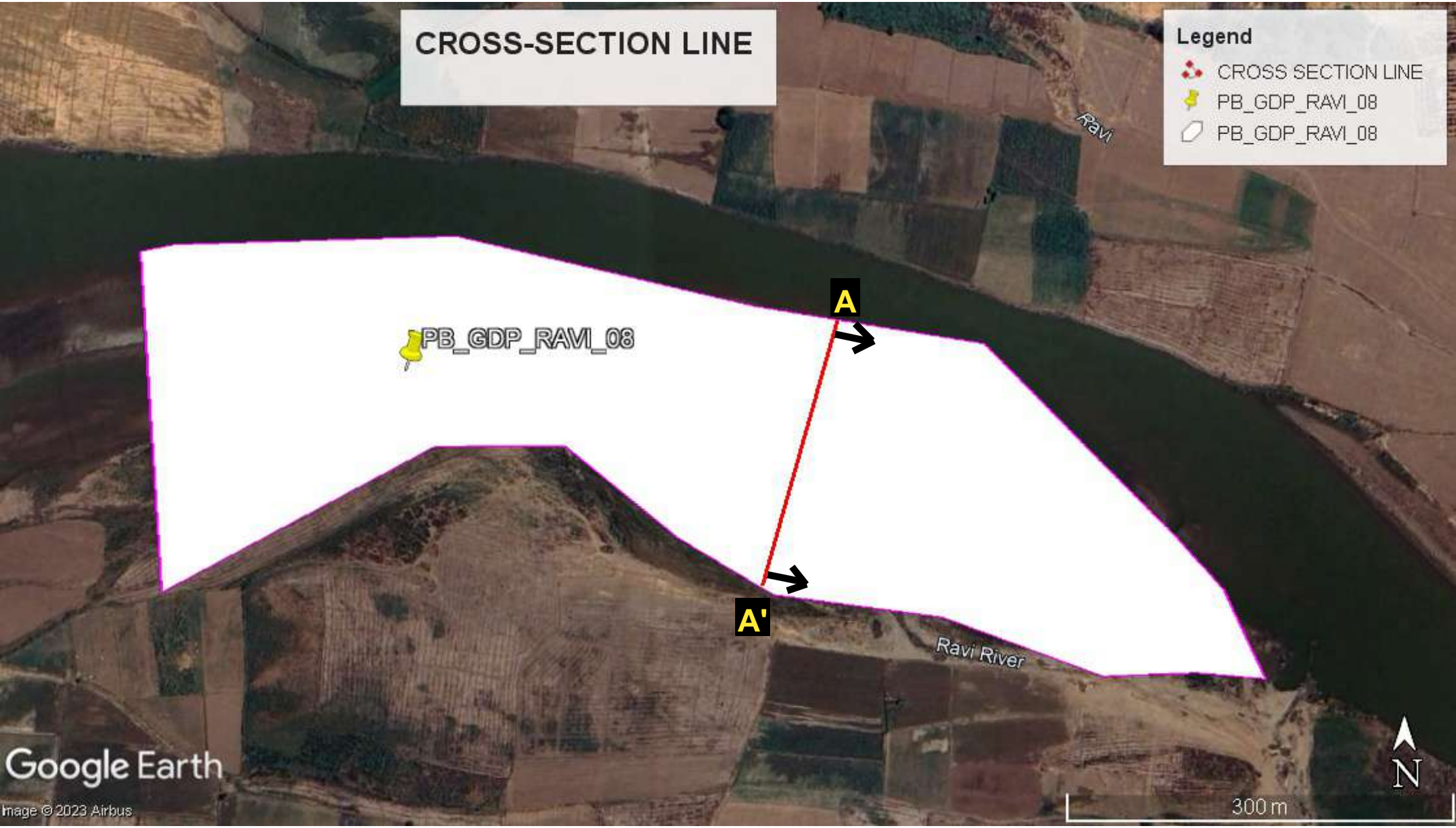
WRD, Punjab



Executive Engineer/Gurdaspur
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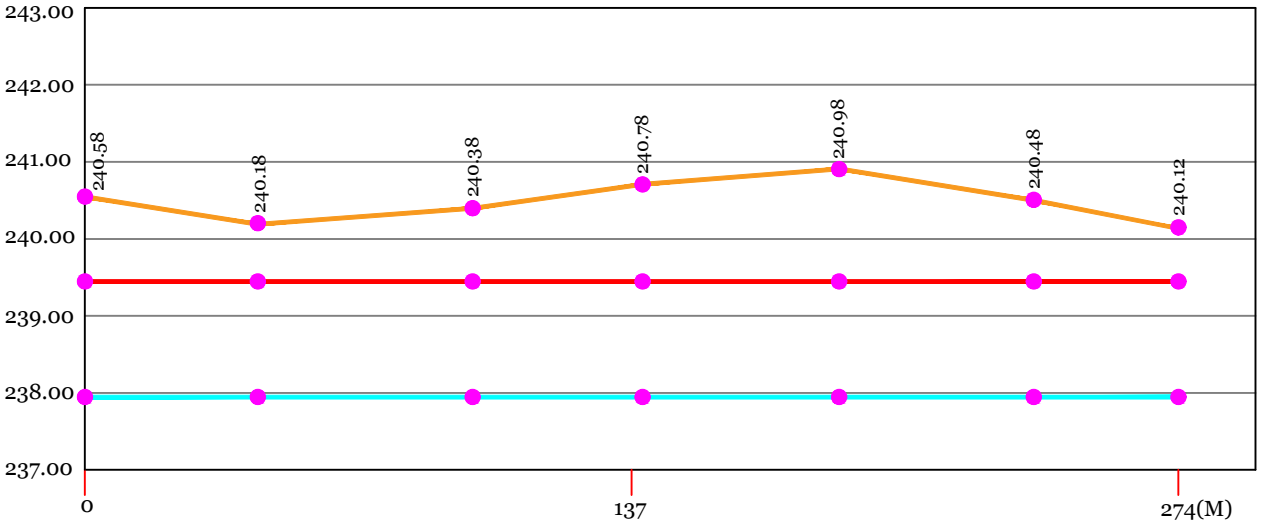
WRD, Punjab

PRE MONSOON

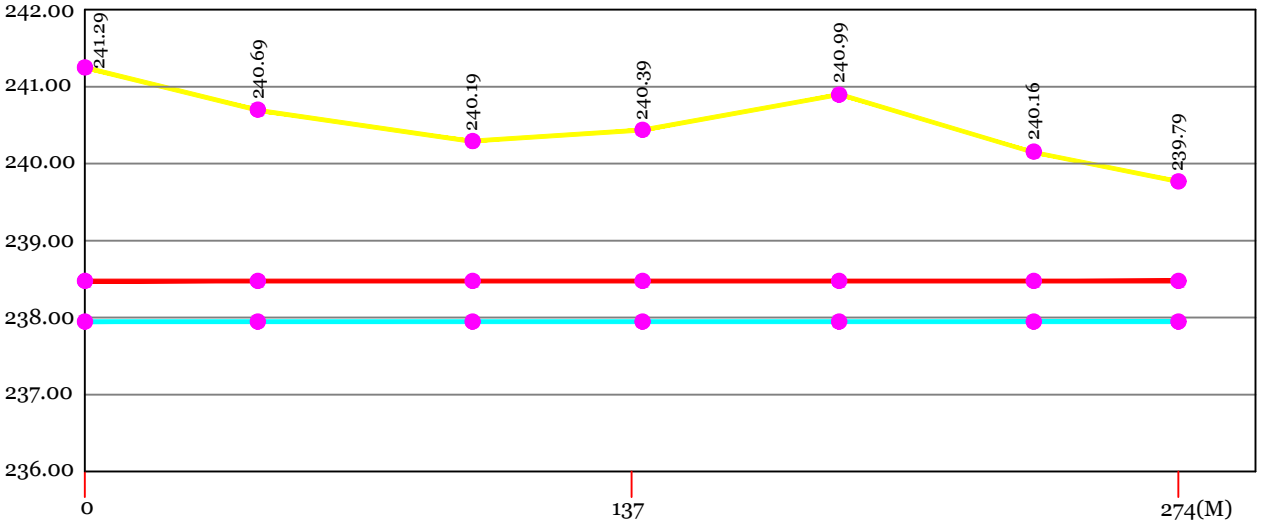


CROSS SECTION OF PB - GDP - BEAS - 01(A-A')

Ave Depth = (1.1+.7+.9+1.3+1.5+1+.64/7)= 1.02(M)

VOLUME = 214300 x 1.02 x 1.37 = 299462.82(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - BEAS - 01(A-A')

Ave Depth = (2.8+2.2+1.7+1.9+2.5+1.67+1.3/7)= 2.01(M)

VOLUME = 214300 x 2.01 x 1.37 = 590117.91(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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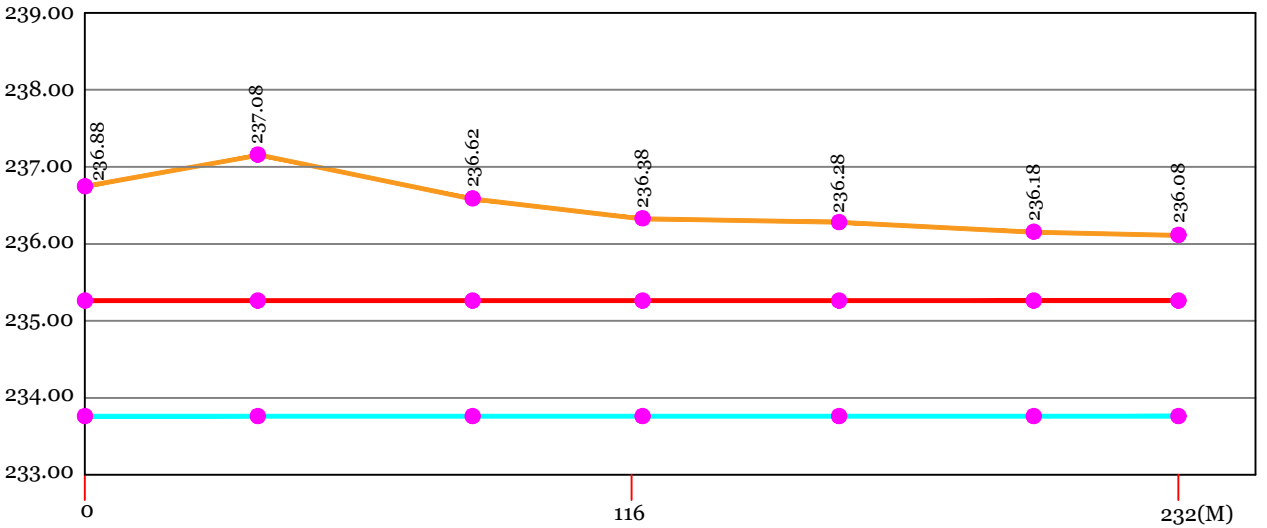
PRE MONSOON

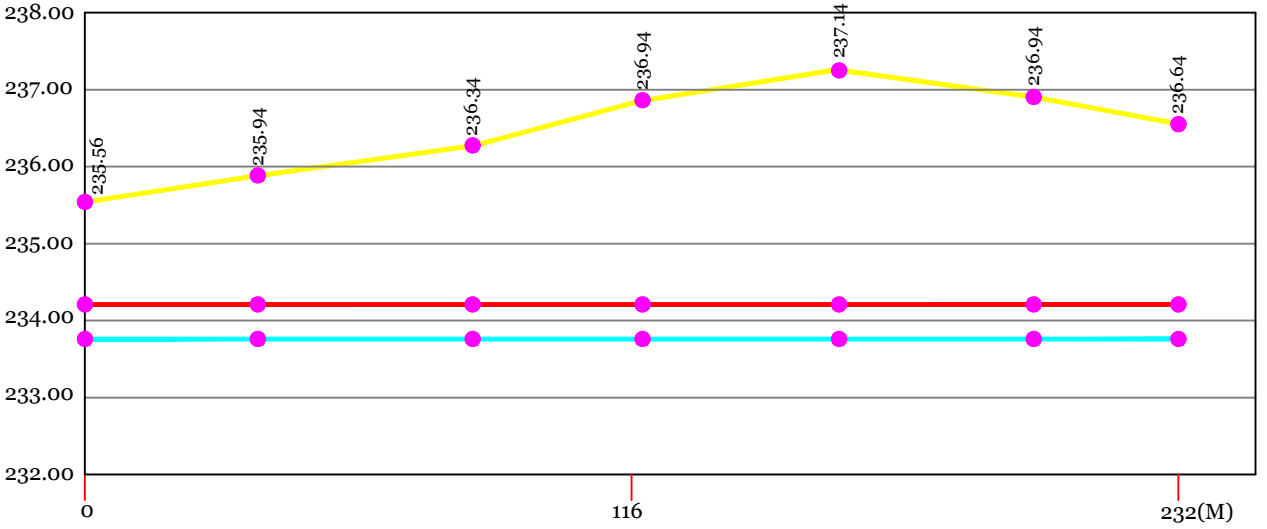


CROSS SECTION OF PB - GDP - BEAS - 02(A-A')

Ave Depth = (1.6+1.8+1.34+1.1+1+.9+.8/7)= 1.22(M)

VOLUME = 110400 x 1.22 x 1.37 = 184522.56(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - BEAS - 02(A-A')

Ave Depth = (1.42+1.8+2.2+2.8+3+2.8+2.5/7)= 2.36(M)

VOLUME = 110400 x 2.36 x 1.37 = 356945.28(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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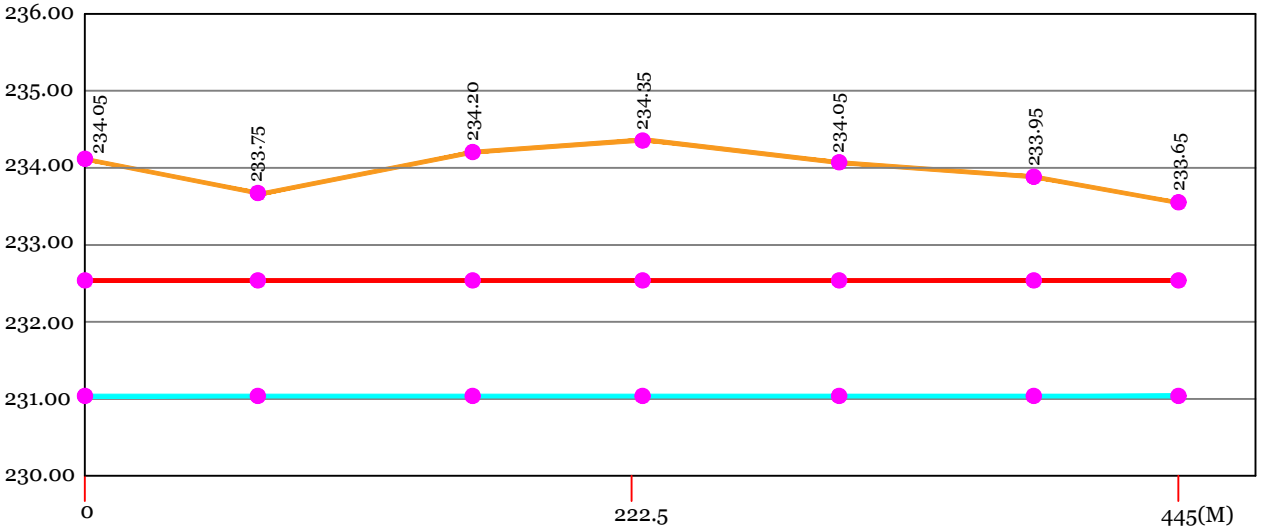
PRE MONSOON

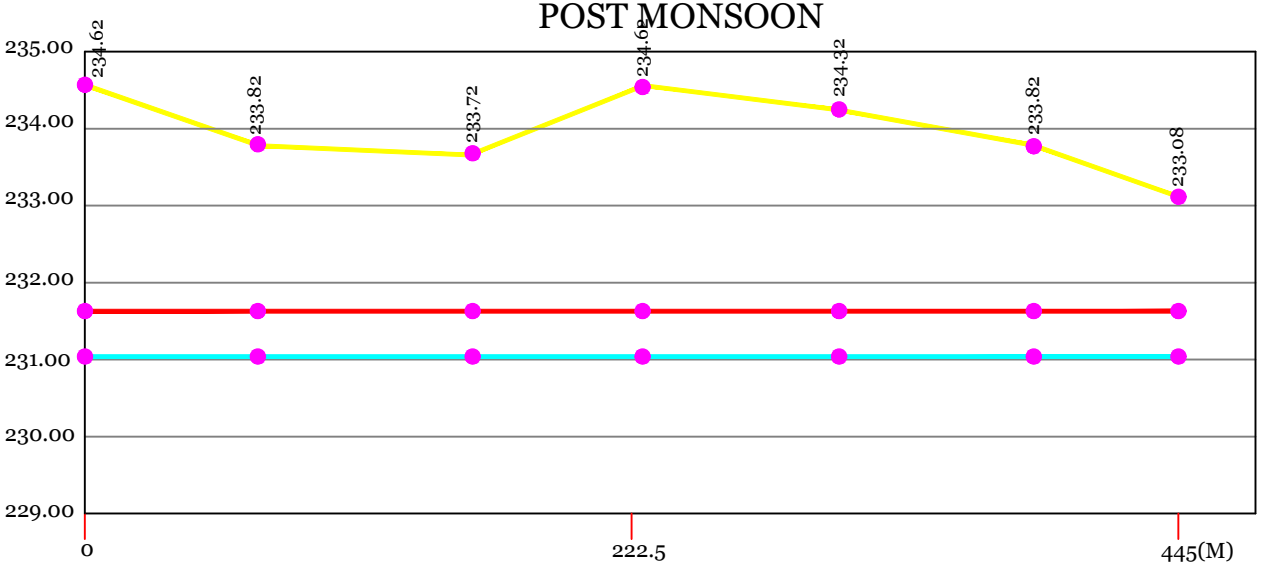


CROSS SECTION OF PB - GDP - BEAS - 03(A-A')

Ave Depth = (1.4+1.1+1.55+1.7+1.4+1.3+1/7)= 1.35(M)

VOLUME = 307700 x 1.35 x 1.37 = 570102.87(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - BEAS - 03(A-A')

Ave Depth = (3+2.2+2.1+3+2.7+2.2+1.46/7)= 2.38(M)

VOLUME = 307700 x 2.38 x 1.37 = 1003286.62(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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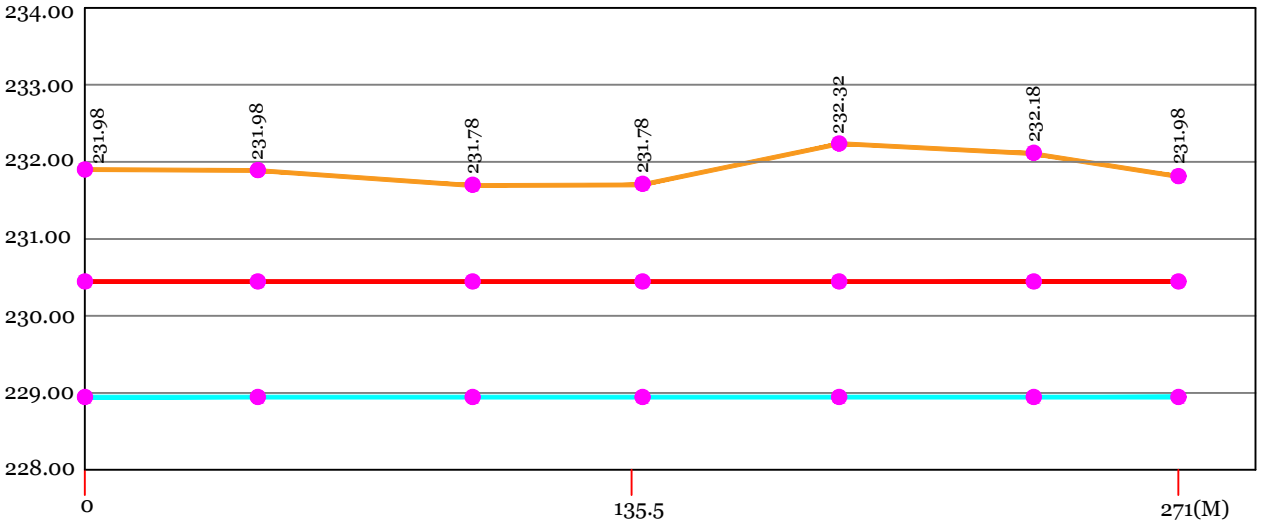
PRE MONSOON

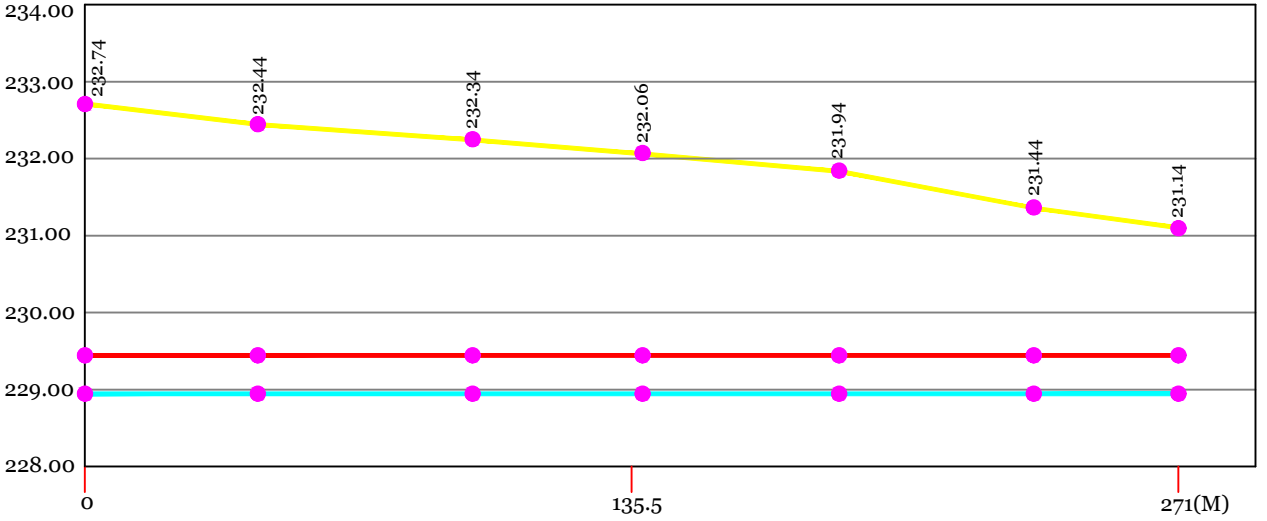


CROSS SECTION OF PB - GDP - BEAS - 04(A-A')

Ave Depth = (1.5+1.5+1.3+1.3+1.84+1.7+1.5/7)= 1.52(M)

VOLUME = 278200 x 1.52 x 1.37 = 579323.68(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - BEAS - 04(A-A')

Ave Depth = (3.3+3+2.9+2.62+2.5+2+1.7/7)= 2.56(M)

VOLUME = 278200 x 1.56 x 1.37 = 975703.04(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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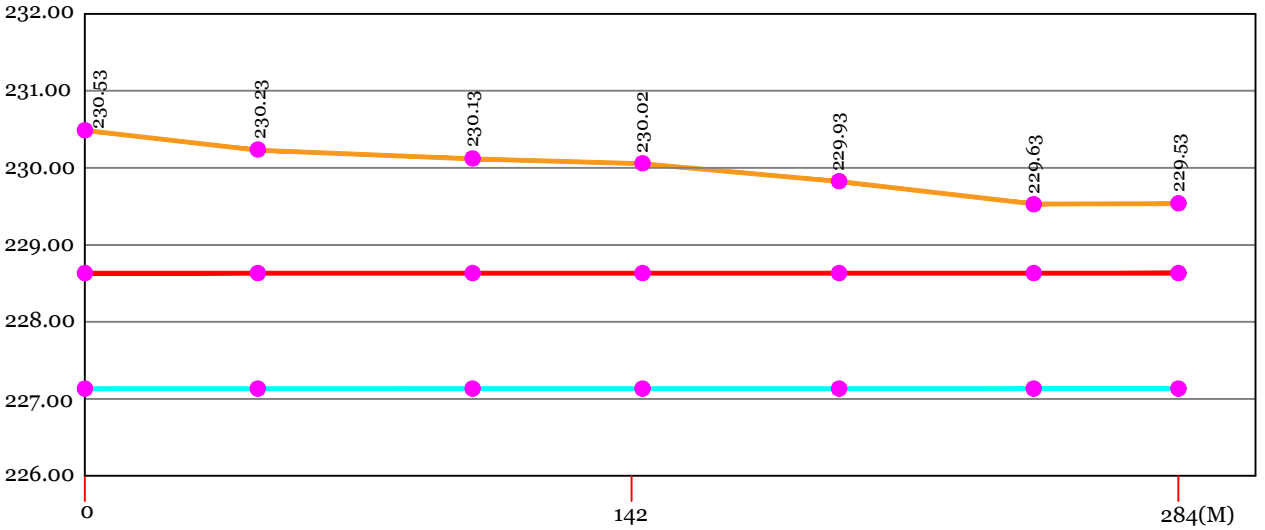
PRE MONSOON

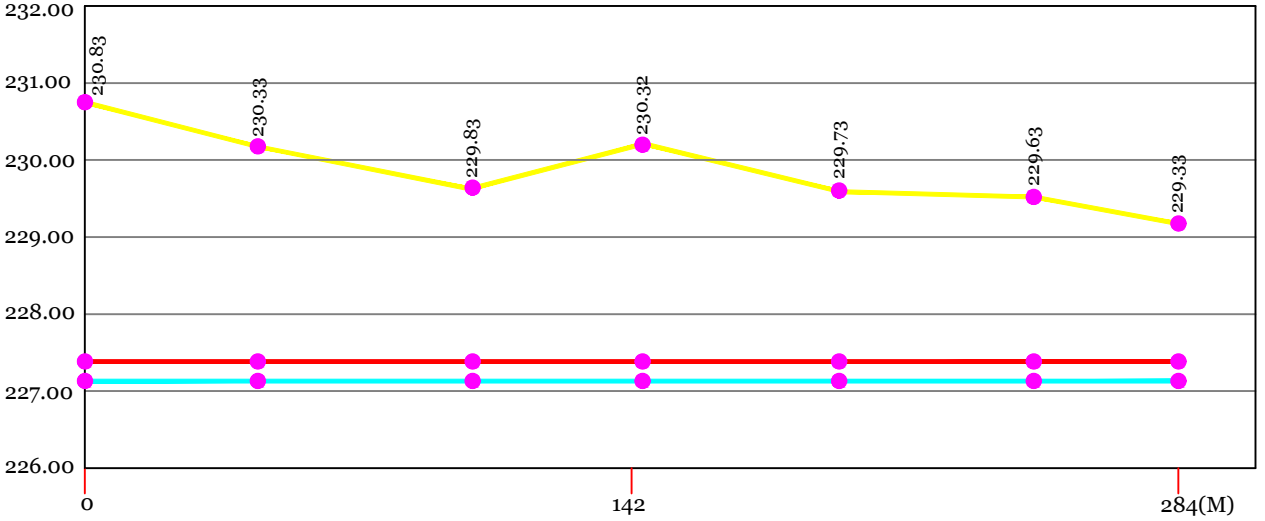


CROSS SECTION OF PB - GDP - BEAS - 05(A-A')

Ave Depth = (1.9+1.6+1.5+1.39+1.3+1+.9/7)= 1.37(M)

VOLUME = 135800 x 1.37 x 1.37 = 254883.02(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - BEAS - 05(A-A')

Ave Depth = (3.5+3+2.5+2.99+2.4+2.3+2/7)= 2.67(M)

VOLUME = 135800 x 2.67 x 1.37 = 496742.82(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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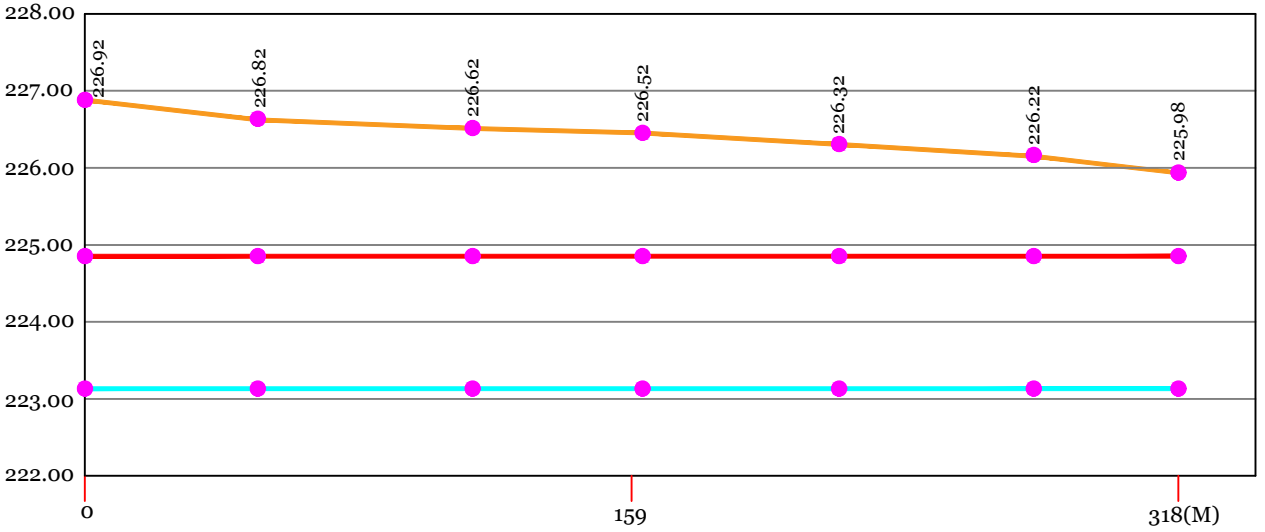
PRE MONSOON

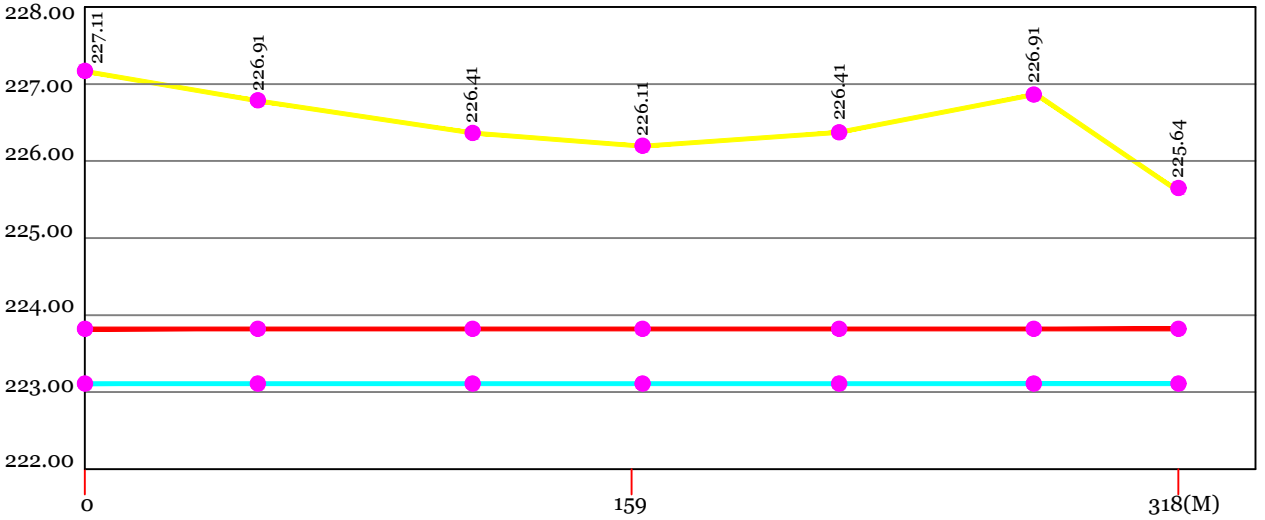


CROSS SECTION OF PB - GDP - BEAS - 06(A-A')

Ave Depth = (2+1.9+1.7+1.6+1.4+1.3+1.06/7)= 1.58(M)

VOLUME = 193300 x 1.58 x 1.37 = 418417.18(MT)

POST MONSOON



CROSS SECTION OF PB - GDP - BEAS - 06(A-A')

Ave Depth = (3.2+3+2.5+2.2+2.5+3+1.73/7)= 2.59(M)

VOLUME = 685886.39 x 2.59 x 1.37 = 267469.21(MT)

RED LINE	
THALWEG LINE	
PRE MONSOON ELEVATION	
POST MONSOON ELEVATION	

SOURCE : FIELD SURVEY

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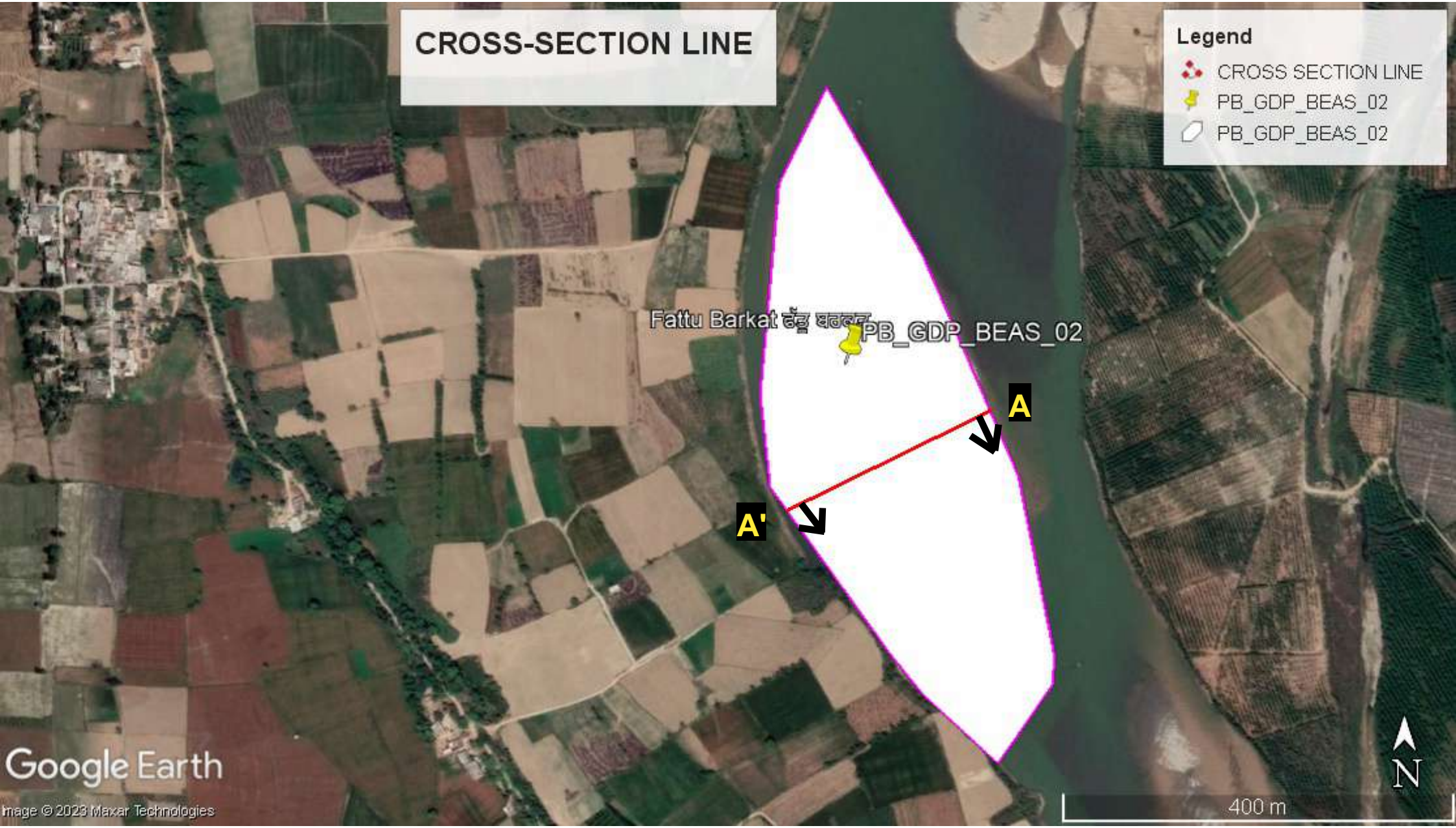

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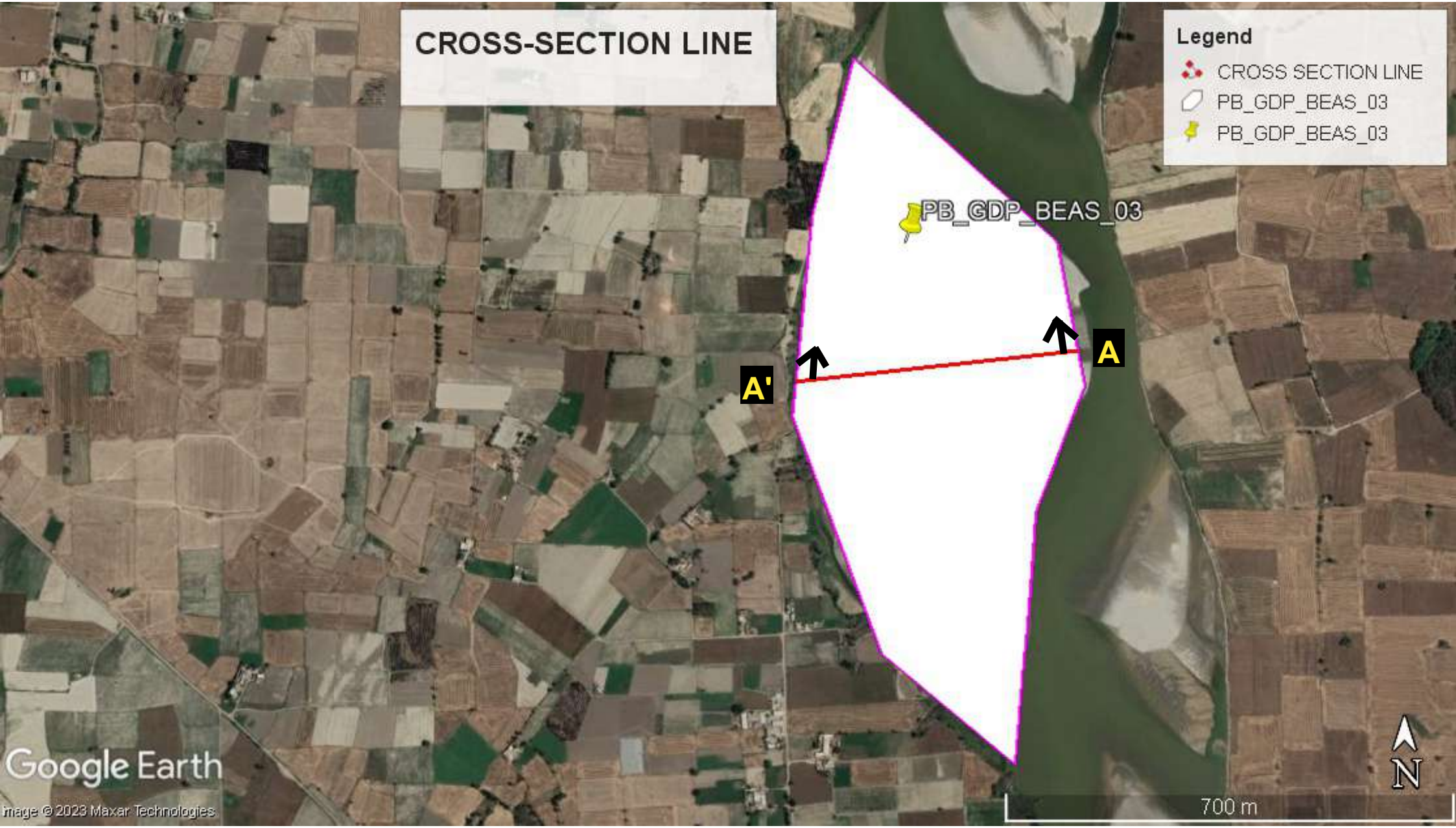
WRD, Punjab



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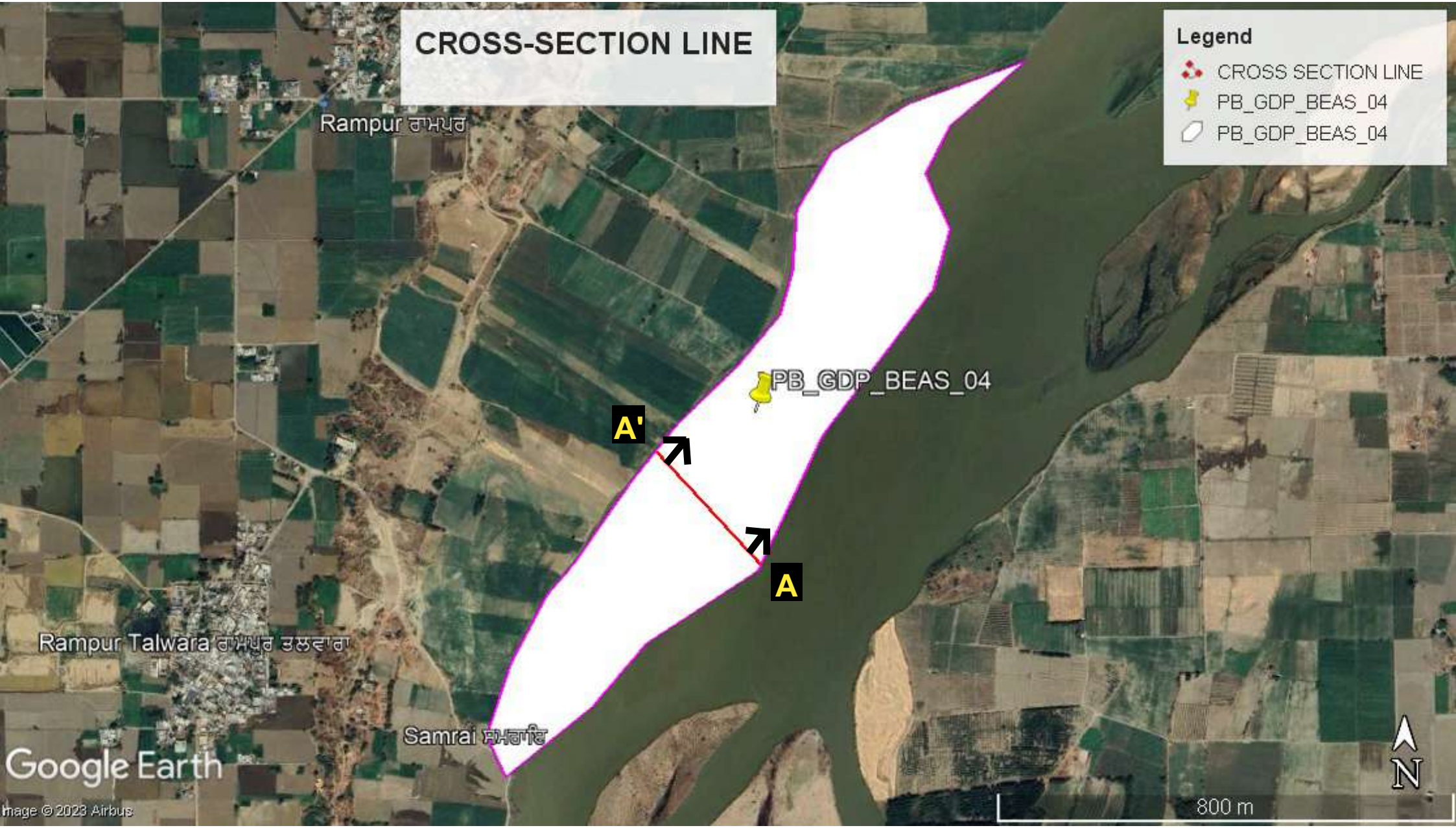
WRD, Punjab



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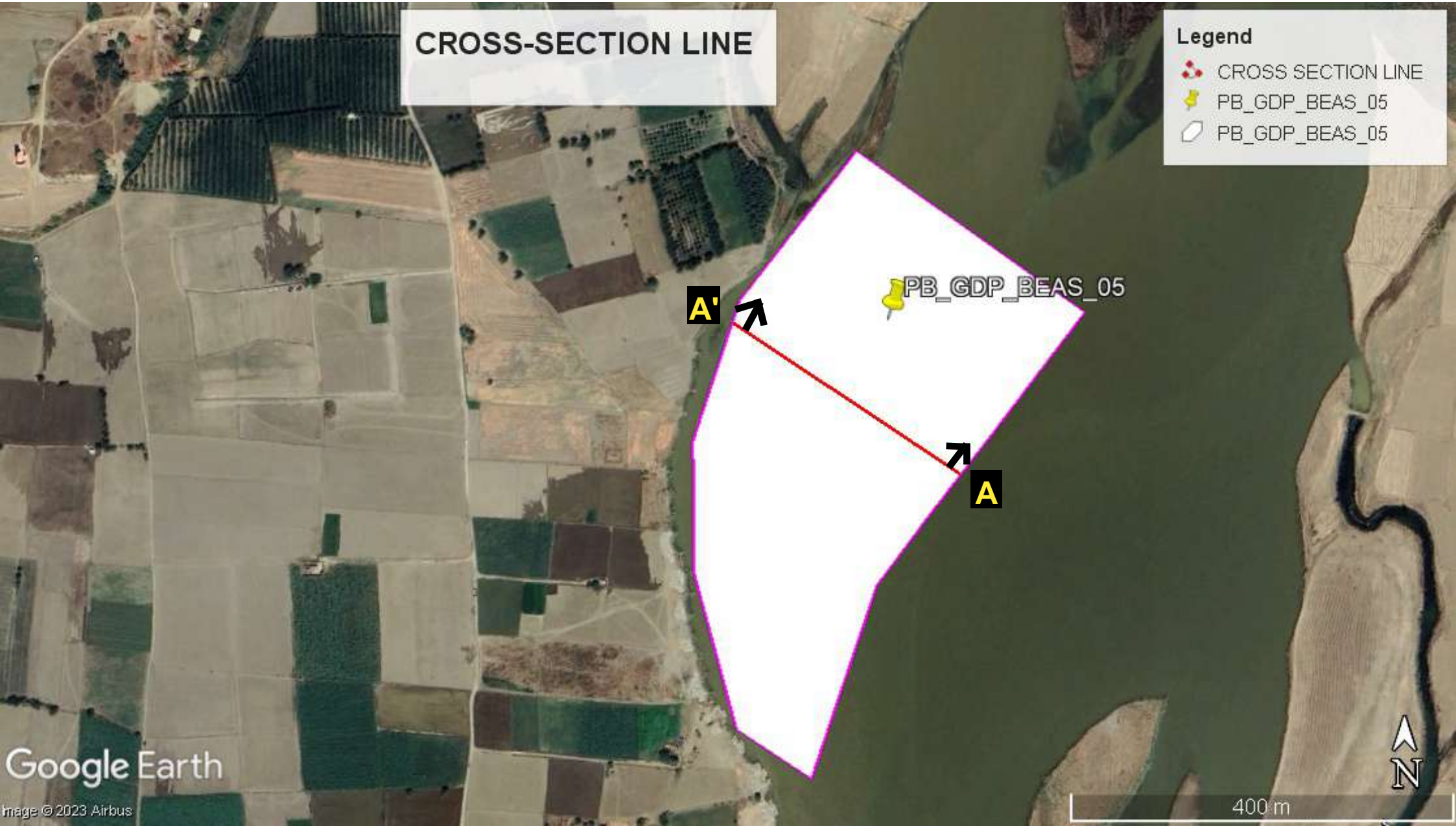

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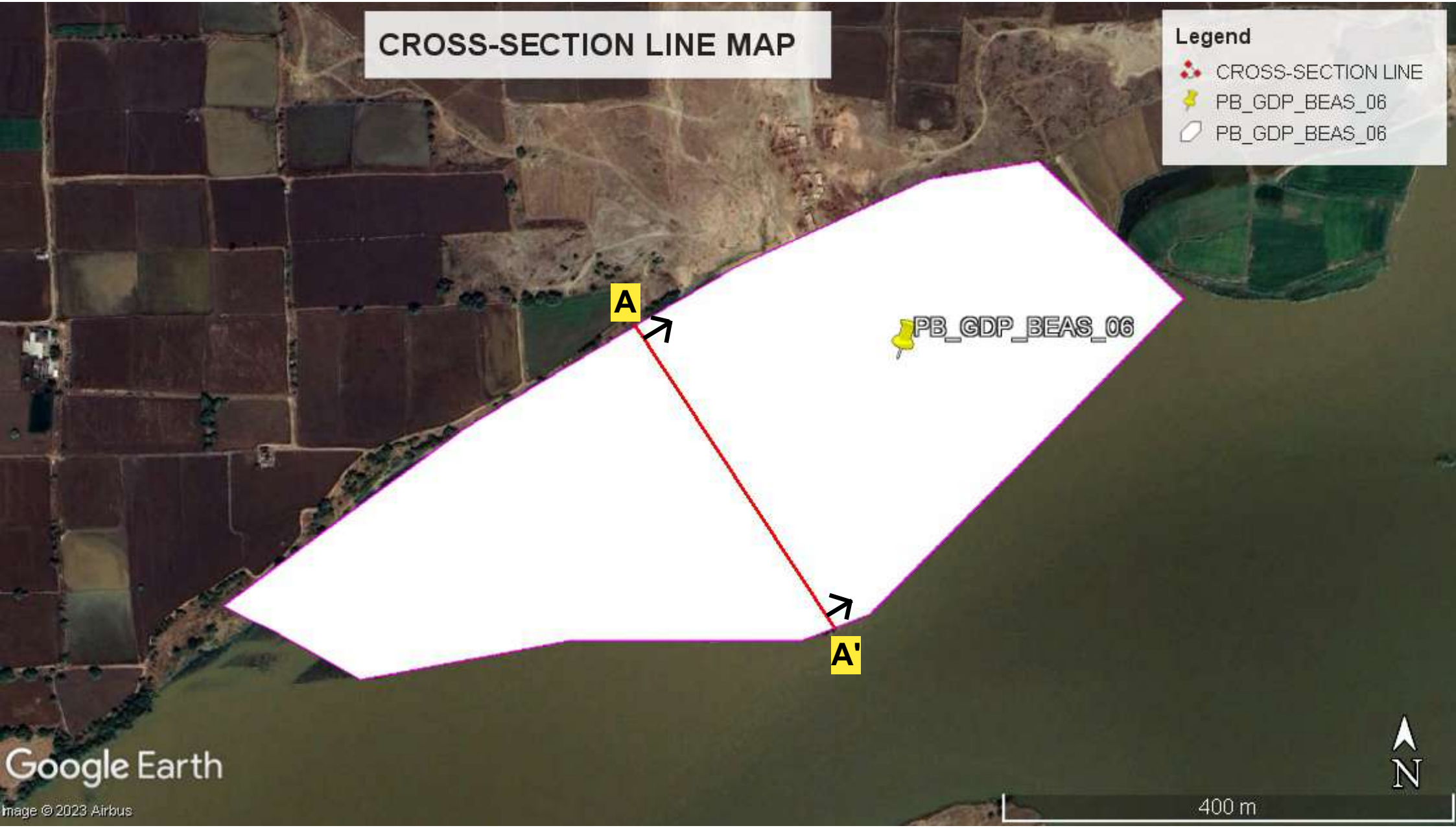

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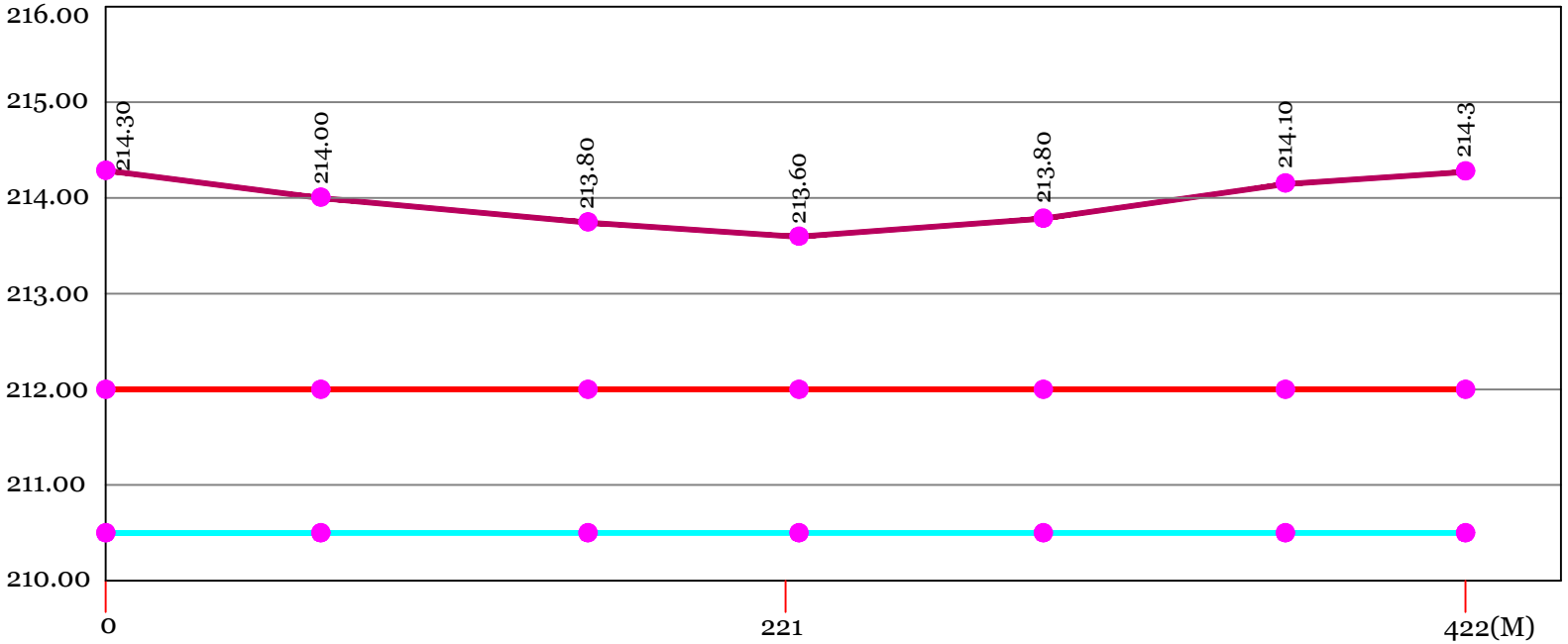
Drainage-cum-Mining,
WRD, Punjab

PRE MONSOON



RED LINE	
THALWEG LINE	
ELEVATION LINE	

SOURCE : FIELD SURVEY

CROSS SECTION OF PB - GDP - RAVI - DESIL - 01(A-A')

Ave Depth = (2.3+2+1.8+1.6+1.8+2.1+2.3/7)= 2(M)

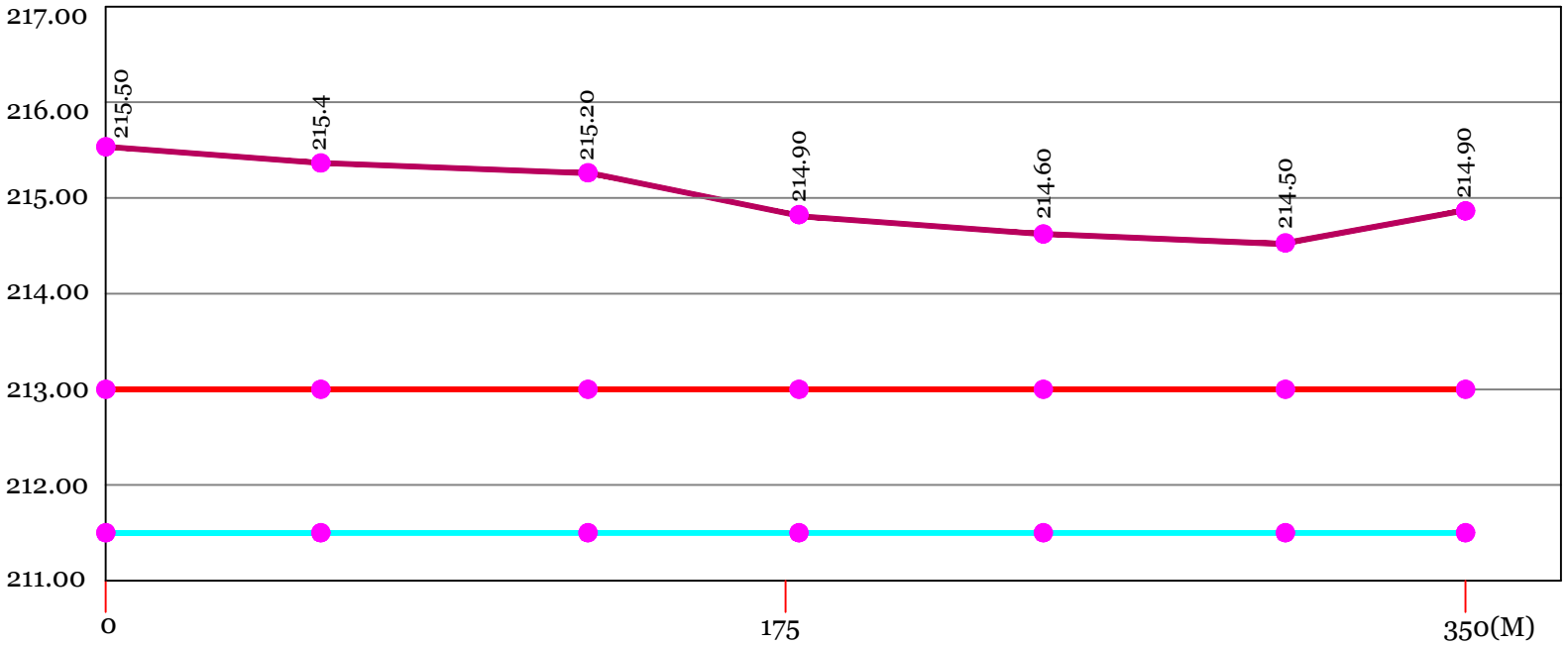
VOLUME = 167036 x 2 x 1.46 = 334073.46(MT)

PREPARED BY : RSP GREEN DEVELPMENT AND LABORATORIES PVT. LTD

N.B. The levels given in above cross - section are nearly correct as per office records

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

PRE MONSOON



RED LINE	
THALWEG LINE	
ELEVATION LINE	

SOURCE : FIELD SURVEY

CROSS SECTION OF PB - GDP - BEAS - DESIL - 02(A-A')

Ave Depth = (2.5+2.4+2.2+1.9+1.6+1.5+1.9/7)= 2(M)

VOLUME = 217870 x 2 x 1.46 = 435741.46(MT)

N.B. The levels given in above cross - section are nearly correct as per office records

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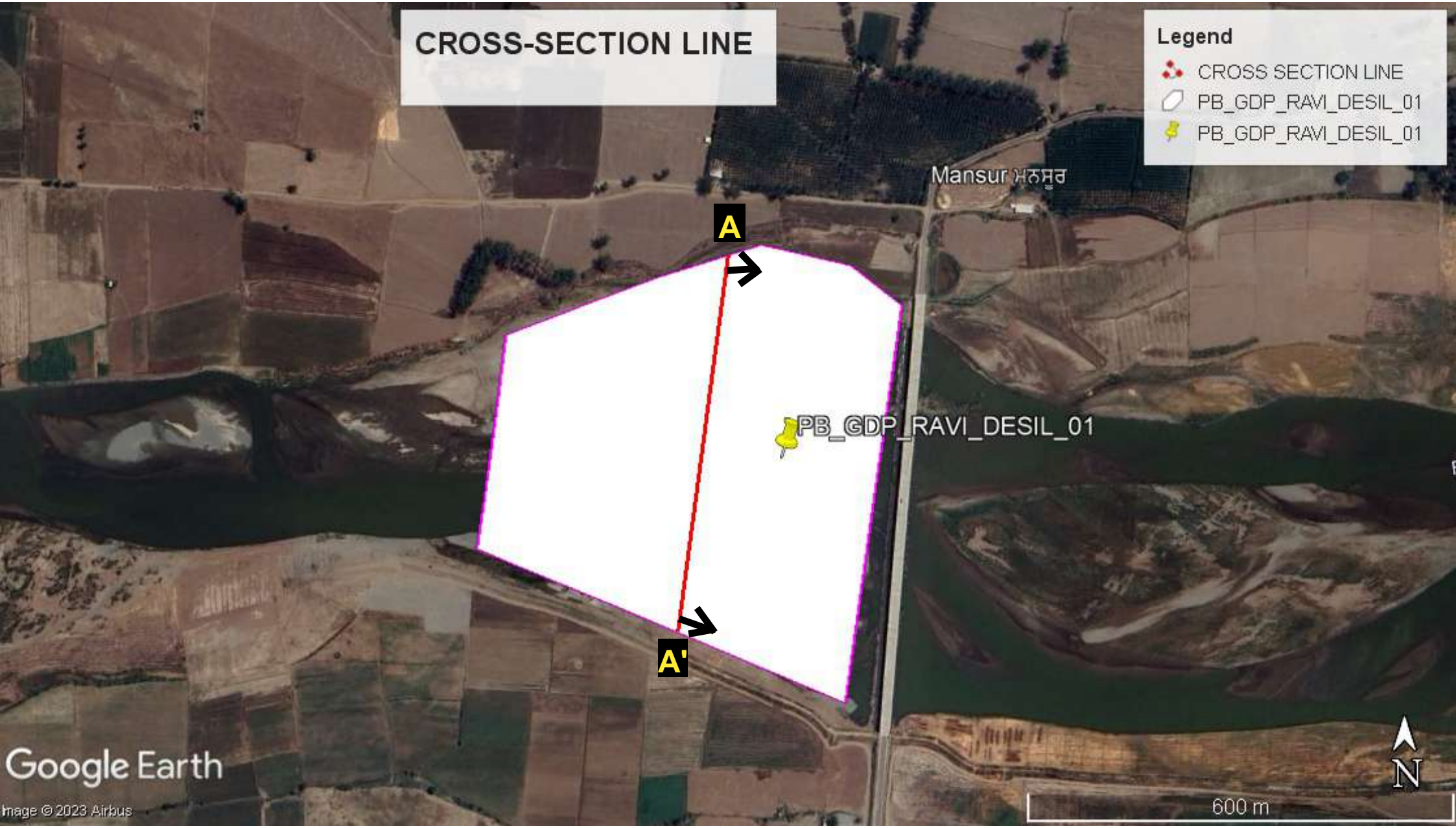
WRD, Punjab



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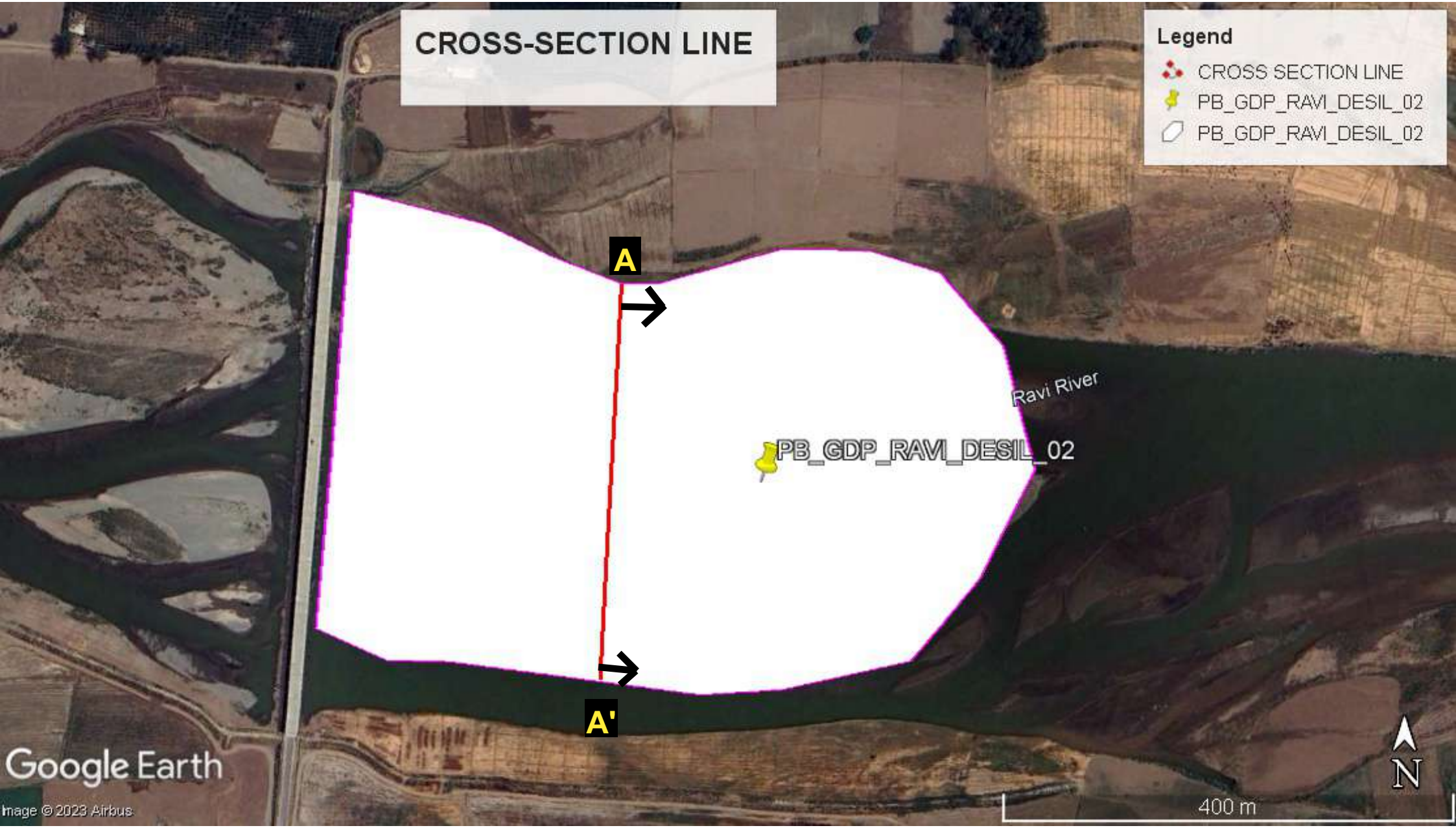
WRD, Punjab



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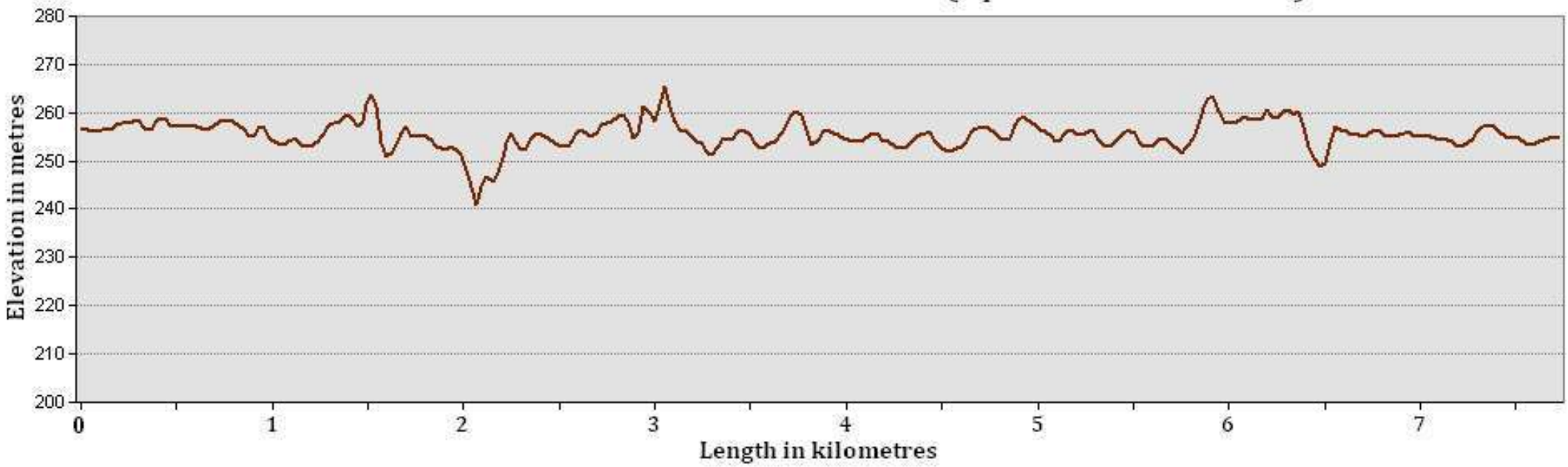
WRD, Punjab

L-Section of Ravi River From Chak Ram Sahai to Alowal (Up to 7.80Km East to West)



N.B. The levels given above the L-section are nearly correct as per office record

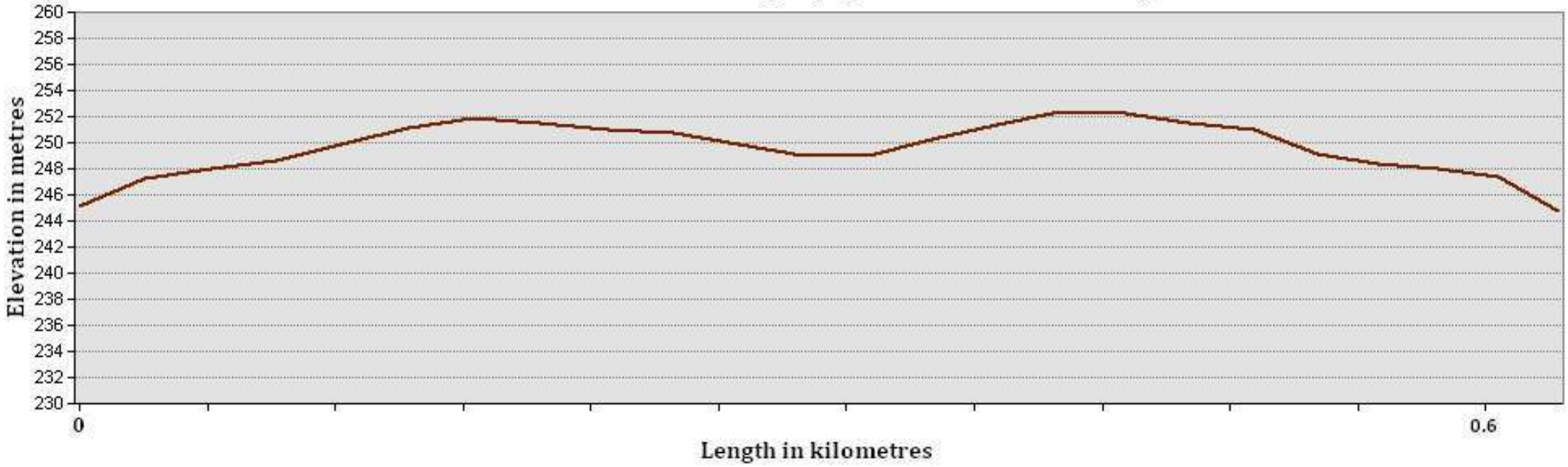
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

L-Section of Ravi River From Bahadurpur to Salach (Up to 2.63 Km North to West)

N.B. The levels given in above L-Section are nearly correct as per office record

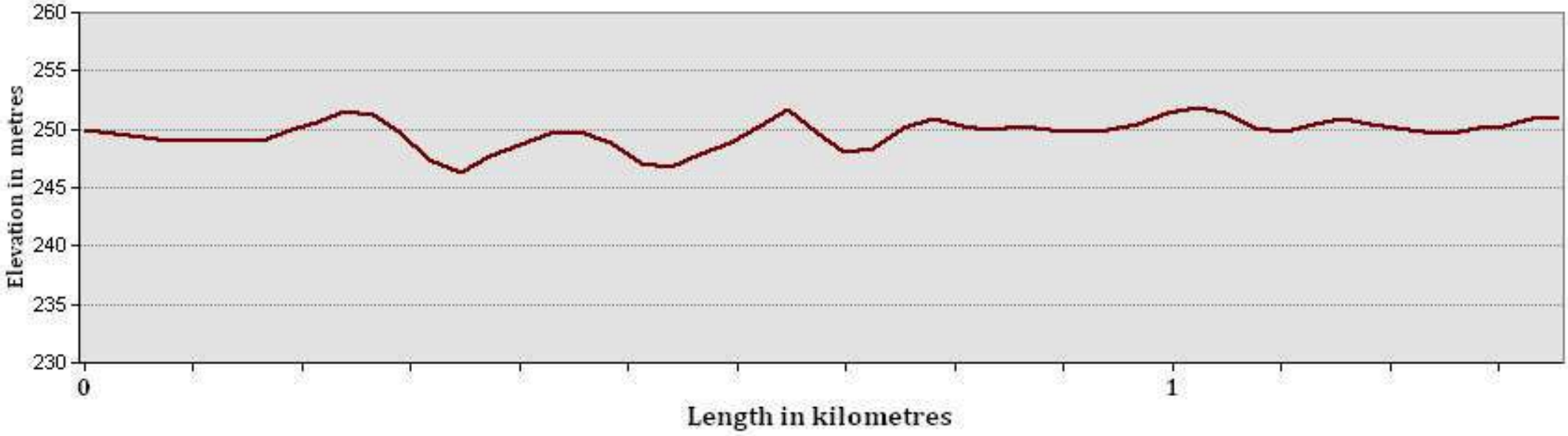
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

L-Section of Ravi River at Khagar (Up to 0.6 Km East to West)



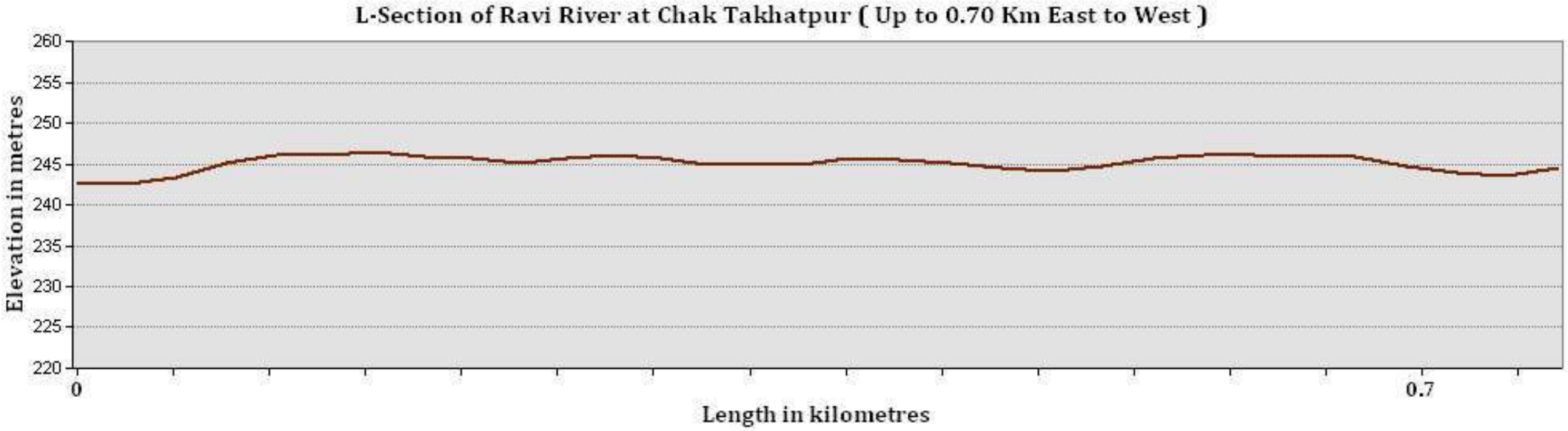
N.B. The levels given in above L-section are nearly correct as per office record

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



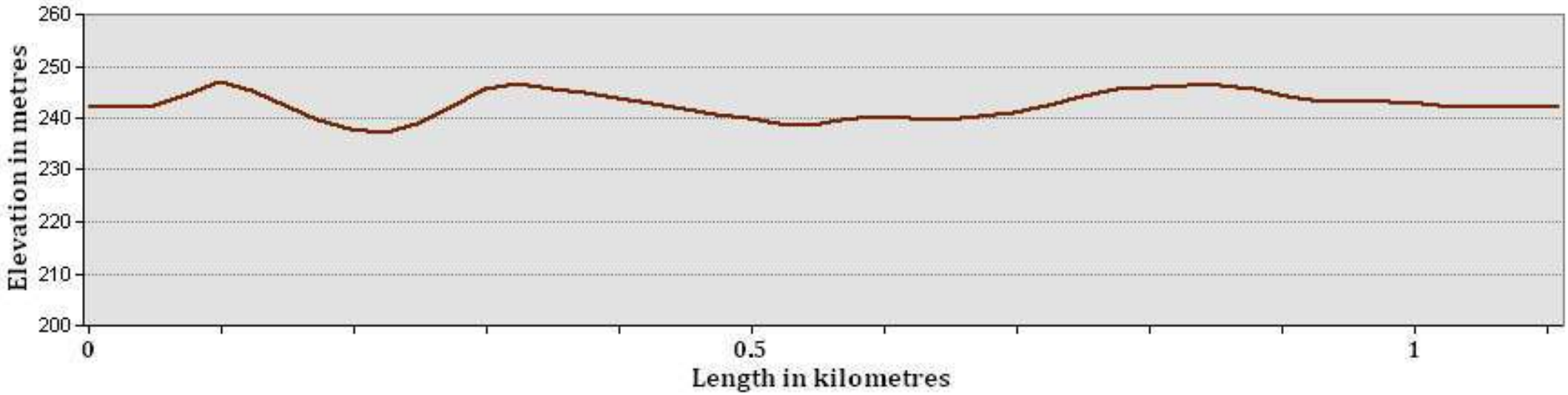
N.B. The levels given in above L-section are nearly correct as per office record

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



N.B. The levels given in above L-section are nearly correct as per office record

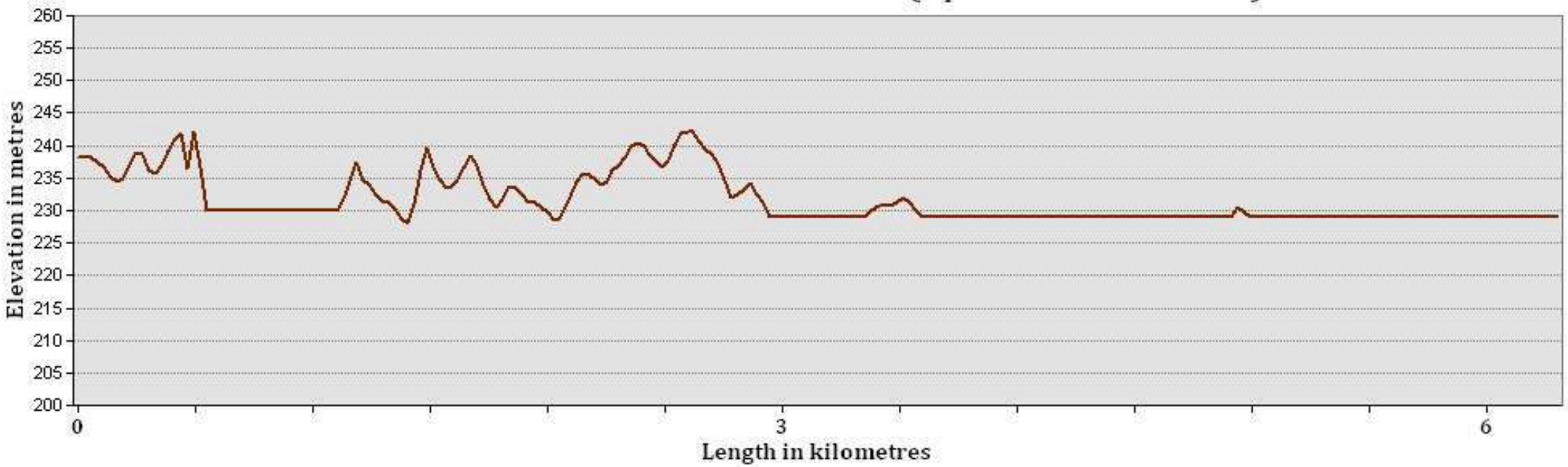
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



N.B. The levels given in above L-section are nearly correct as per office record

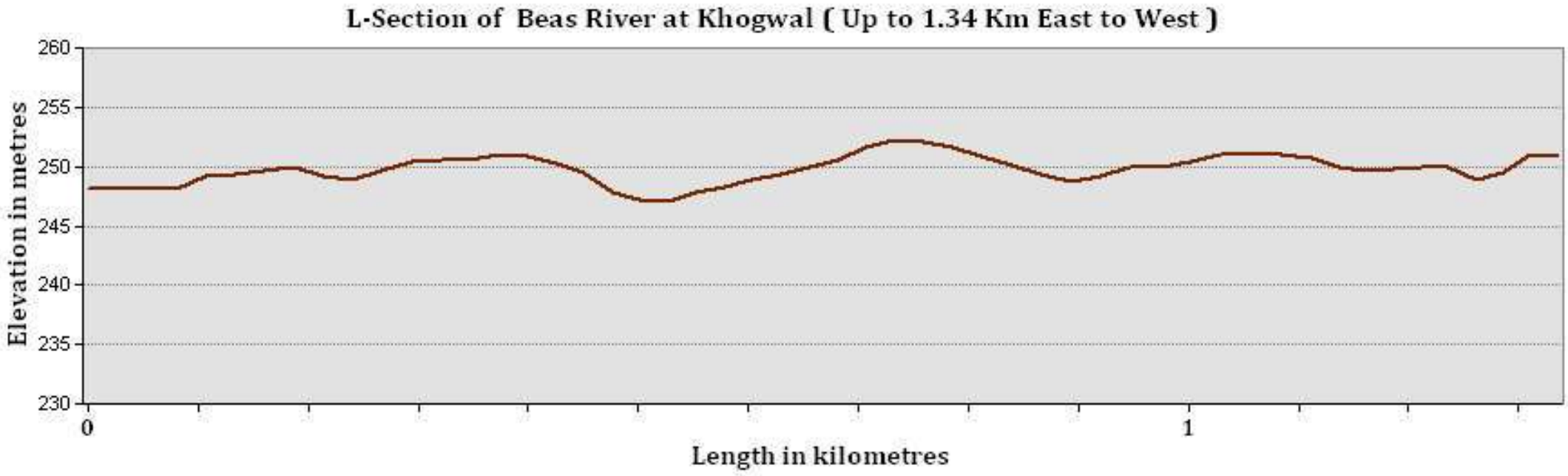
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

L-Section of Ravi River From Gola Dhola to Mansur (Up to 6.16 Km East to West)



N.B. The levels given in above L-section are nearly correct as per ofiice record

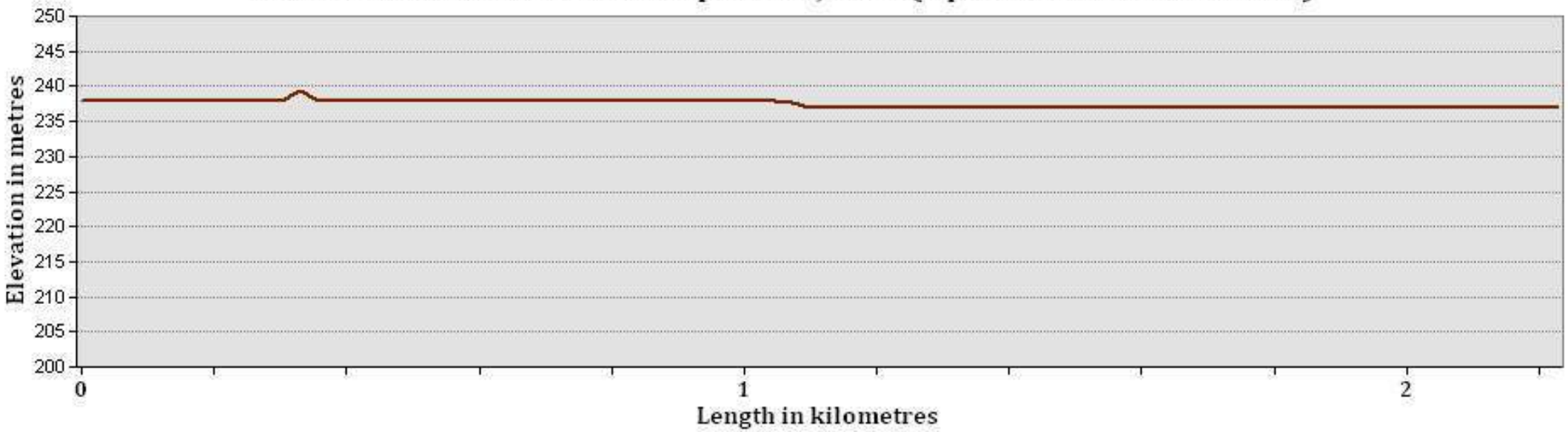
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



N.B. The levels given in above L-section are nearly correct as per office order

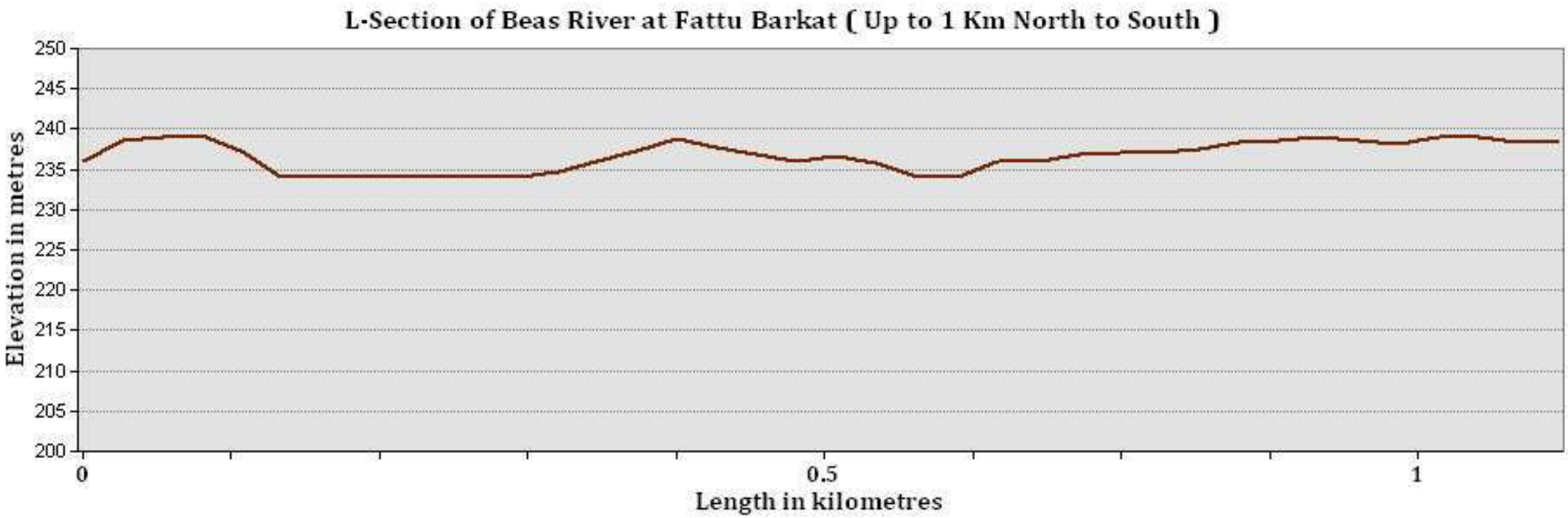
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

L-Section of Beas River From Kishanpur to Raju Bela (Up to 2.37 Km North to South)



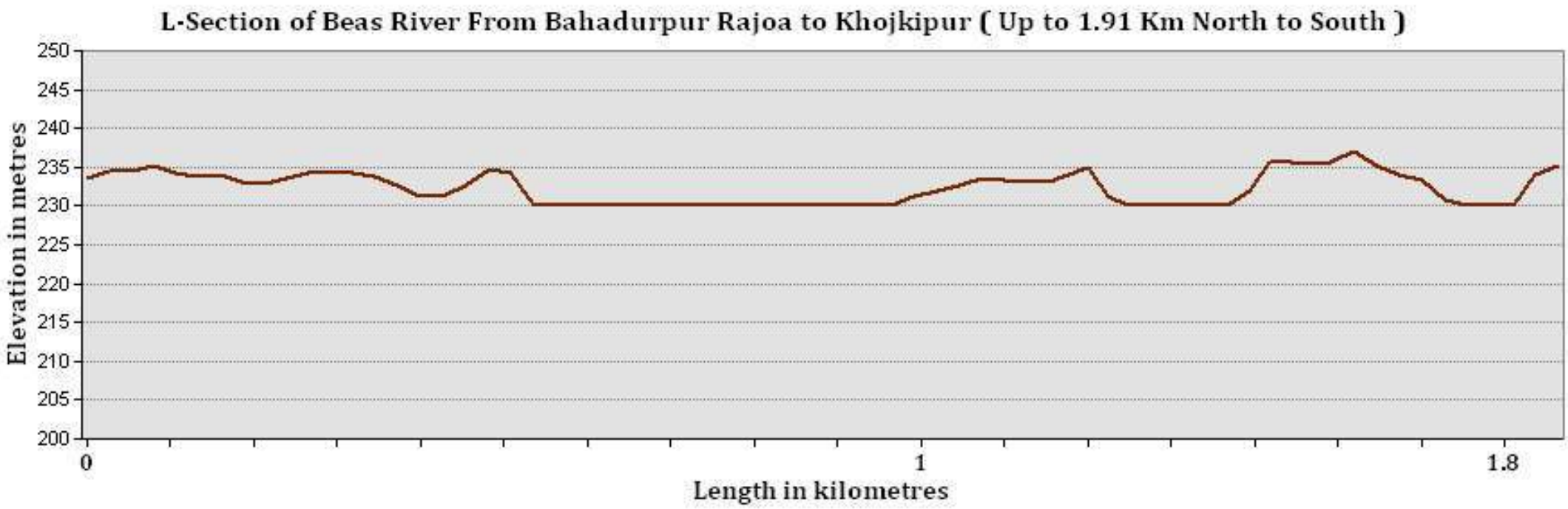
N.B. The levels given in above L-section are nearly correct as per office order

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



N.B. The levels given in above L-section are nearly correct as per office order

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



N.B. The levels given in above L-section are nearly correct as per office order

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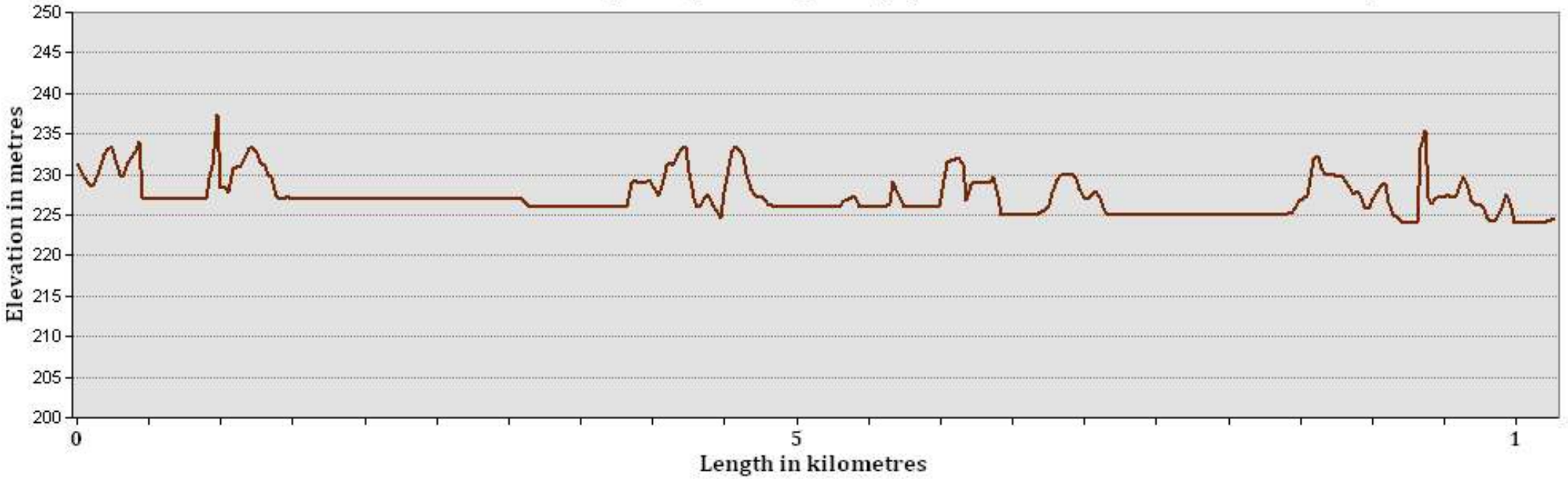
Drainage-cum-Mining,
WRD, Punjab

L-Section of Beas River From Sri Hargobindpur to Kapoora (Up to 10.5 Km North East to South West)



N.B. The levels given in above L-section are nearly correct as per office order

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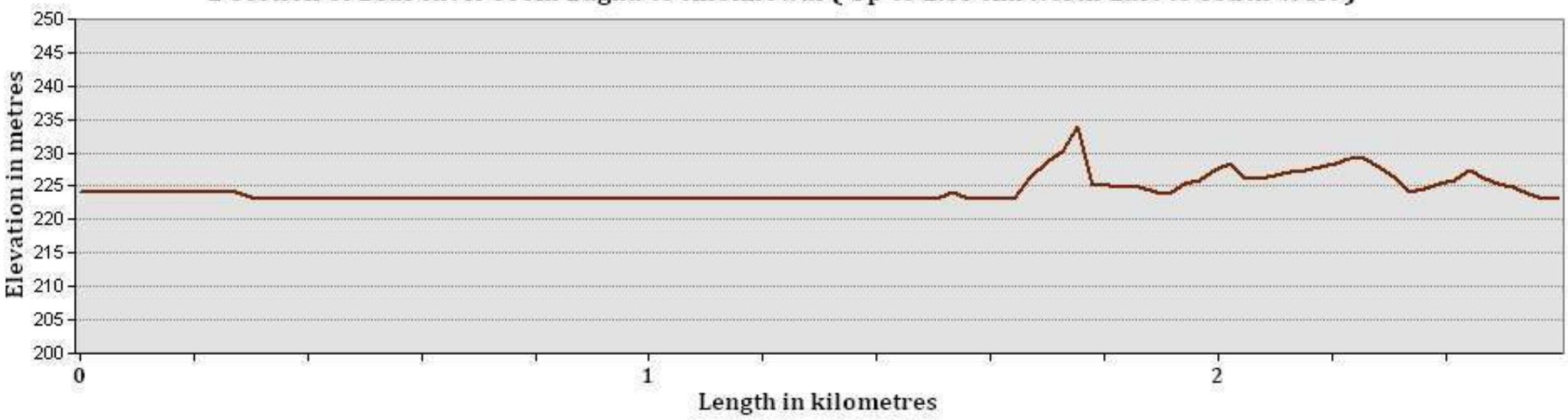
Drainage-cum-Mining,
WRD, Punjab

L-Section of Beas River From Bagha to Khokhowal (Up to 2.63 Km North East to South West)



N.B. The levels given in above L-section are nearly correct as per office order

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Drainage-cum-Mining,
WRD, Punjab

ANNEXURE-X

FIELD PHOTOGRAPHS

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

PREPARED BY: **SUBDIVISIONAL COMMITTEE OF GURDASPUR DISTRICT**
ASSISTED BY: **RSP GREEN DEVELOPMENT AND LABORATORIES PVT. LTD.**

PHOTOGRAPH 1: Potential sand zone of Beas River in Gurdaspur district.

PHOTOGRAPH 2: Sand depositional pattern of Beas River in Gurdaspur district.

PHOTOGRAPH 3: DGPS Survey of Beas River in Gurdaspur district.

PHOTOGRAPH 4: DGPS Survey of Ravi River, Gurdaspur district.

PHOTOGRAPH 5: Potential Sand zone in Ravi River, Gurdaspur district.

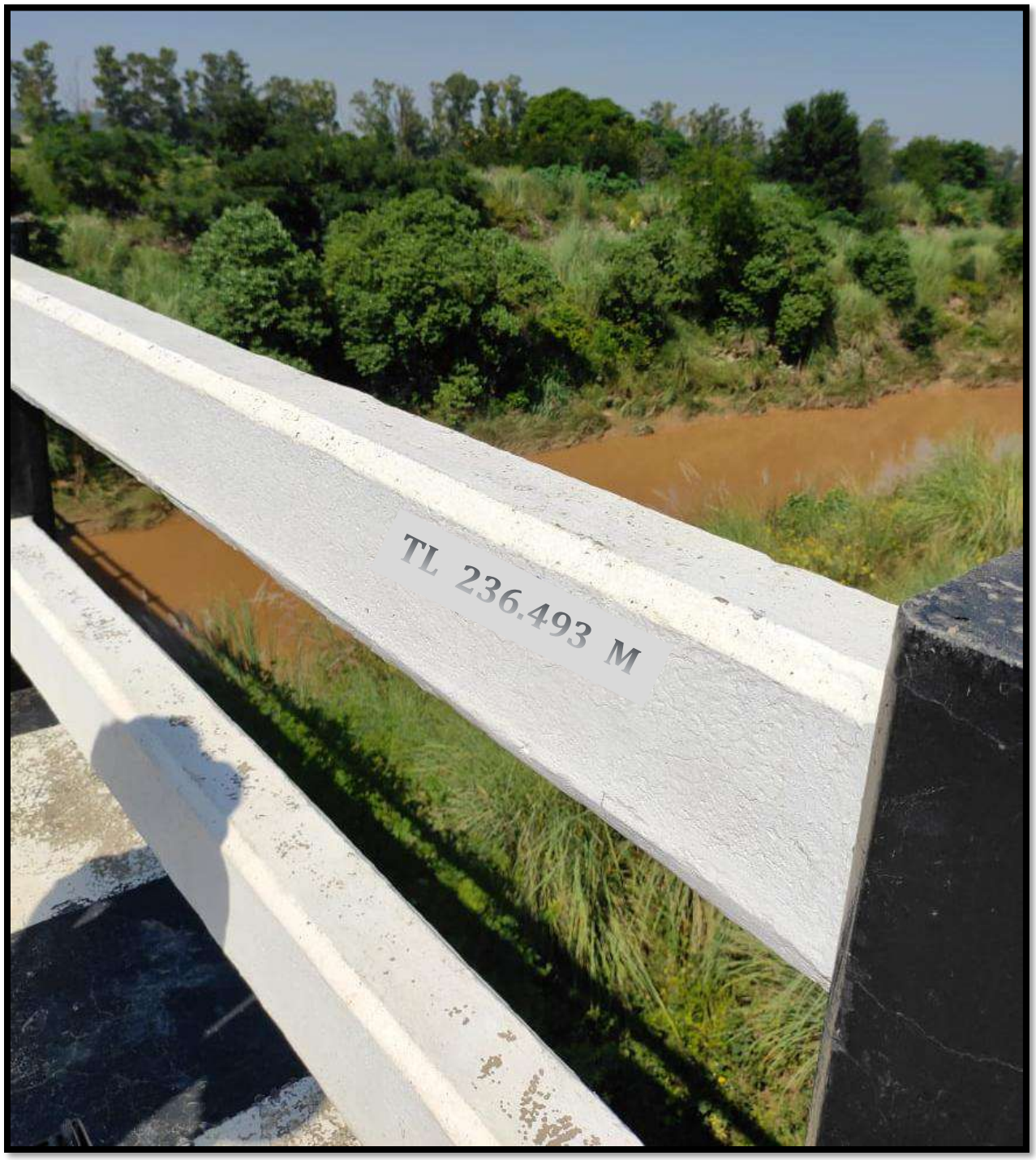
PHOTOGRAPH 6: Potential sand zone of Beas River Gurdaspur district.

PHOTOGRAPH 7: Desilting sand zone in Ravi River, Gurdaspur district.

PHOTOGRAPH 8: Desilting sand zone in Ravi River, Gurdaspur district.

PHOTOGRAPH 9: Photograph showing elevation of the Benchmark of Railway Station Mukerian.

PHOTOGRAPH 10: Photograph showing elevation of the Benchmark of Railway Station Dinanagar.



PHOTOGRAPH 11: Photograph showing elevation of the Benchmark of Marhi Panuan pull – Bridge.

PHOTOGRAPH 12: Photograph showing elevation of the Benchmark of Railway Station Dera Baba Nanak.

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WRD, Punjab

ANNEXURE-XI

Map of Transport routes of the Mining Sites

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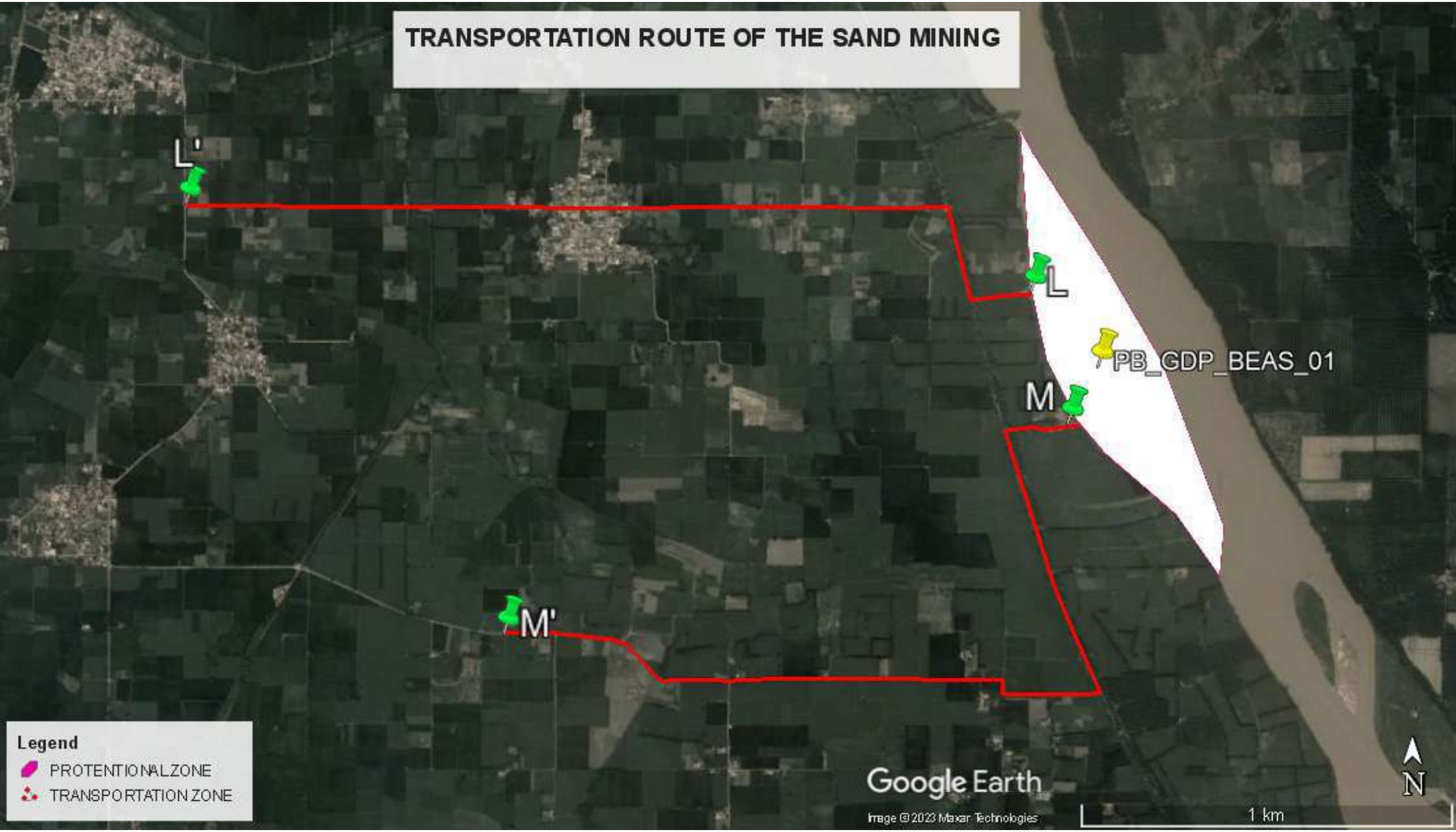
WRD, Punjab



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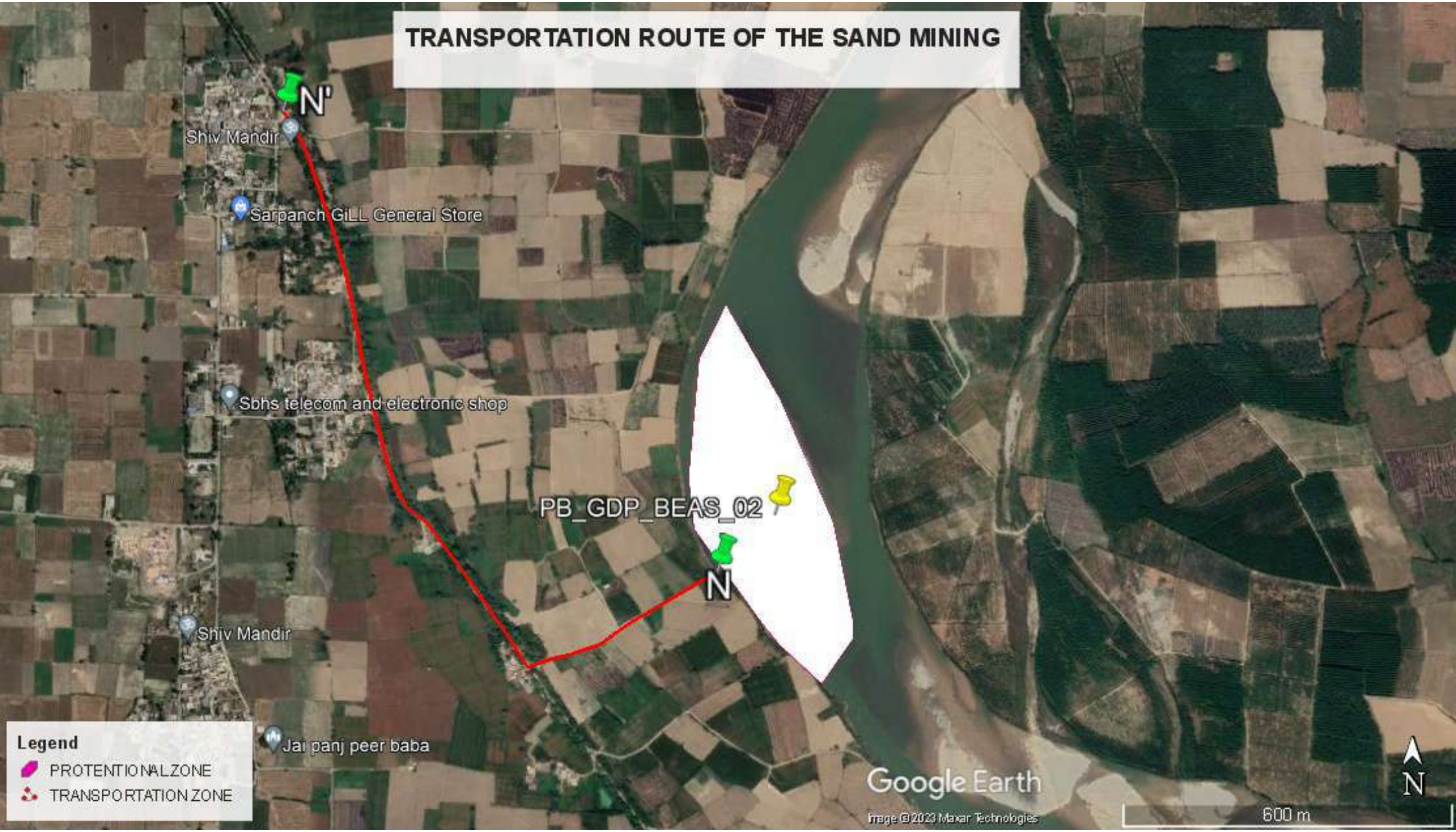
Drainage-cum-Mining,
WRD, Punjab



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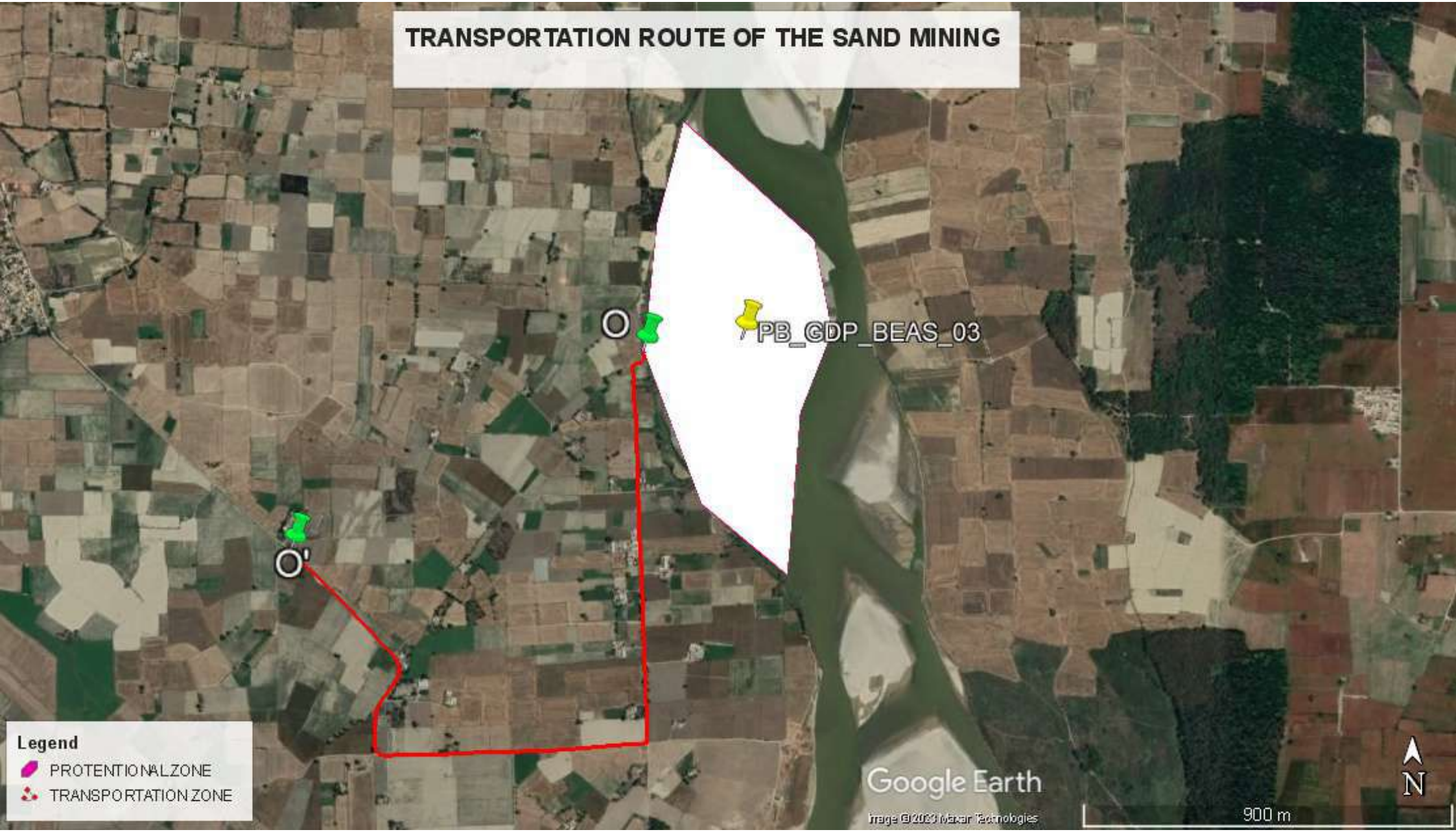
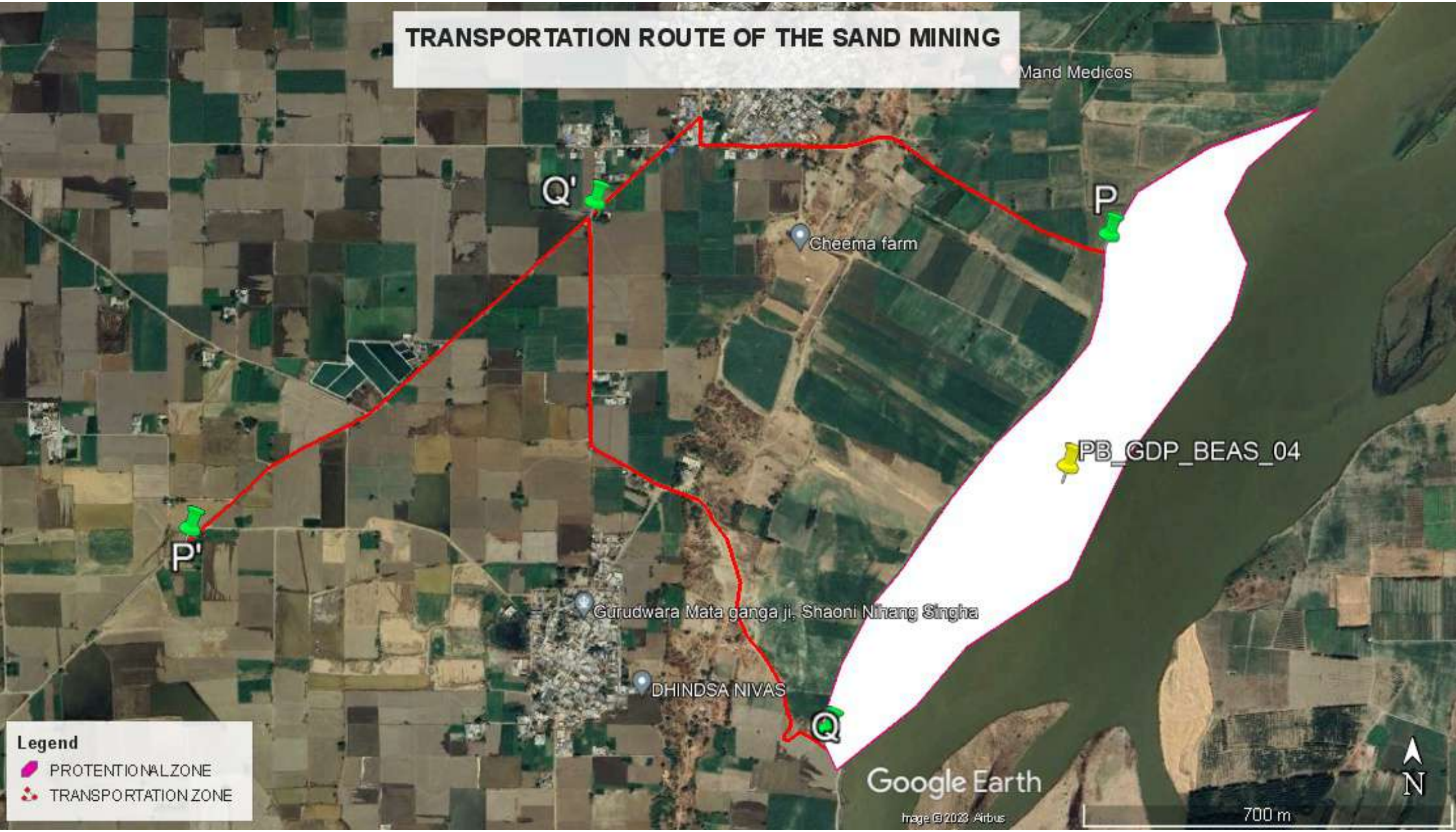
Drainage-cum-Mining,
WRD, Punjab



Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



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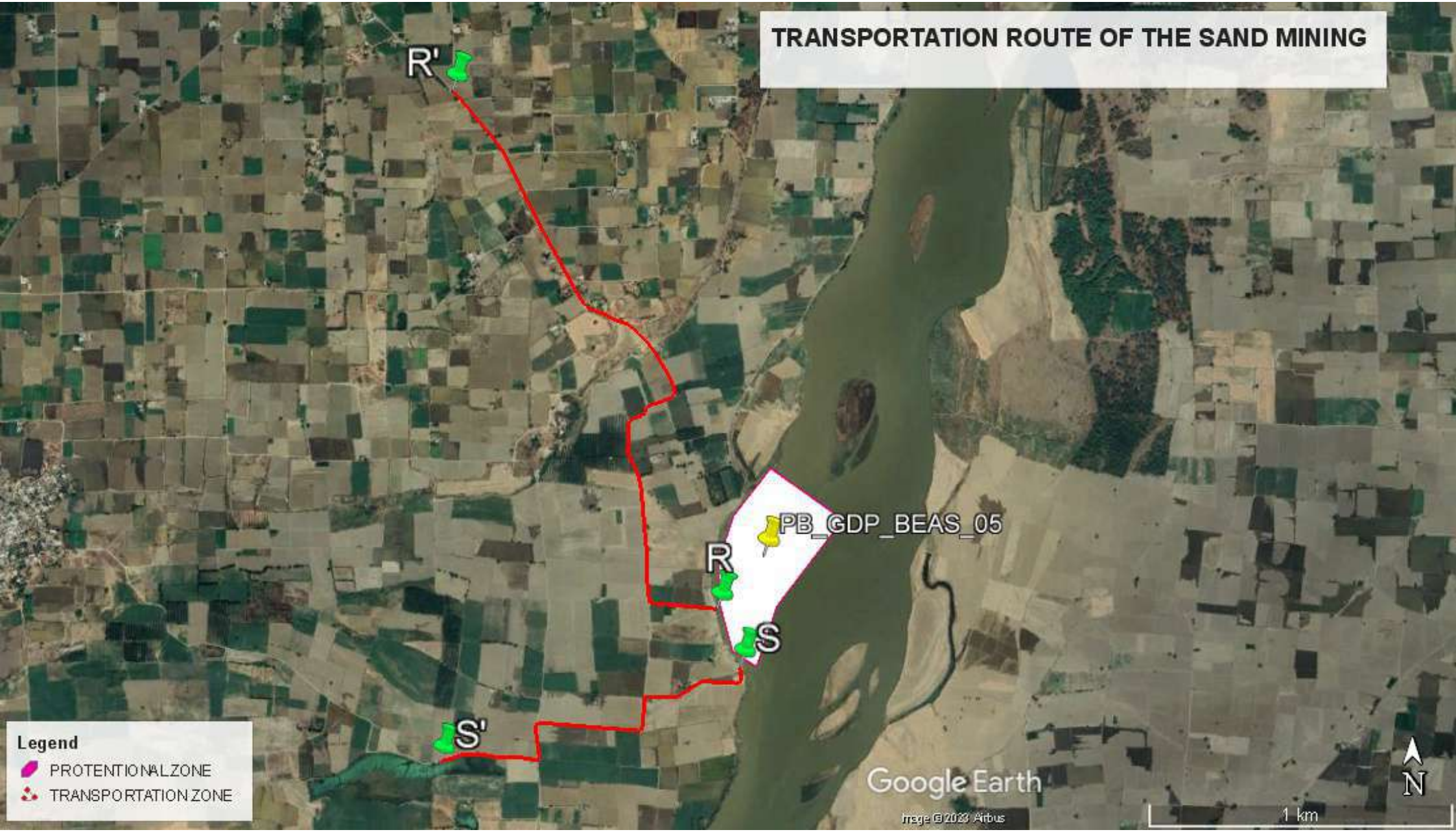
Drainage-cum-Mining,
WRD, Punjab



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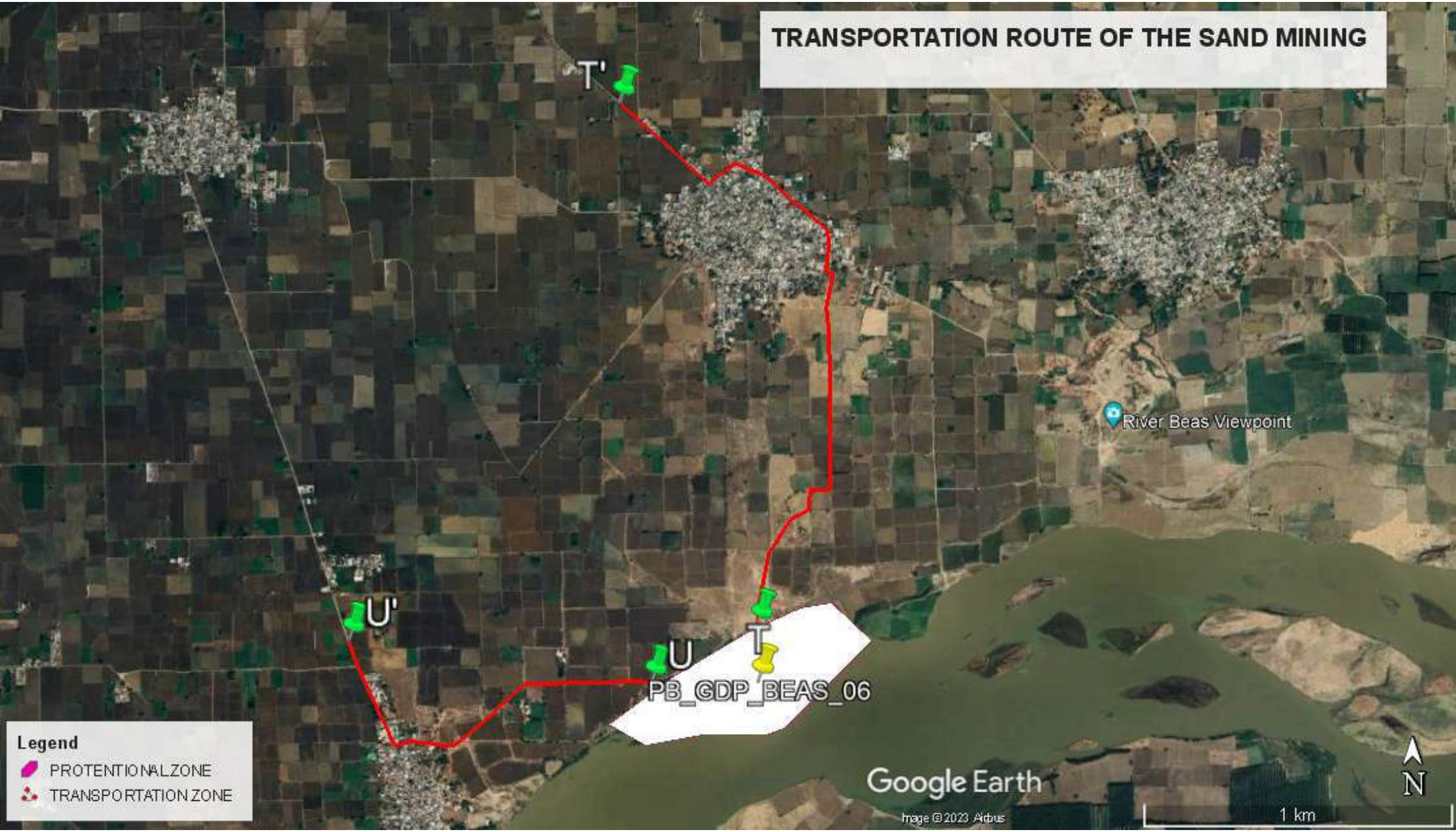
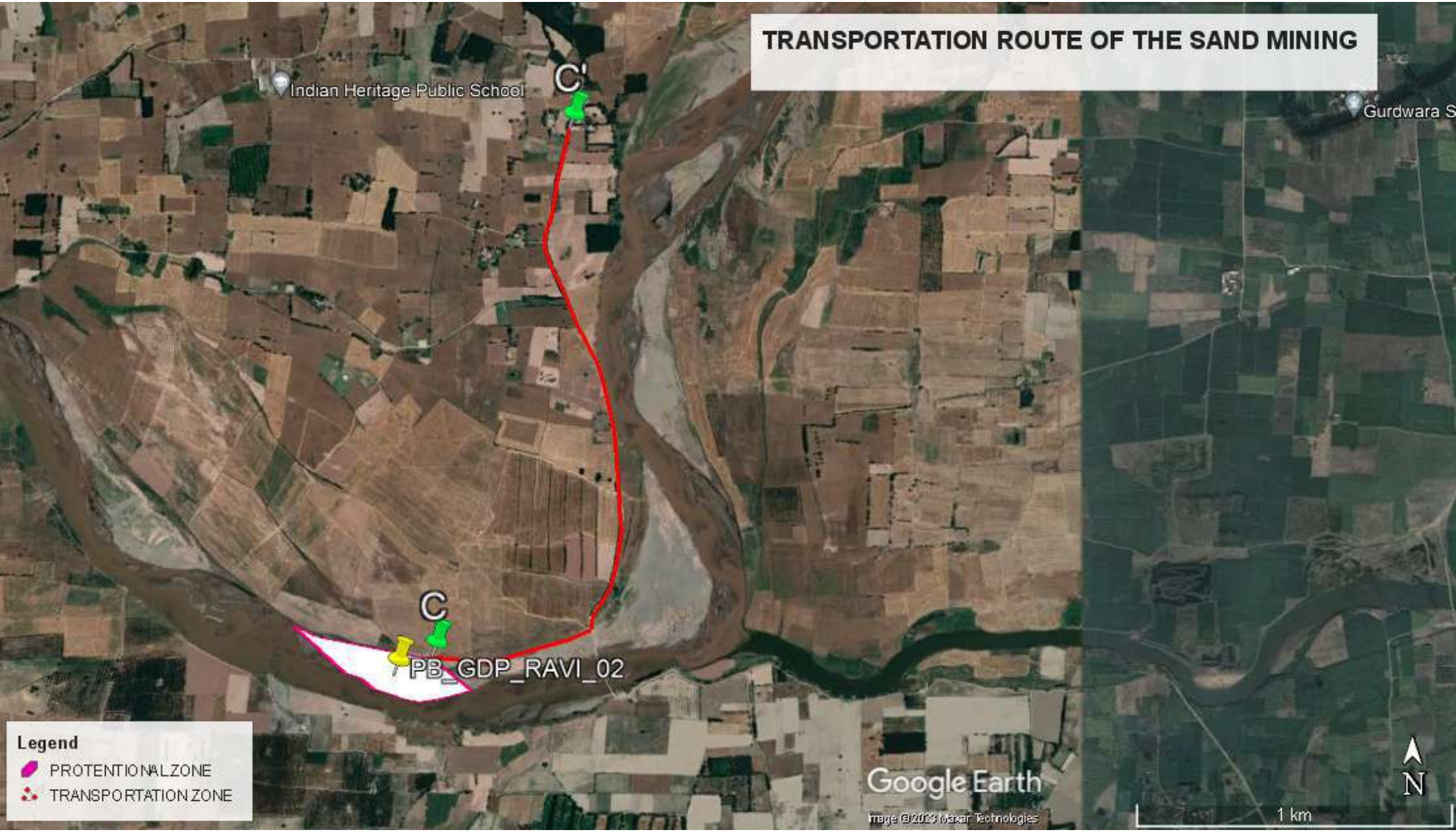
Drainage-cum-Mining,
WRD, Punjab



Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



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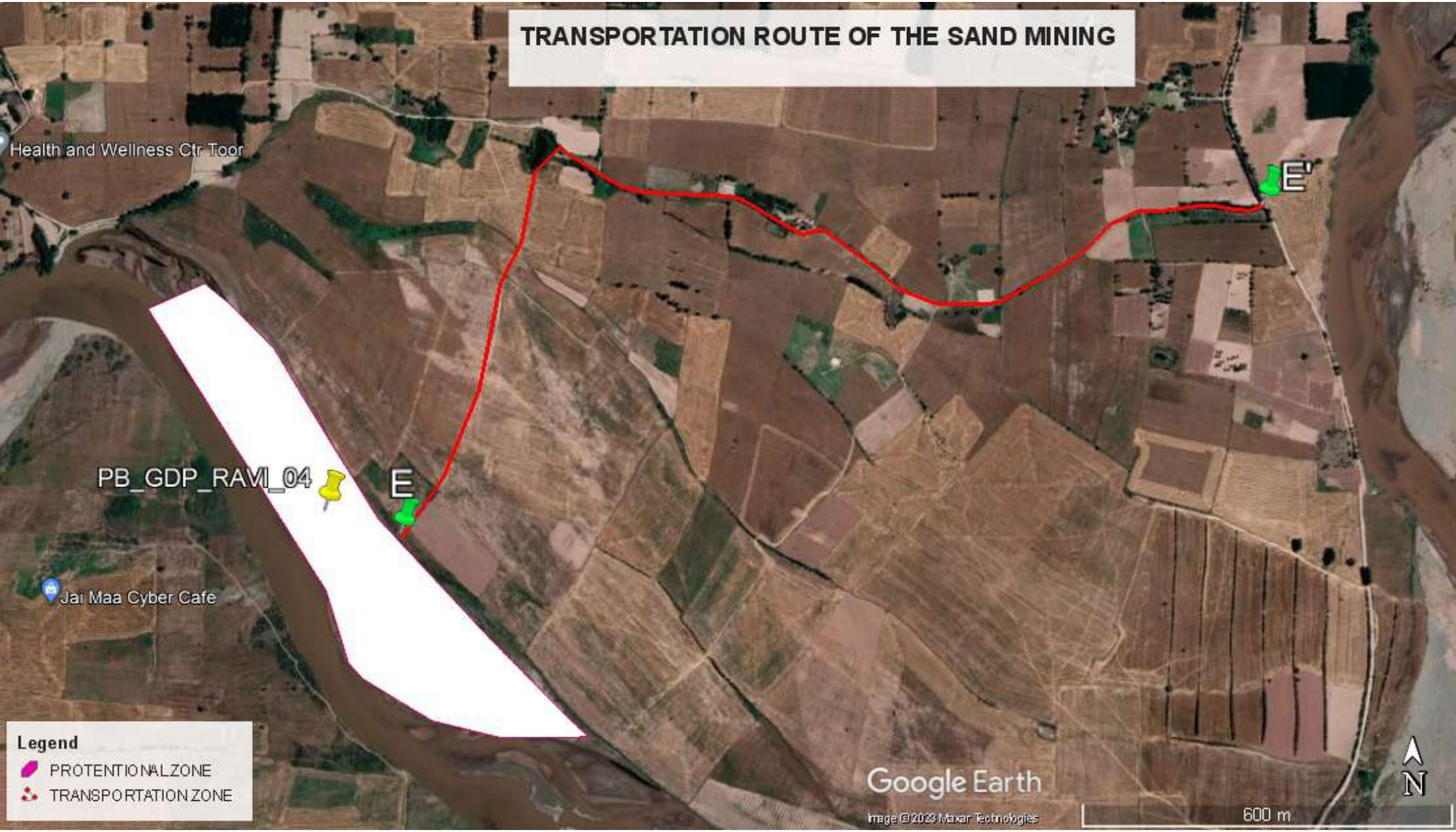
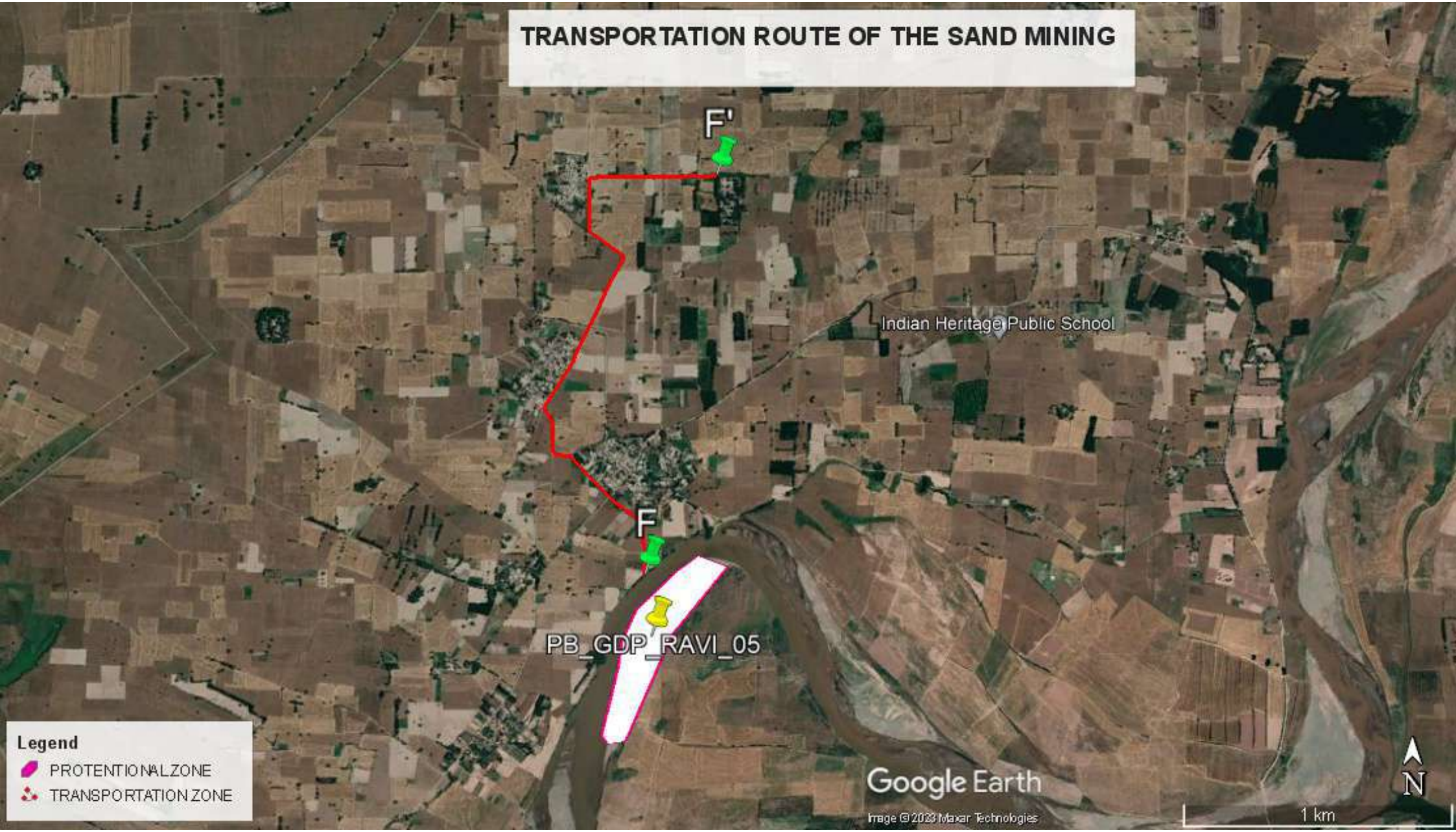
Drainage-cum-Mining,
WRD, Punjab

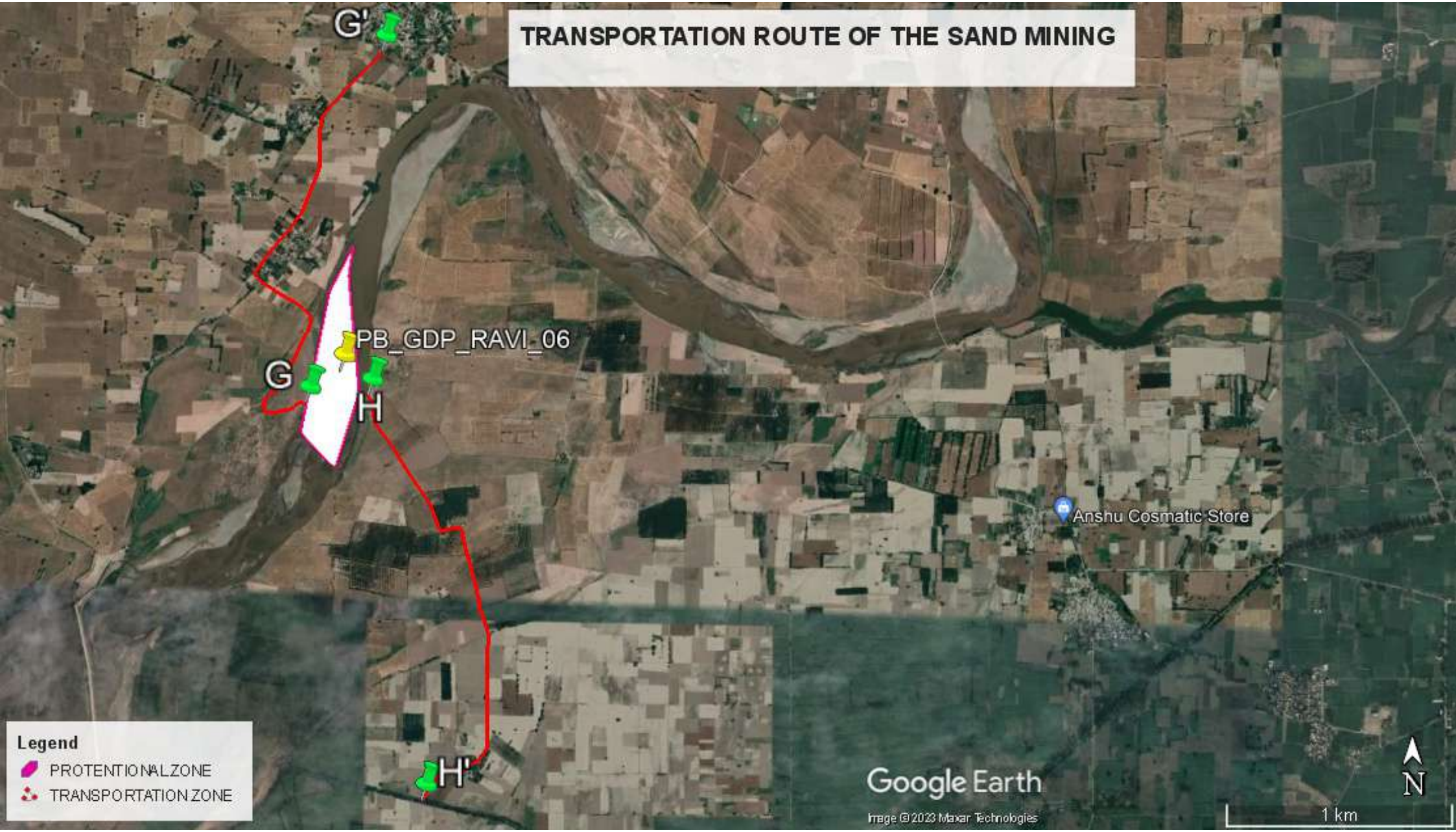
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



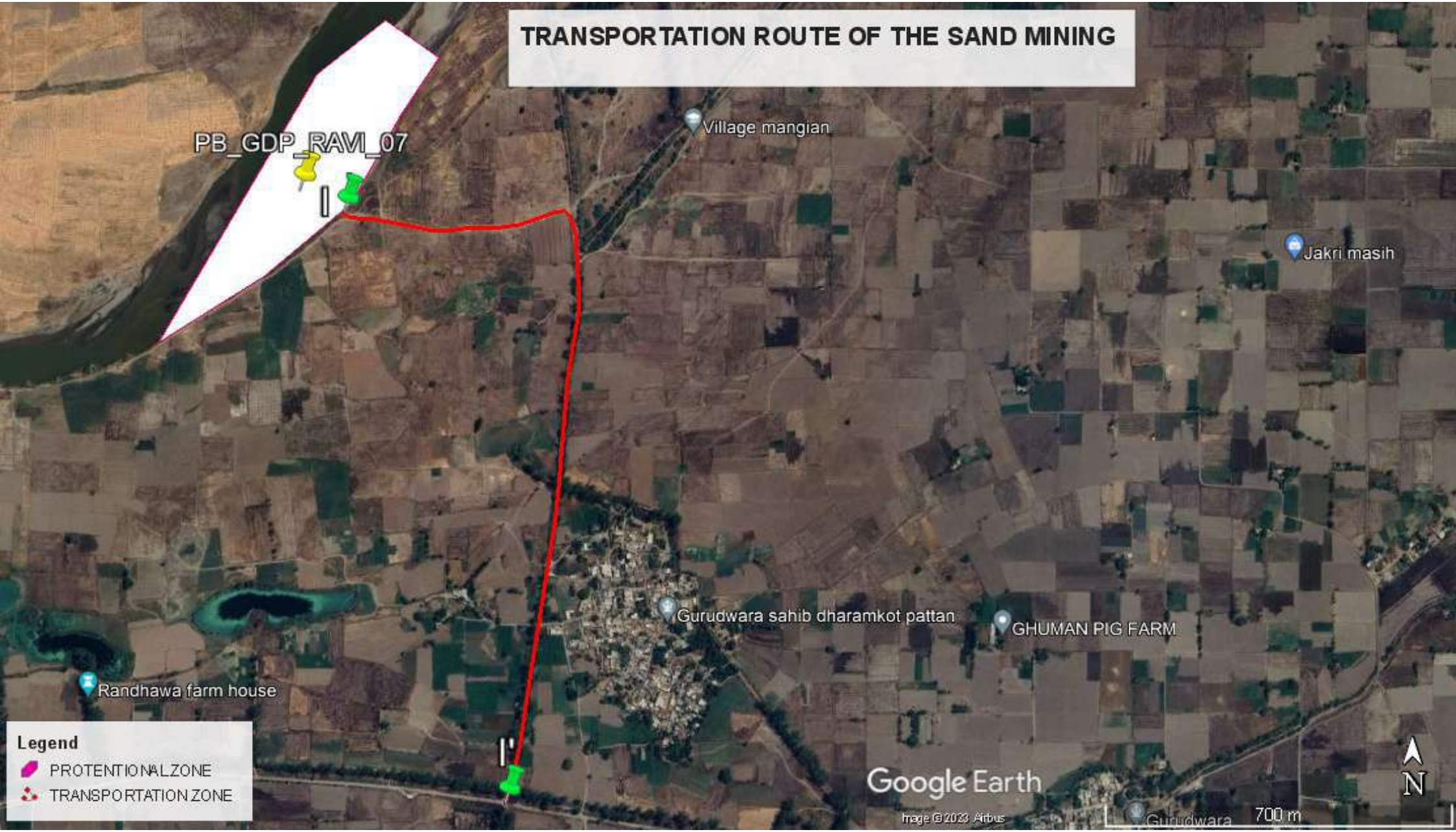
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



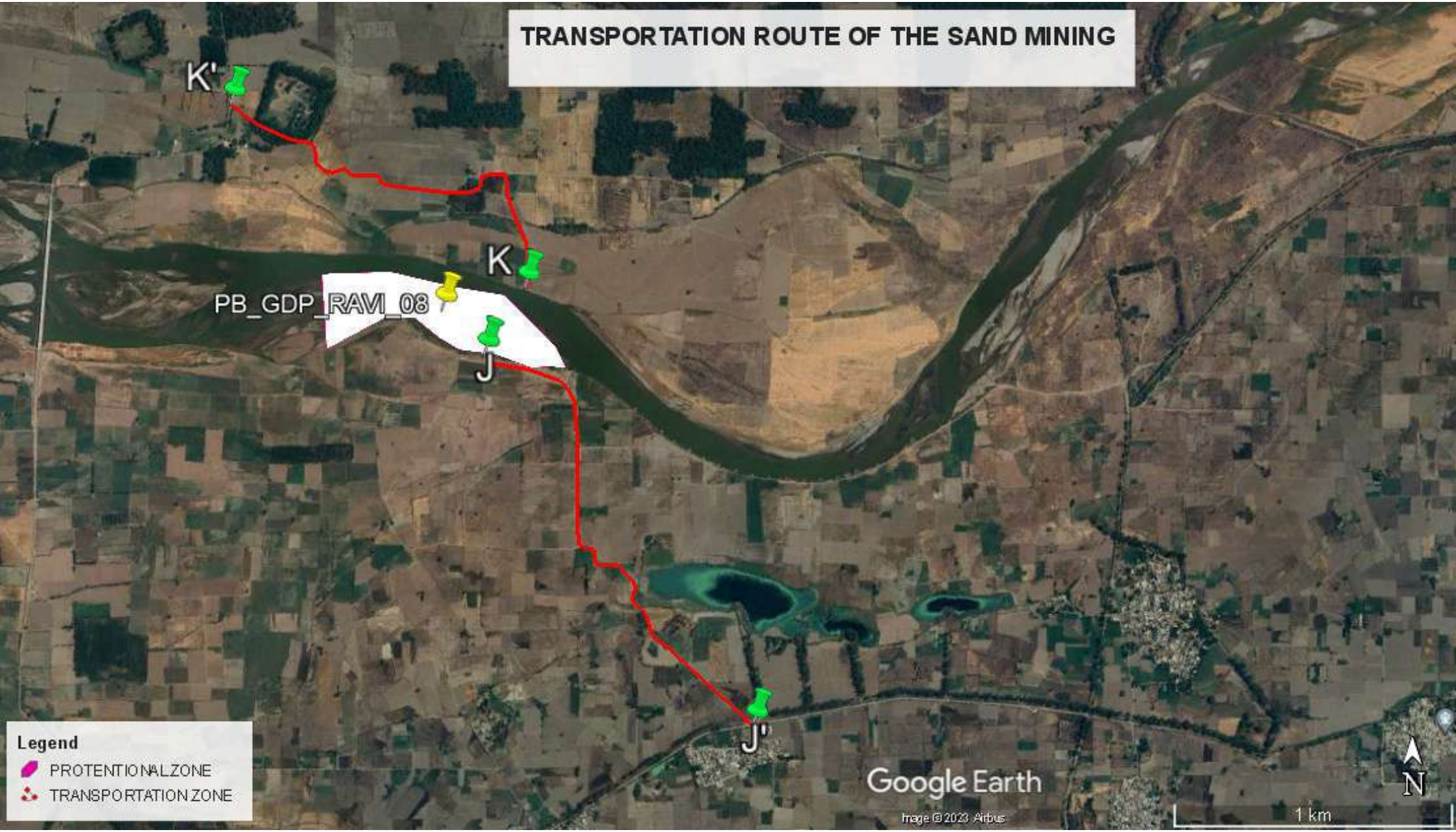
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



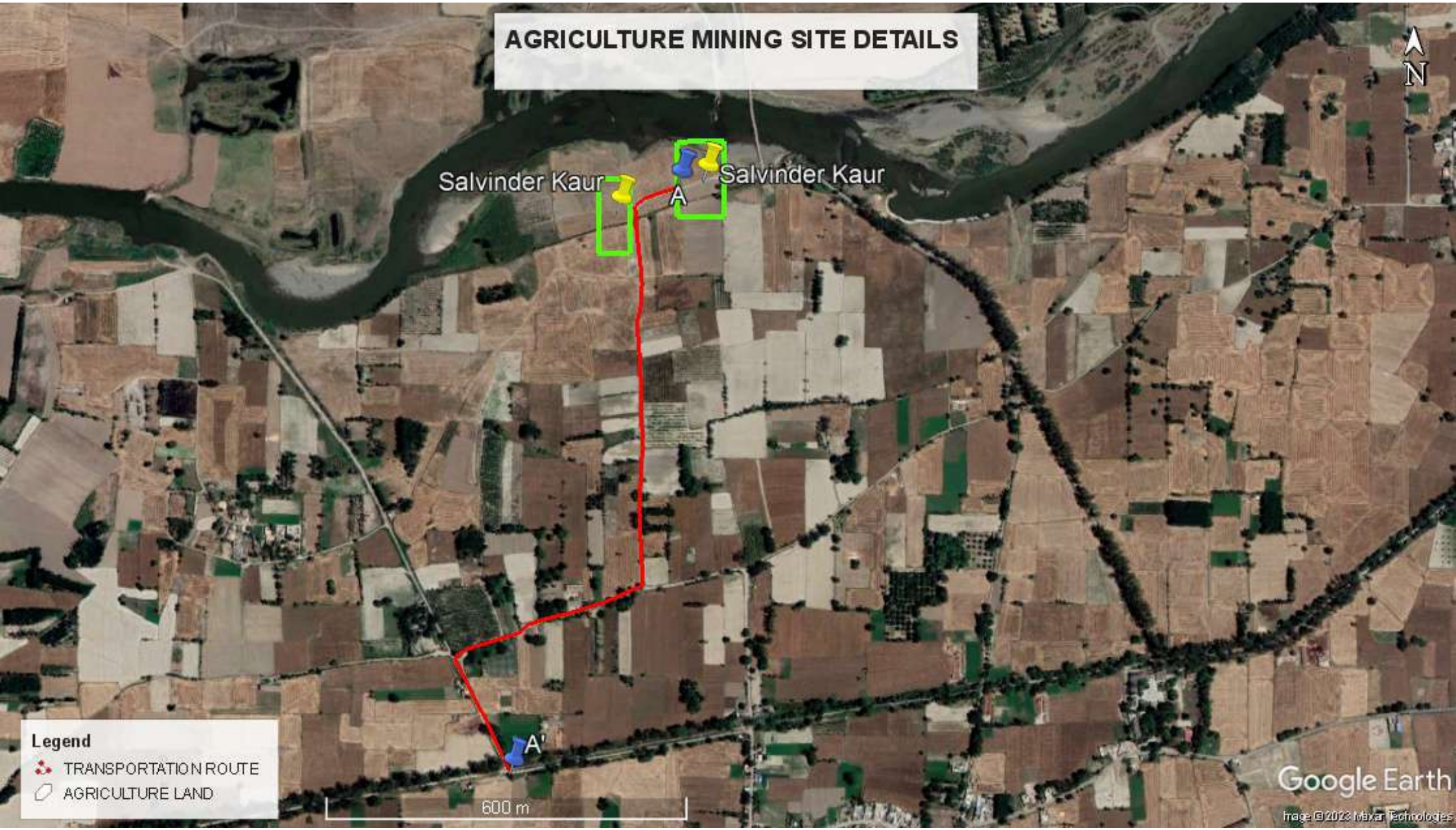
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



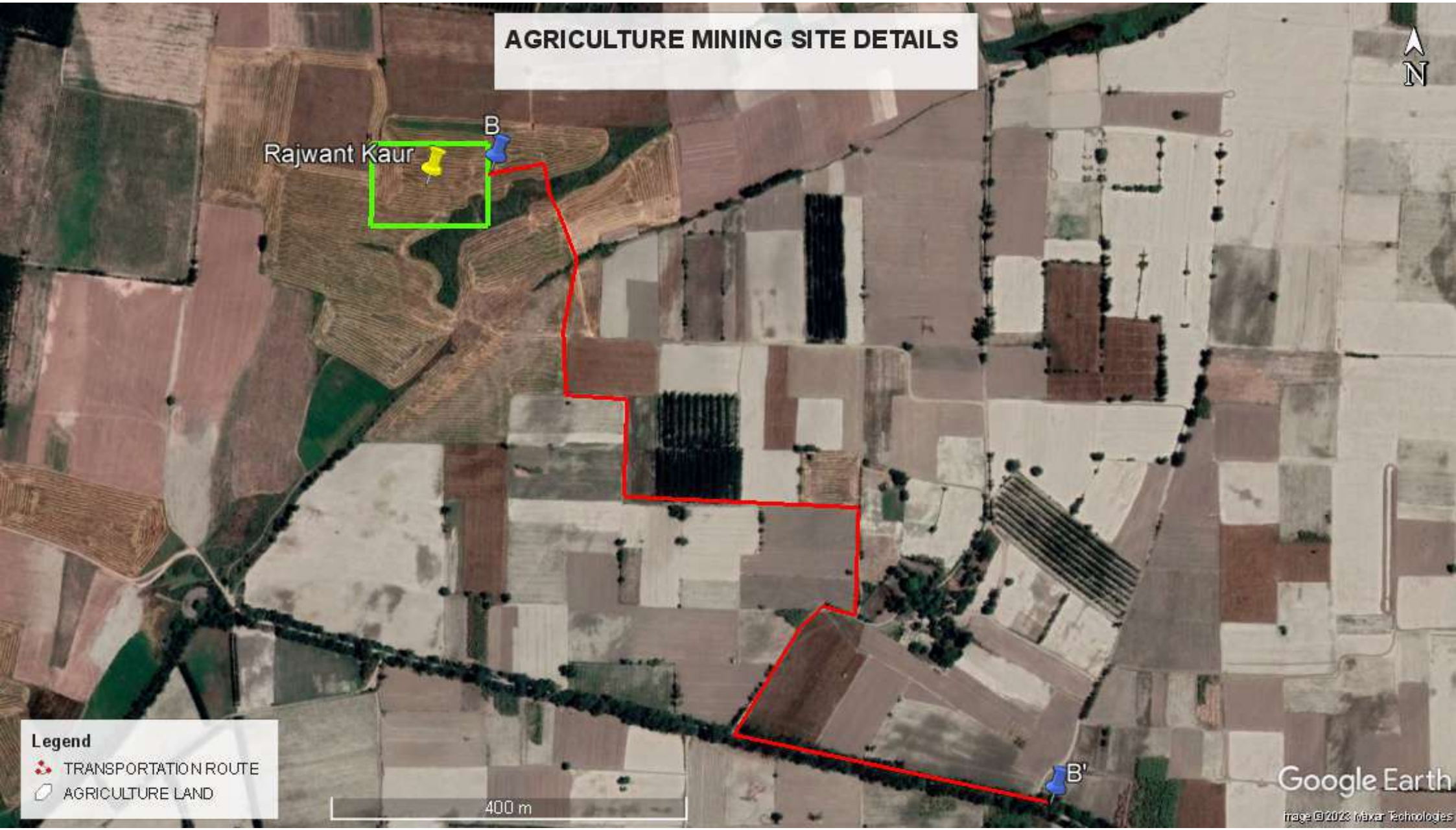
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab



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WRD, Punjab

ANNEXURE – XII

- **LITHOLOG FOR THE AGRICULTURE MINING SITES**

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

DISTRICT SURVEY REPORT OF GURDASPUR DISTRICT, PUNJAB

❖ LITHOLOG FOR THE AGRICULTURE MINING SITES

There are only 2 agricultural sites in the district Gurdaspur. It is observed that the agriculture mine sites are located mainly in and around the Ravi River. A generalized lithology has been developed for a deep understanding the strata.

Examples of lithology are given below:-

1. Litholog for the agriculture sites in and around Marara area

The photograph showing a very thin layer of top soil and deposition of sand in a symmetric way. The formation also indicates about the sand presence at the site.

Litholog upto 3 meters	
Soil	0.30 Meter
Sand	2.70 Meter

Sr. No.	Name	Calculation	Total Reserve	Total Mineral to be mine
1	Salvinder Kaur	2.70 x (1.6x10000) x 1.45	62,640 MT	37,584MT

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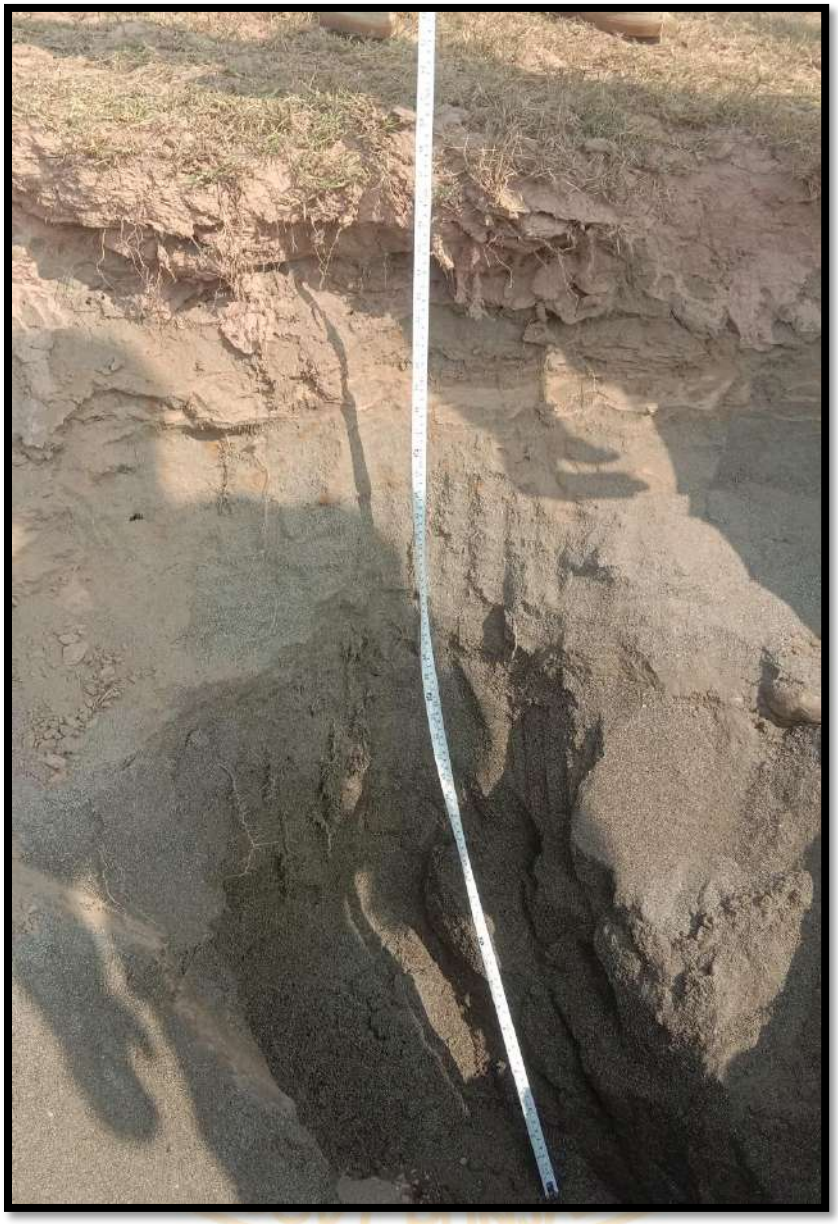
WRD, Punjab

2. Litholog for the agriculture sites in and around Mamka area



The photograph showing a thin layer of top soil and deposition of sand in a symmetric way. The formation also indicates about the sand presence at the site.

Litholog upto 3 meters	
Soil	0.24 Meter
Sand	2.76 Meter

Sr. No.	Name	Calculation	Total Reserve	Total Mineral to be mine
2	Rajwant Kaur	2.76 x (1.19 x 10000) x 1.45	47,623.8 MT	28,574.28

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WRD, Punjab

ANNEXURE-XIII

LAYOUT PLAN FOR RIVER WITH THE SAND BLOCK, NO MINING ZONE, BENCHMARKS, OGL, GCP, FOREST AREA, RESTRICTED AREAETC.

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Drainage-cum-Mining,
WRD, Punjab

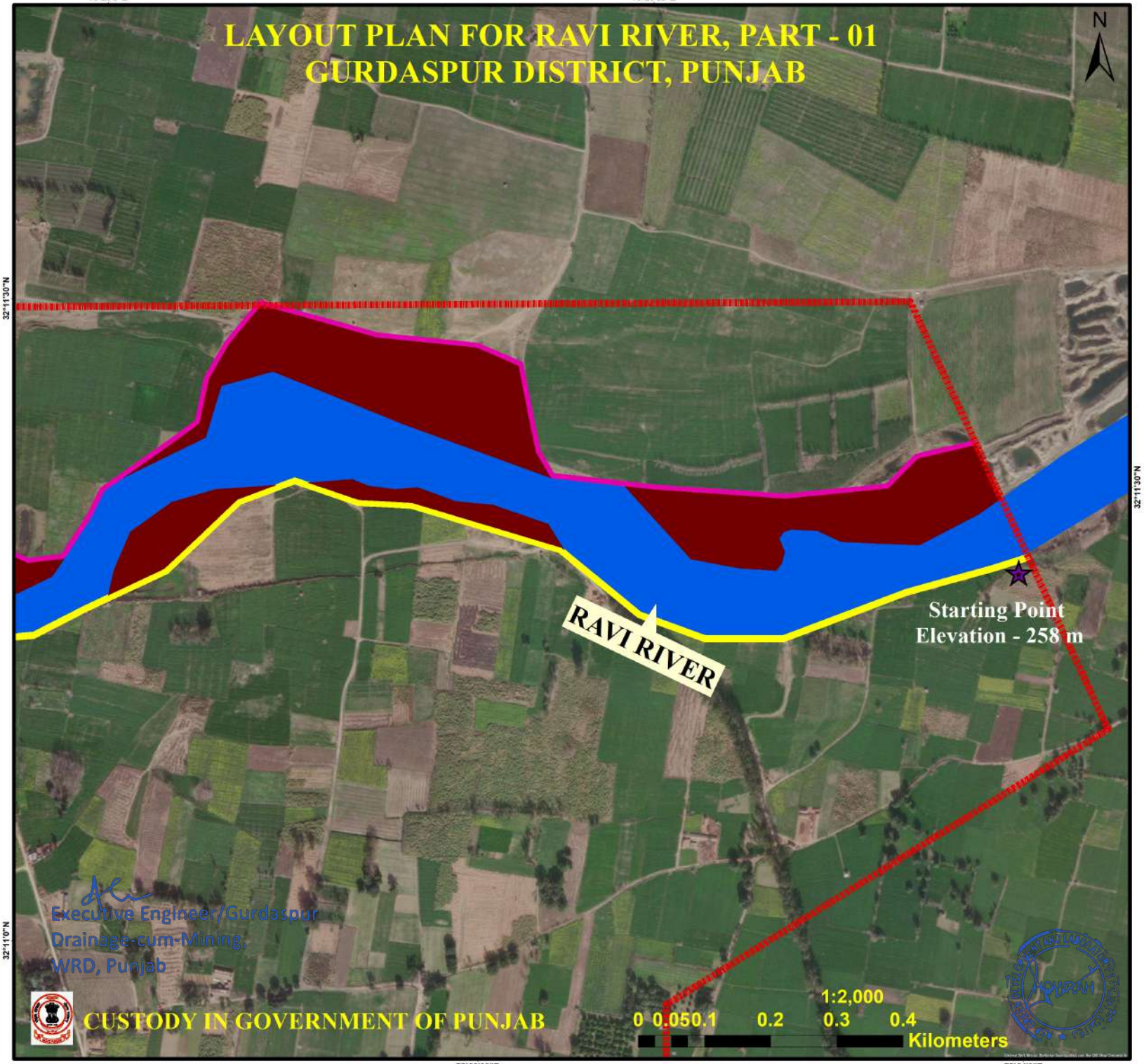
- **Permanent Benchmarks established and Benchmarks along with coordinates and elevations**

Sl. No.	Permanent Bench Mark	Coordinates	Elevation	Sandbars Code
1	Dinanagar Railway Station (Top Rail level)	32° 8'0.62"N 75°28'2.19"E	269.85m	PB_GDP_RAVI-02 to PB_GDP_RAVI-06
2	Dera Baba Nanak Railway Station (Top Rail level)	32° 1'30.13"N 75° 0'51.61"E	240.79m	PB_GDP_RAVI-07 to PB_GDP_RAVI-08
3	Railway Station Mukerian (Top Rail level)	31°56'30.85"N 75°36'43.65"E	256.74 m	PB_GDP_BEAS-01 to PB_GDP_BEAS-02
4	Marhi Panuan pull – Bridge (Top road level on Bridge)	31°41'41.87"N 75°31'17.90"E	236.493 m	PB_GDP_BEAS-03 to PB_GDP_BEAS-06

Note: The survey was started by taking Top rail level of Dinanagar Railway Station as a first reference point/benchmark.

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

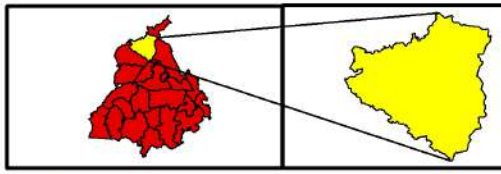
LAYOUT PLAN FOR RAVI RIVER, PART - 01
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

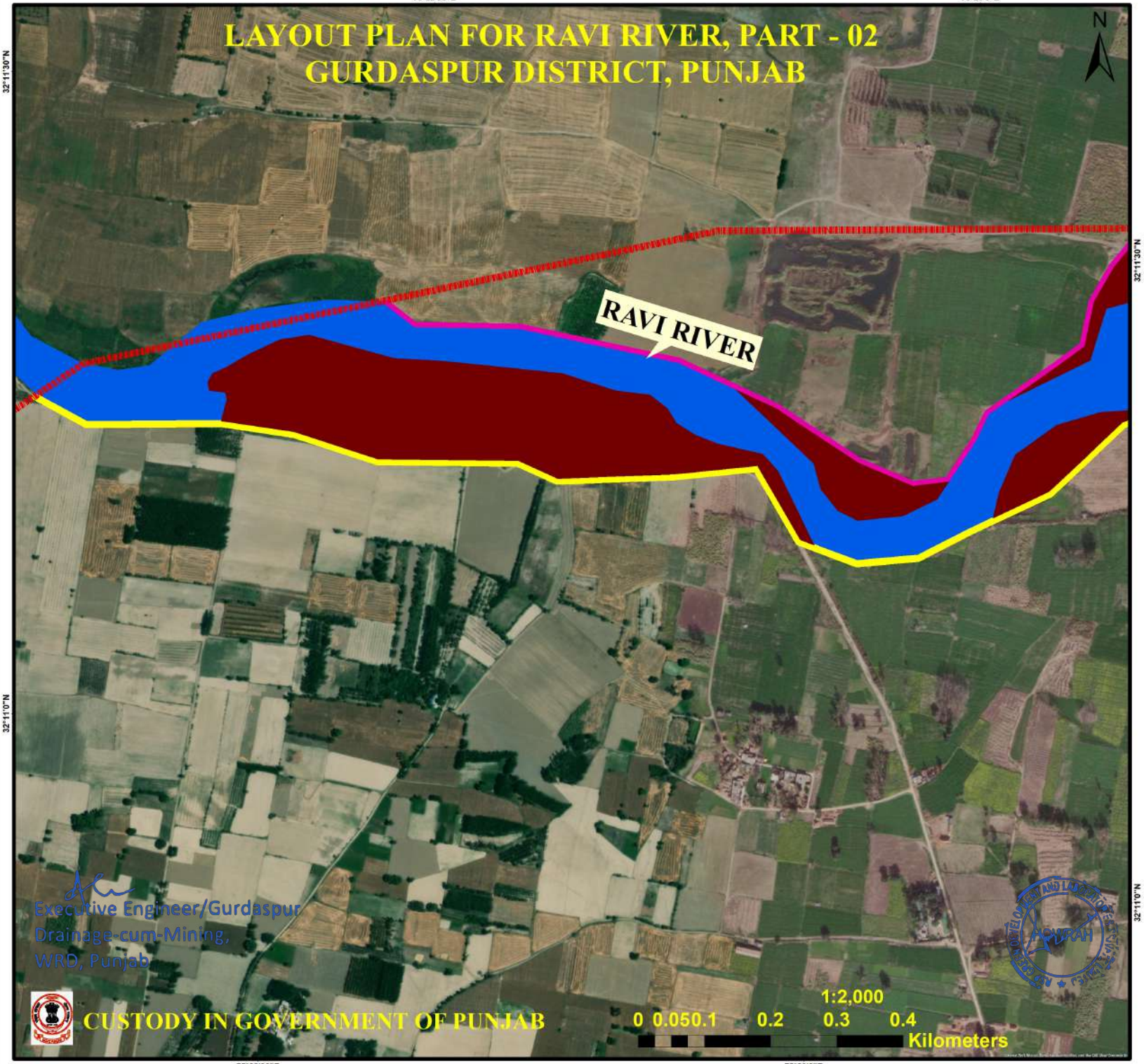
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

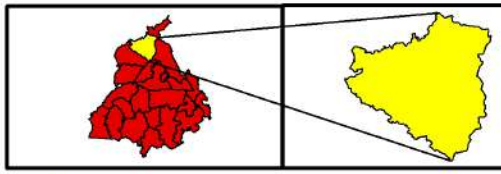
LAYOUT PLAN FOR RAVI RIVER, PART - 02
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

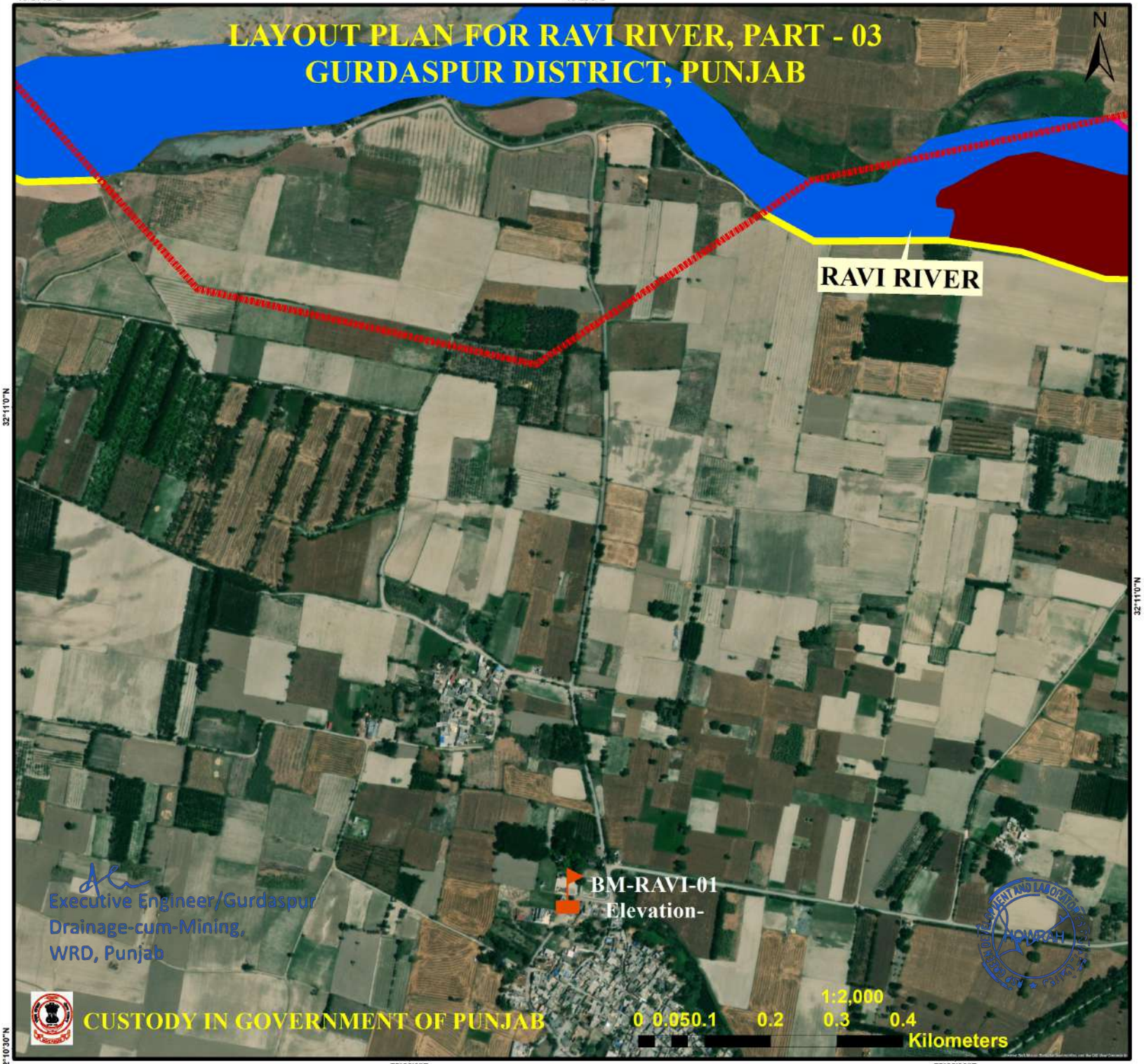
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

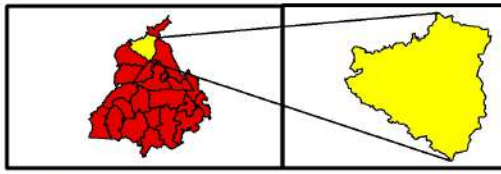
LAYOUT PLAN FOR RAVI RIVER, PART - 03
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

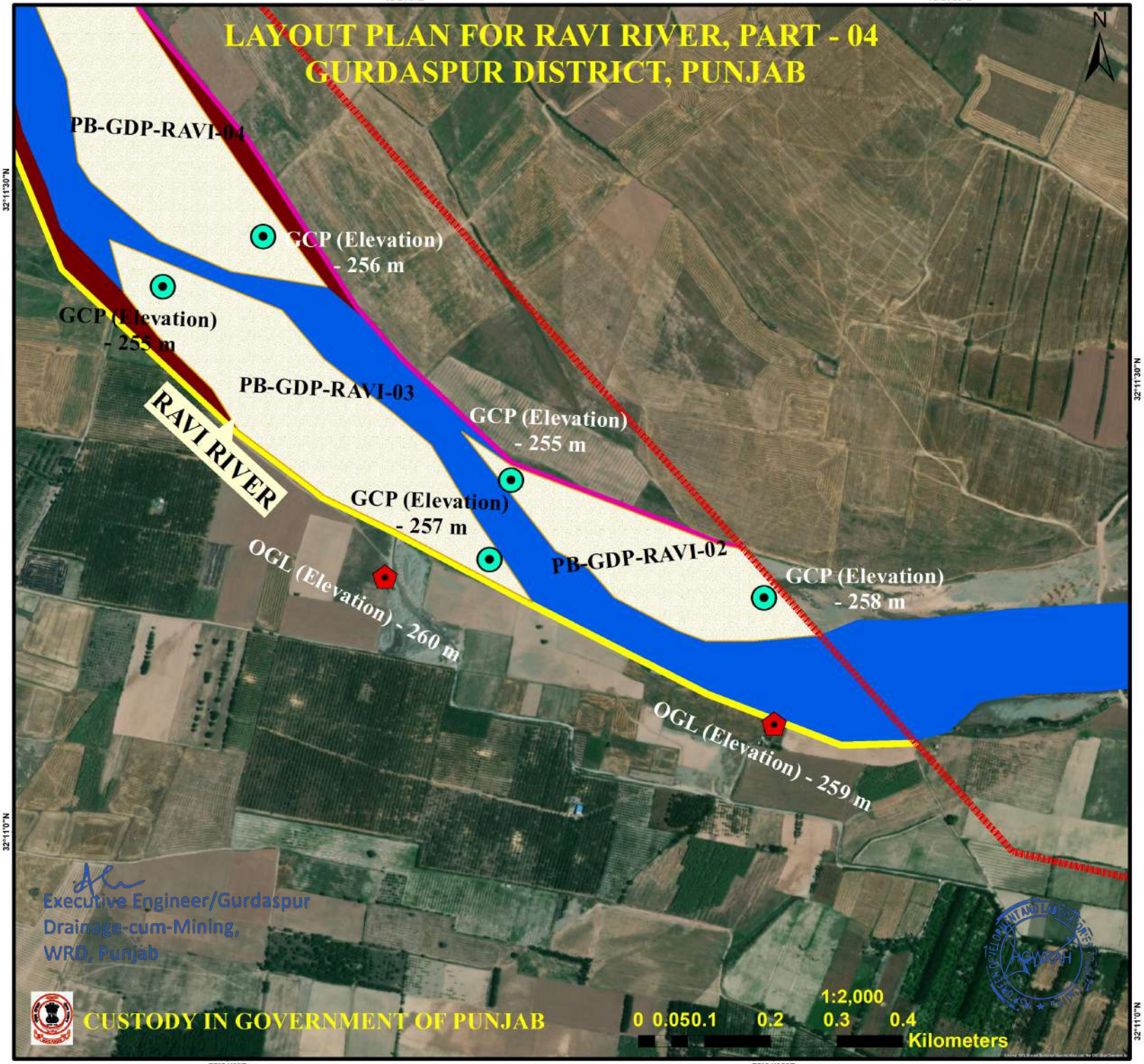
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

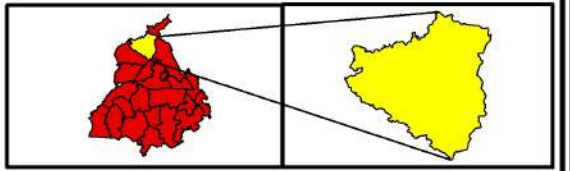
LAYOUT PLAN FOR RAVI RIVER, PART - 04
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

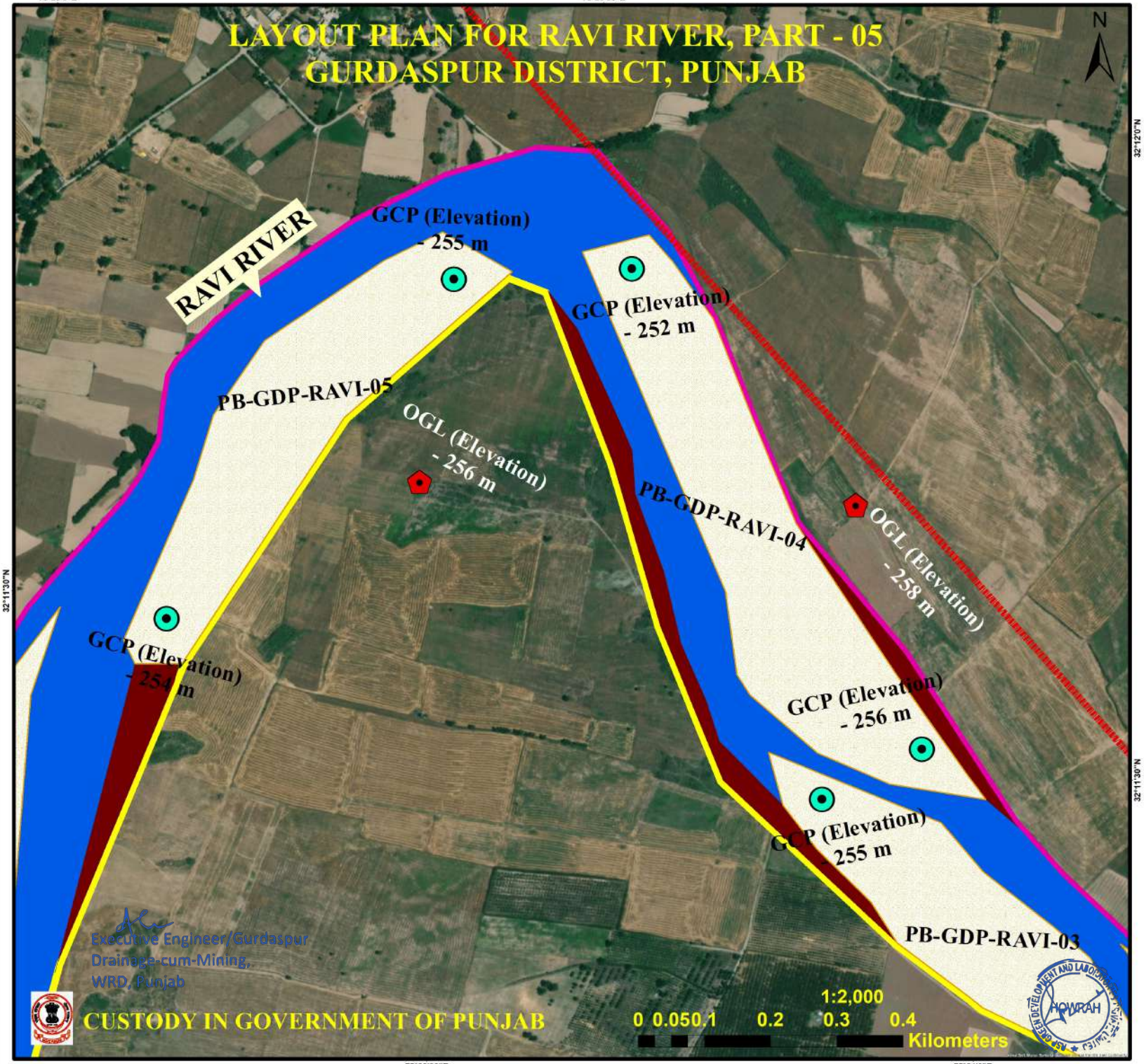
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

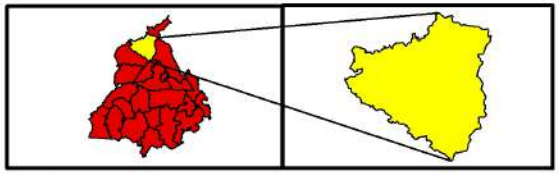
LAYOUT PLAN FOR RAVI RIVER, PART - 05
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

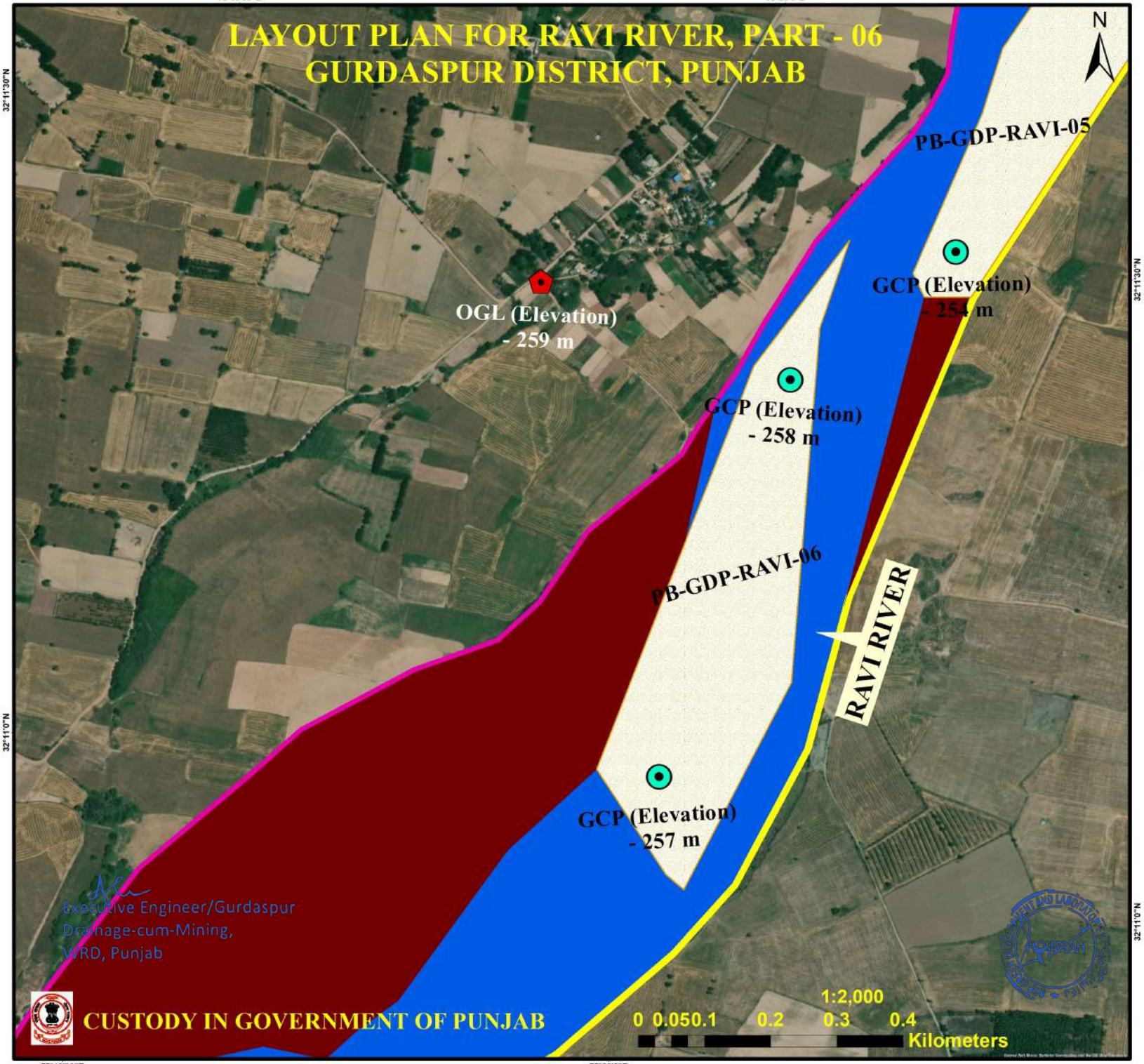
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

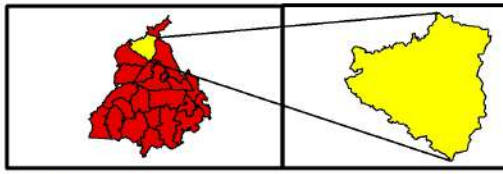
LAYOUT PLAN FOR RAVI RIVER, PART - 06
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

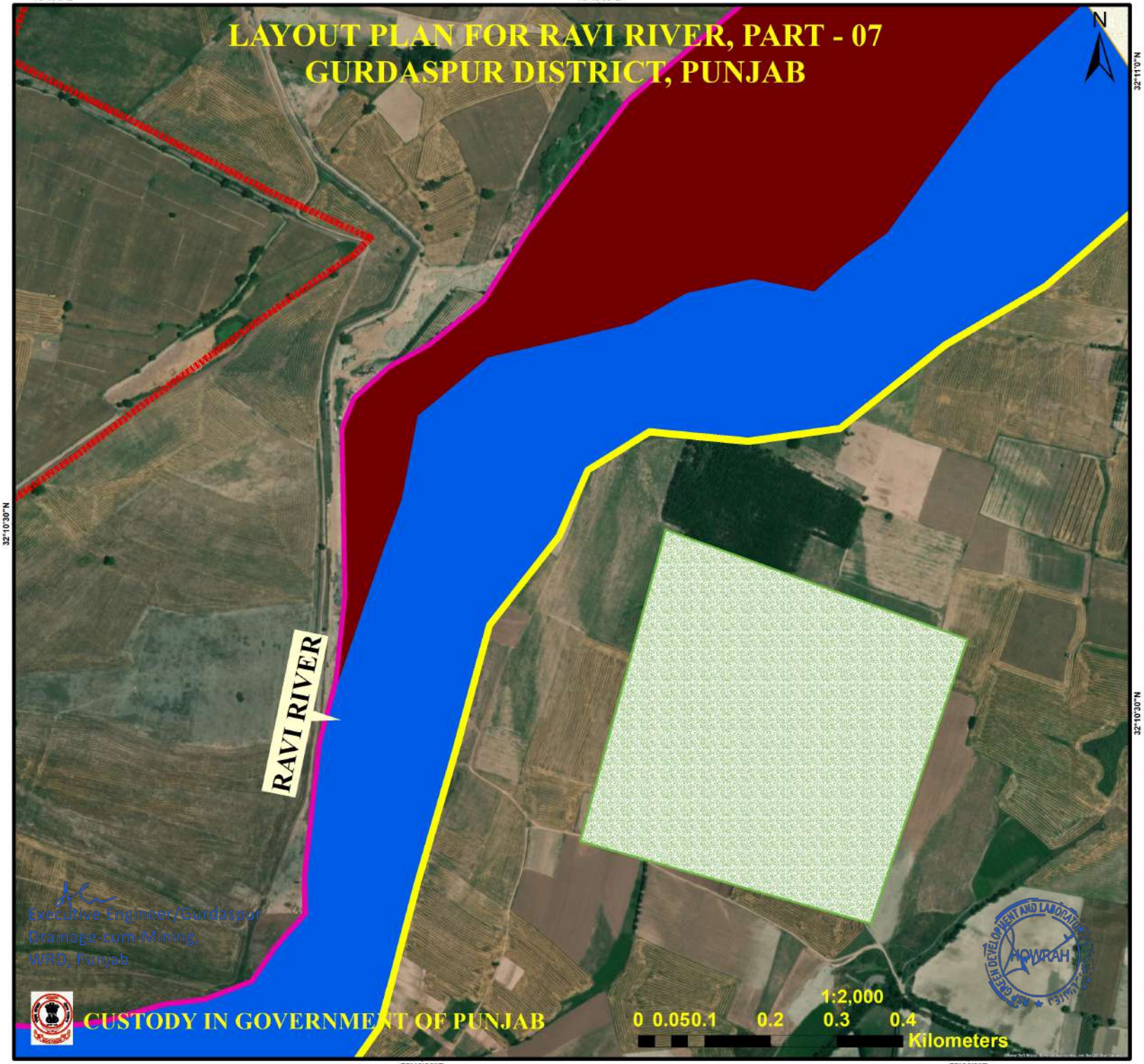
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

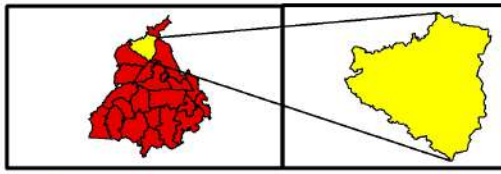
LAYOUT PLAN FOR RAVI RIVER, PART - 07
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

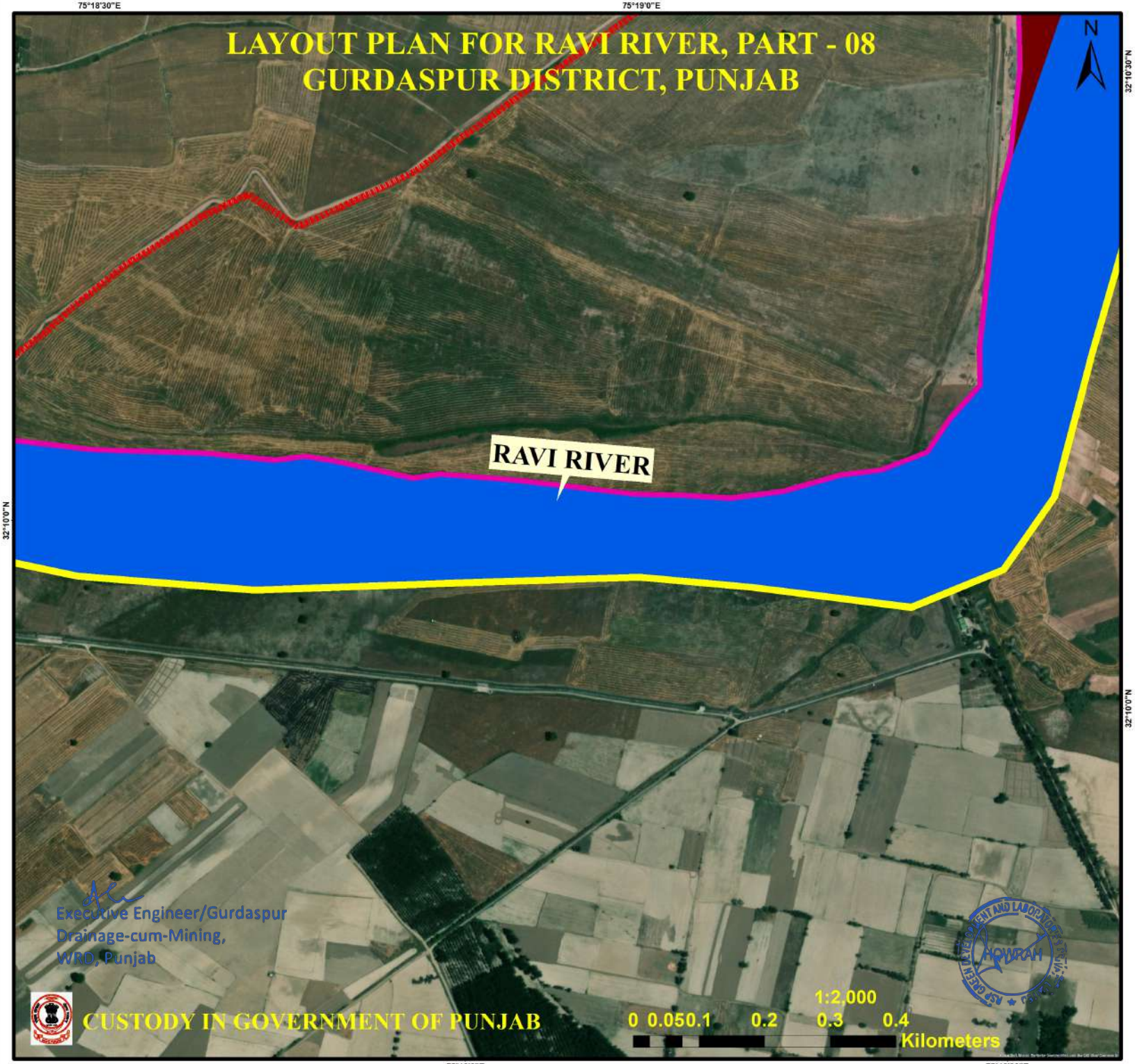
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

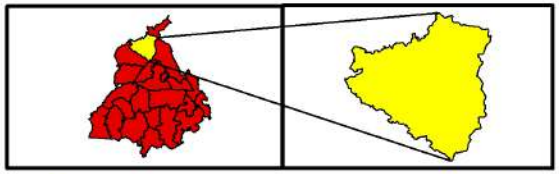
LAYOUT PLAN FOR RAVI RIVER, PART - 08
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

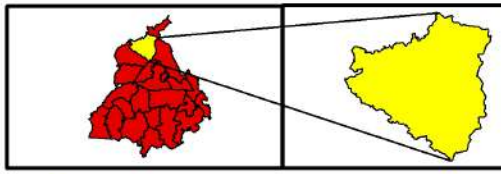
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

LAYOUT PLAN FOR RAVI RIVER, PART - 09
GURDASPUR DISTRICT, PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

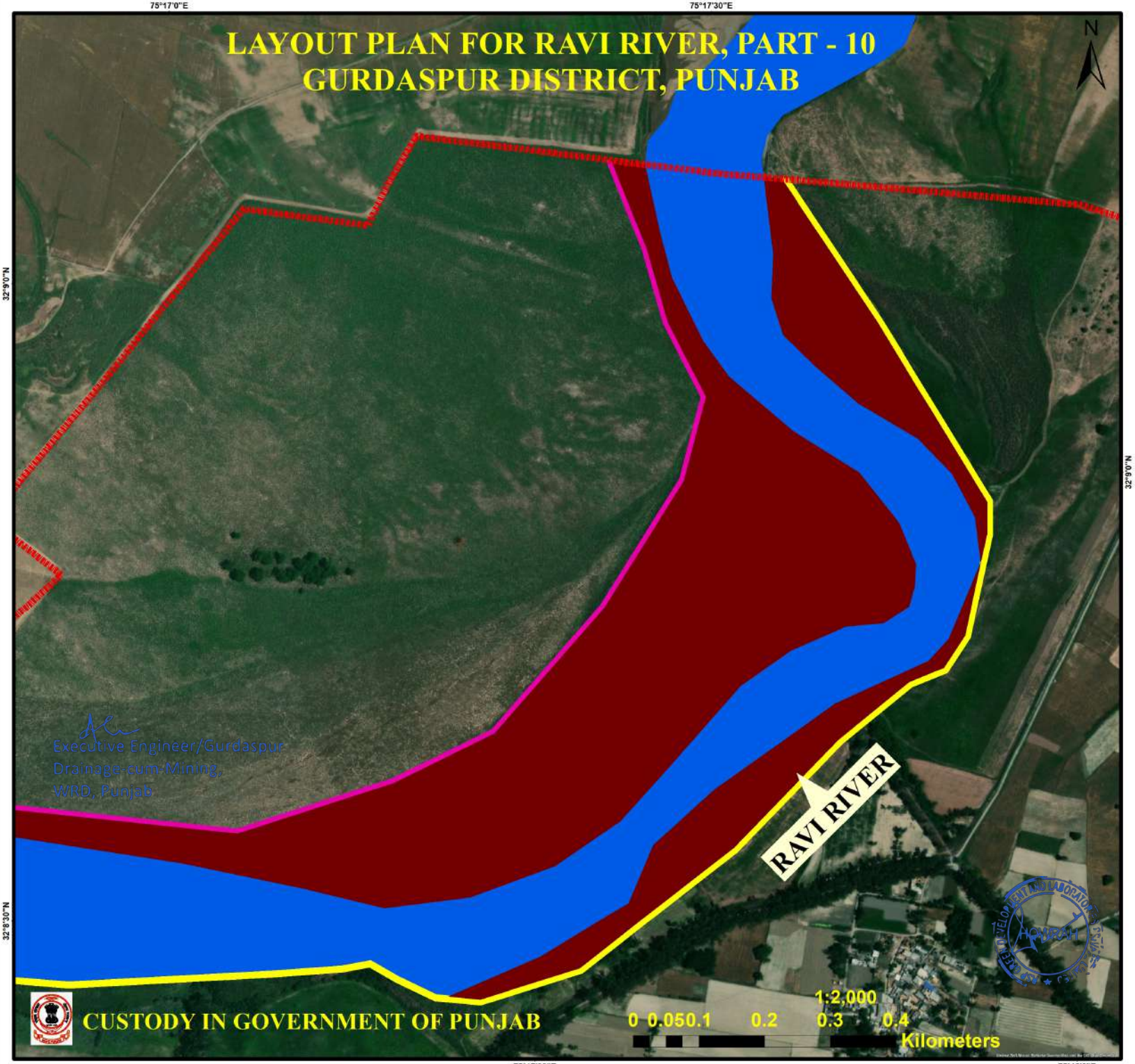
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

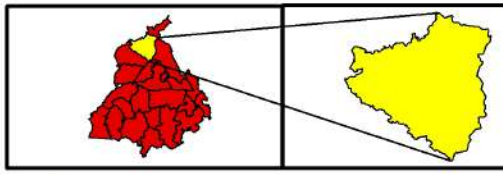
LAYOUT PLAN FOR RAVI RIVER, PART - 10
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

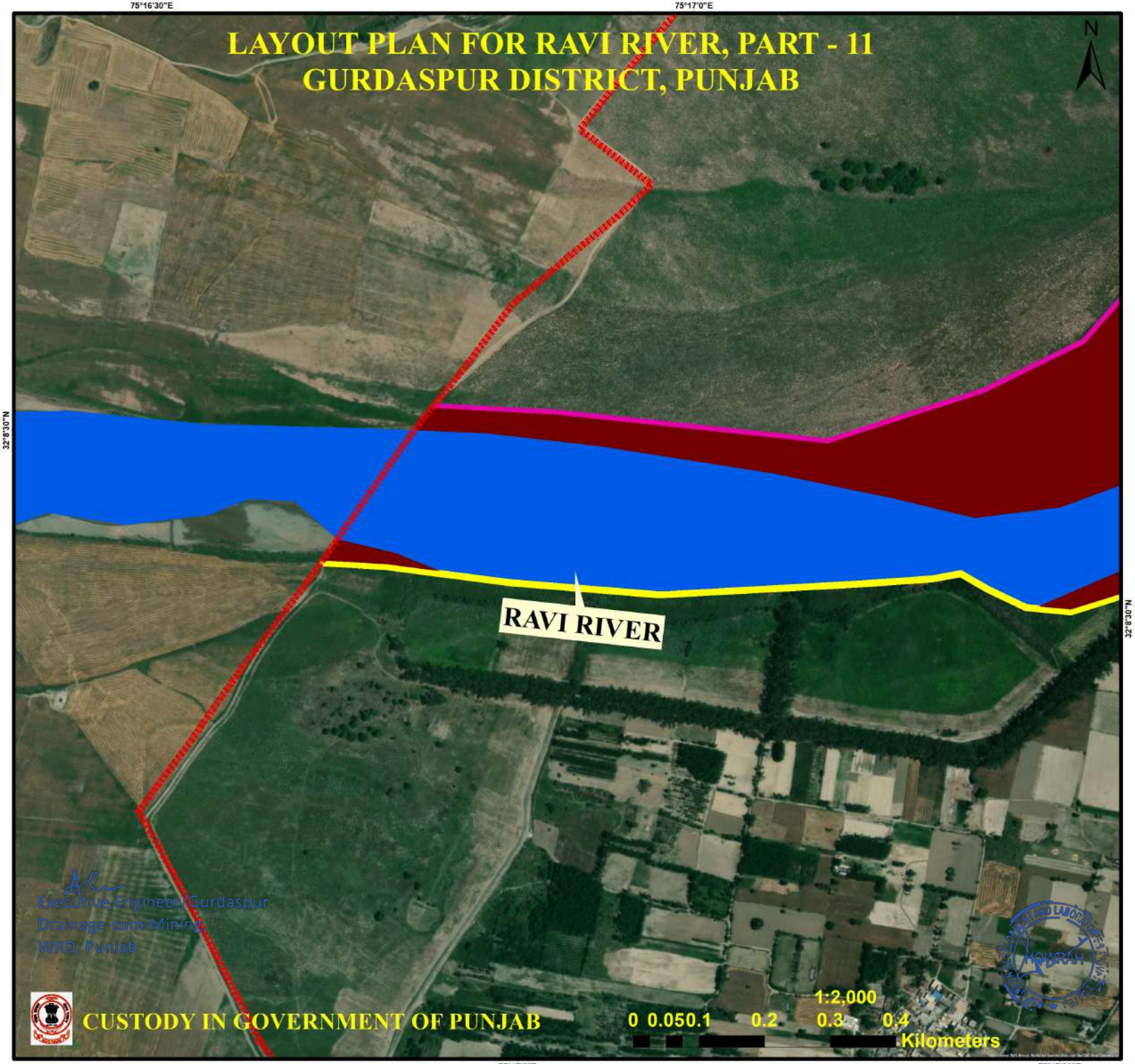
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

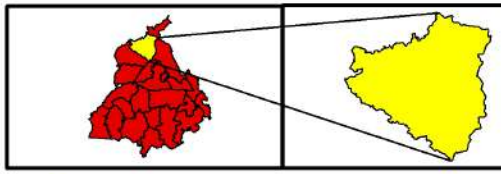
LAYOUT PLAN FOR RAVI RIVER, PART - 11
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

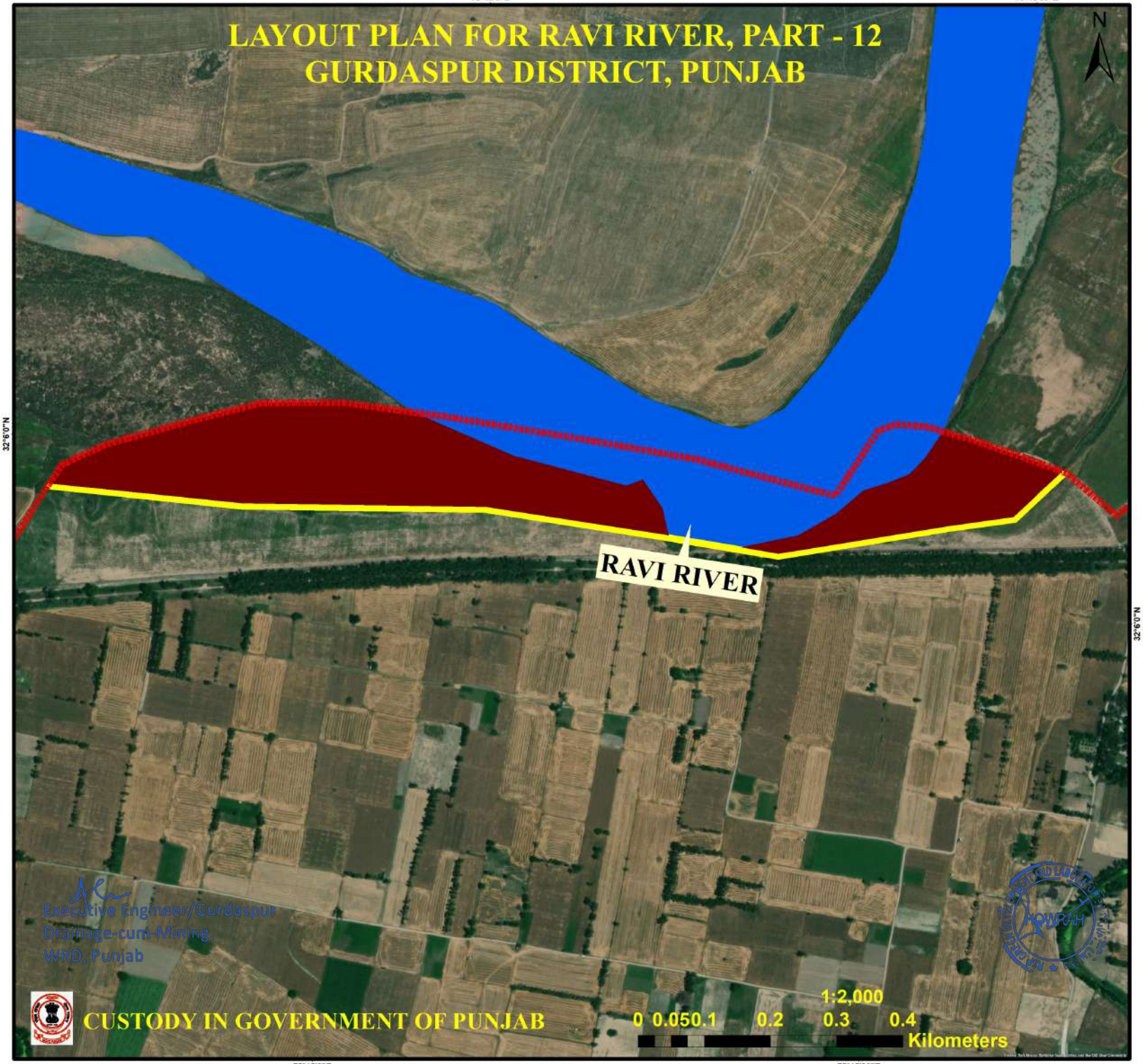
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

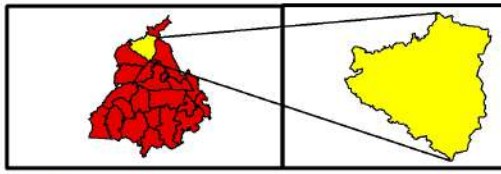
LAYOUT PLAN FOR RAVI RIVER, PART - 12
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

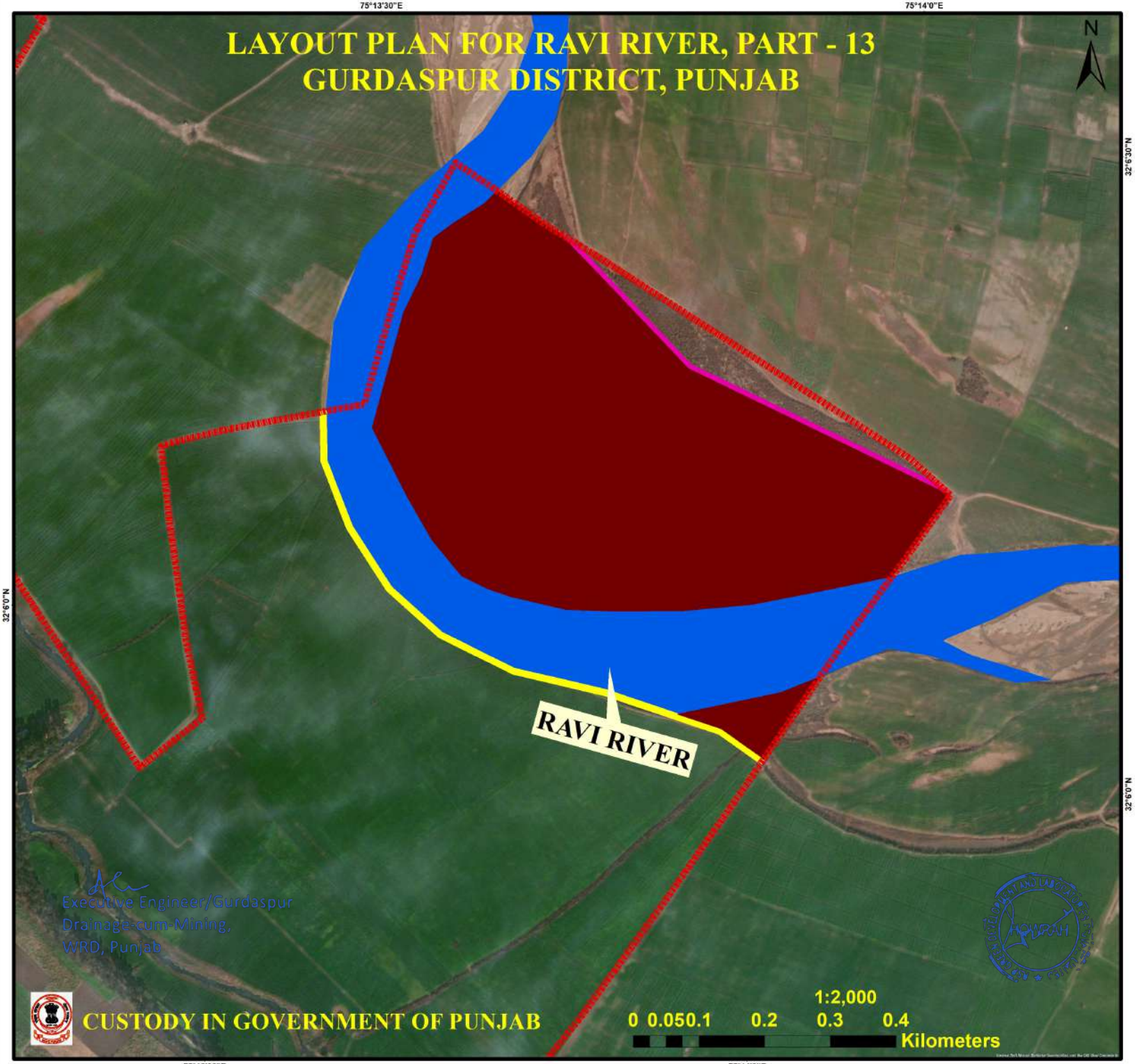
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

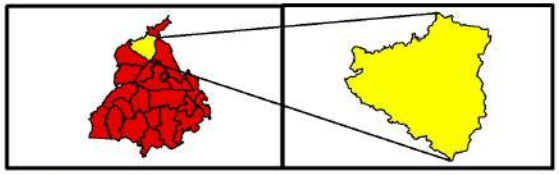
LAYOUT PLAN FOR RAVI RIVER, PART - 13
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

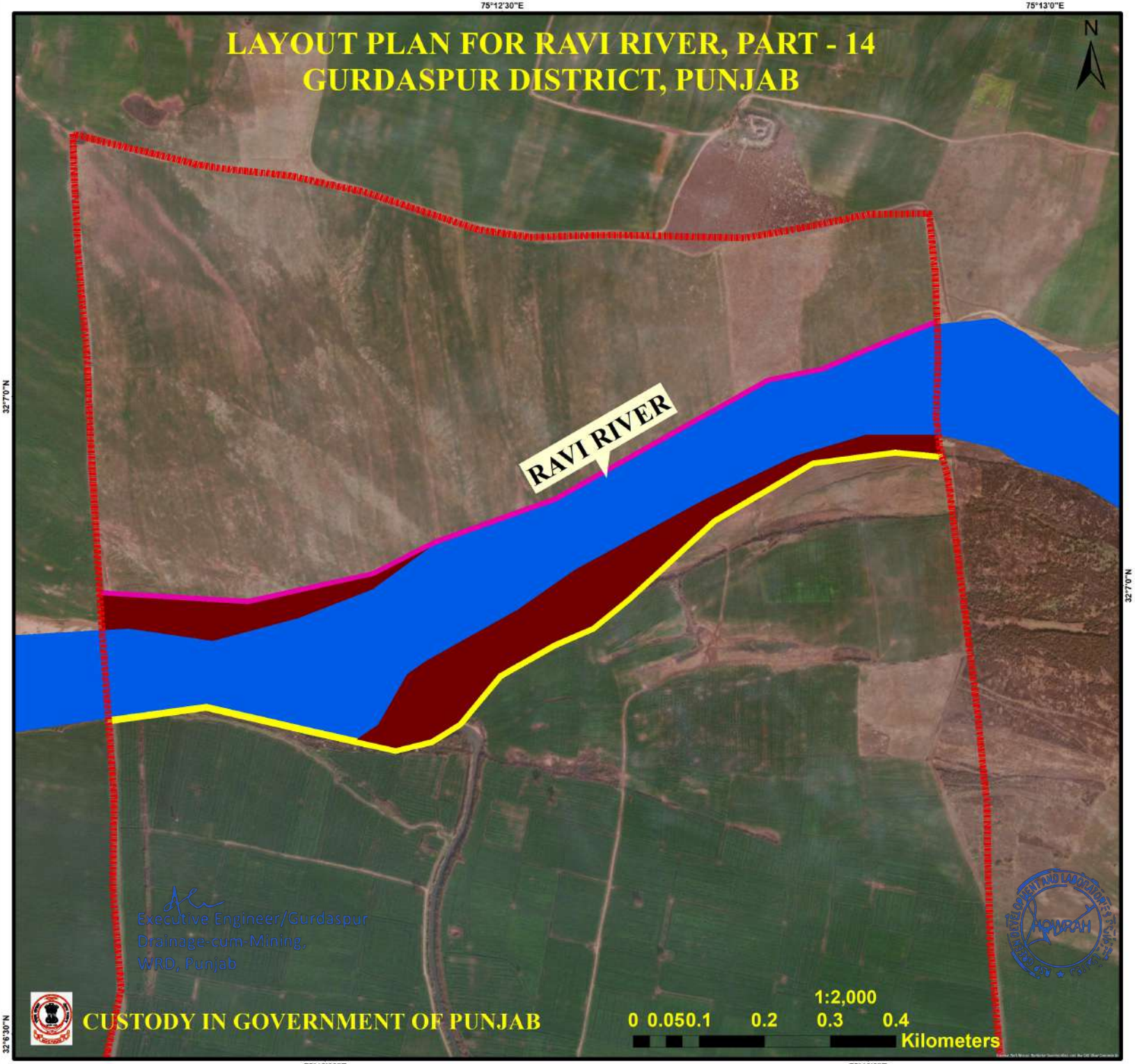
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

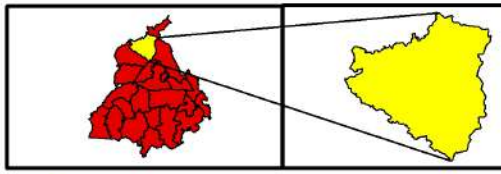
LAYOUT PLAN FOR RAVI RIVER, PART - 14
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

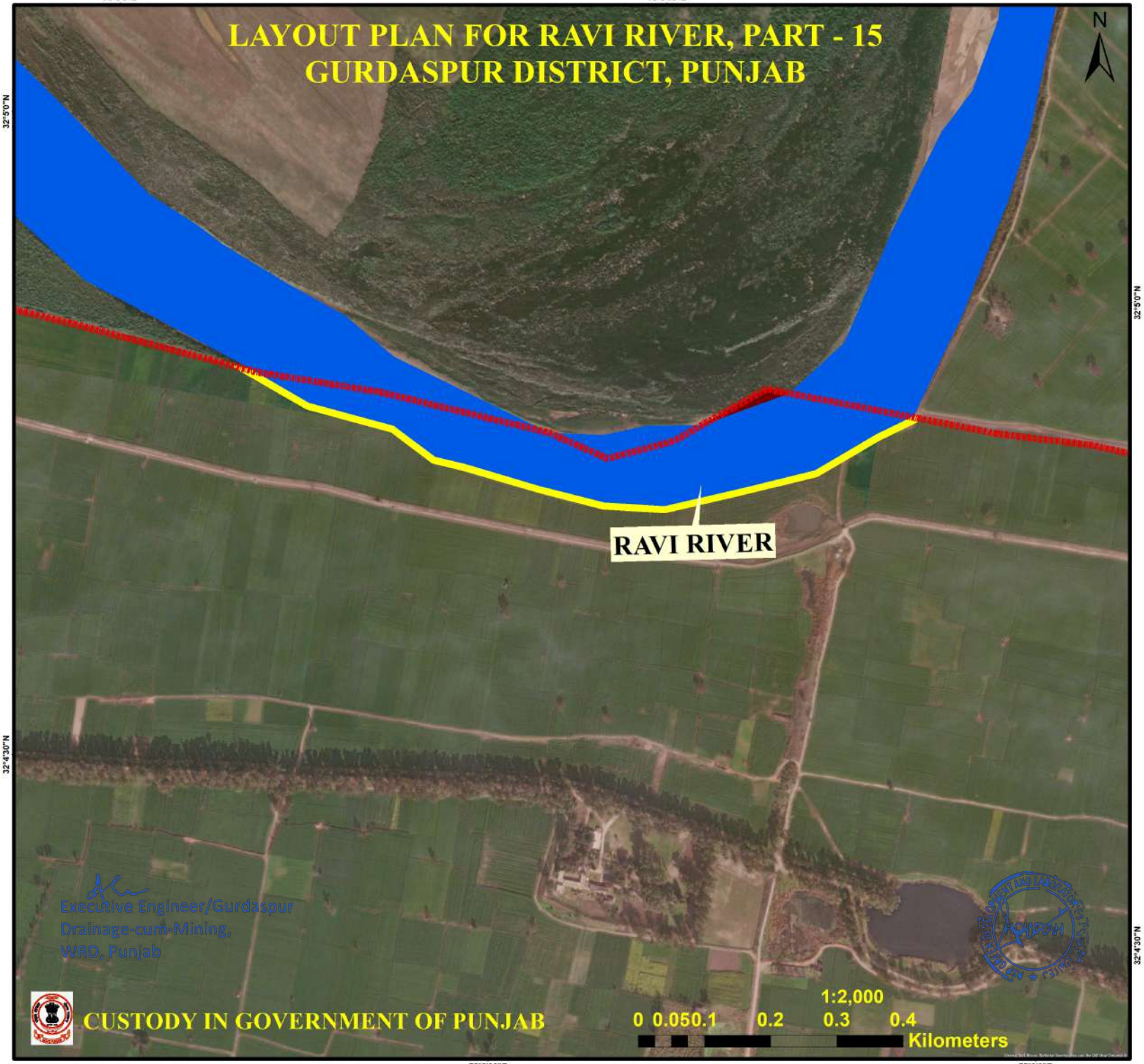
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

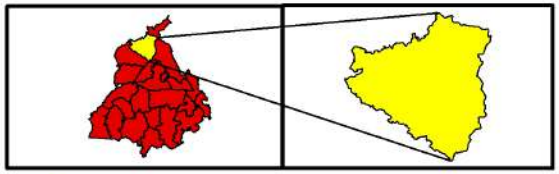
LAYOUT PLAN FOR RAVI RIVER, PART - 15
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

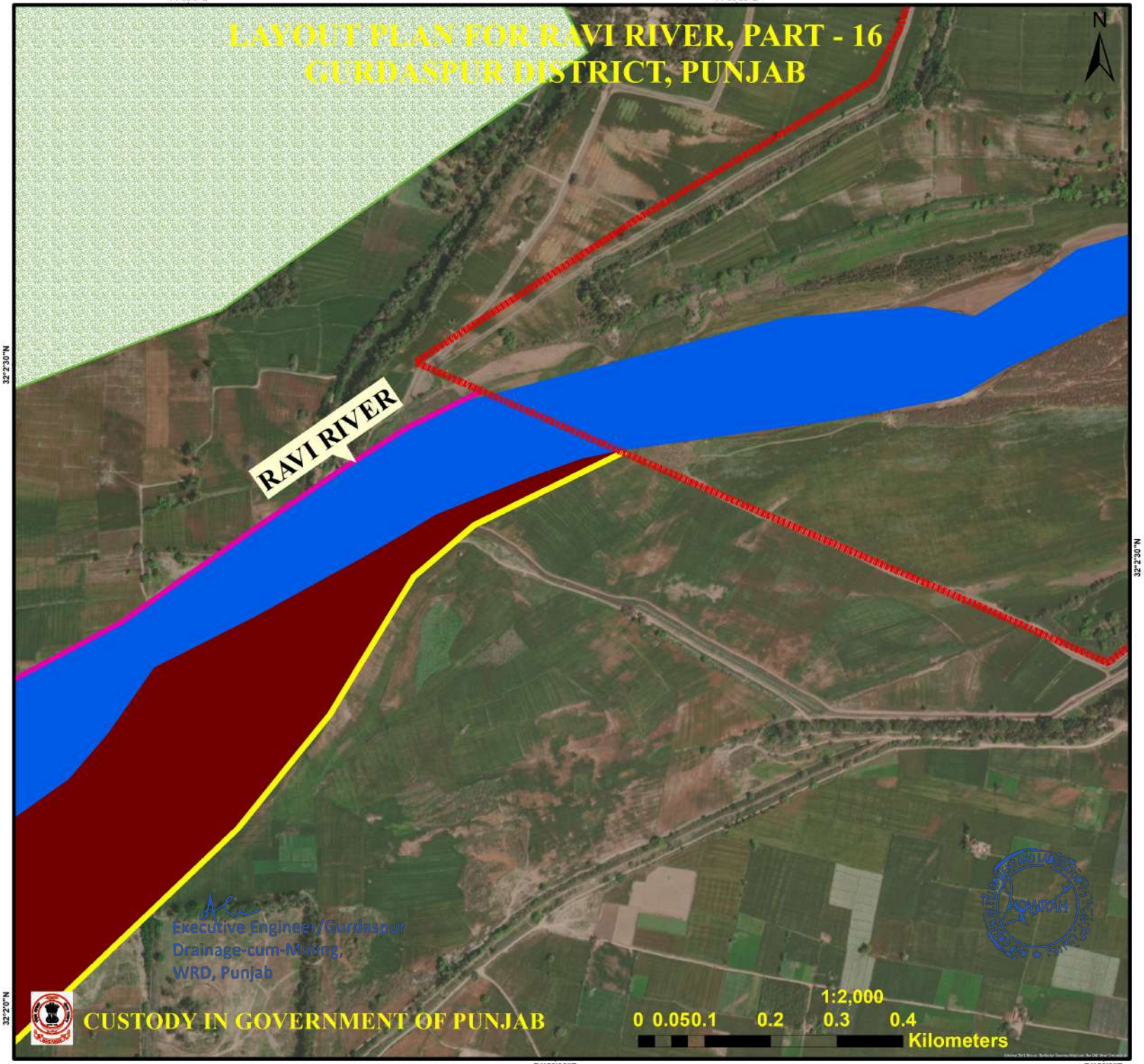
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

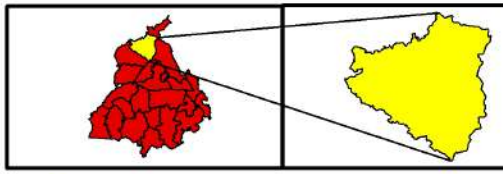
LAYOUT PLAN FOR RAVI RIVER, PART - 16
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



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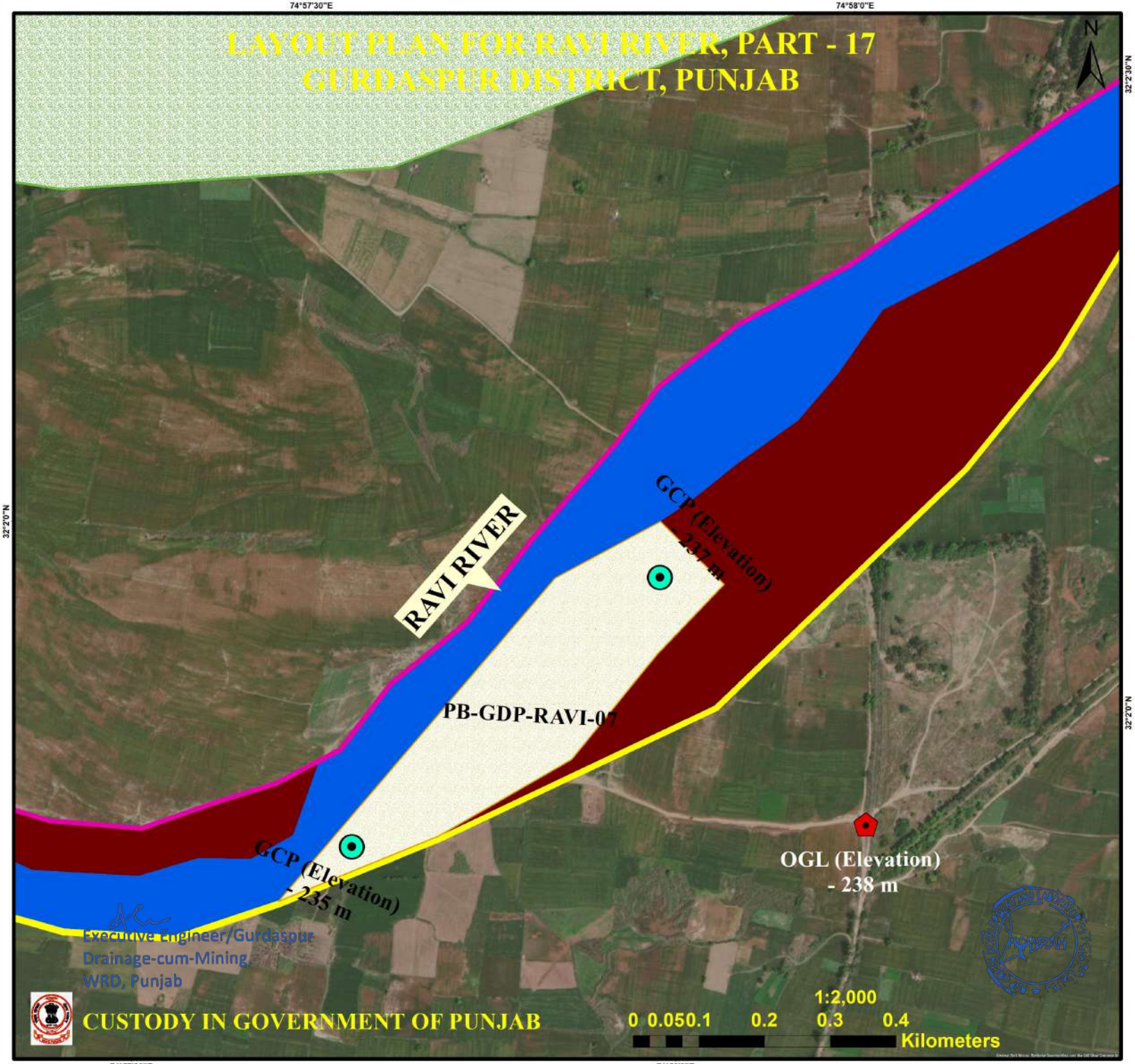
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

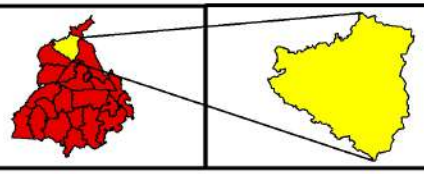
LAYOUT PLAN FOR RAVI RIVER, PART - 17
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

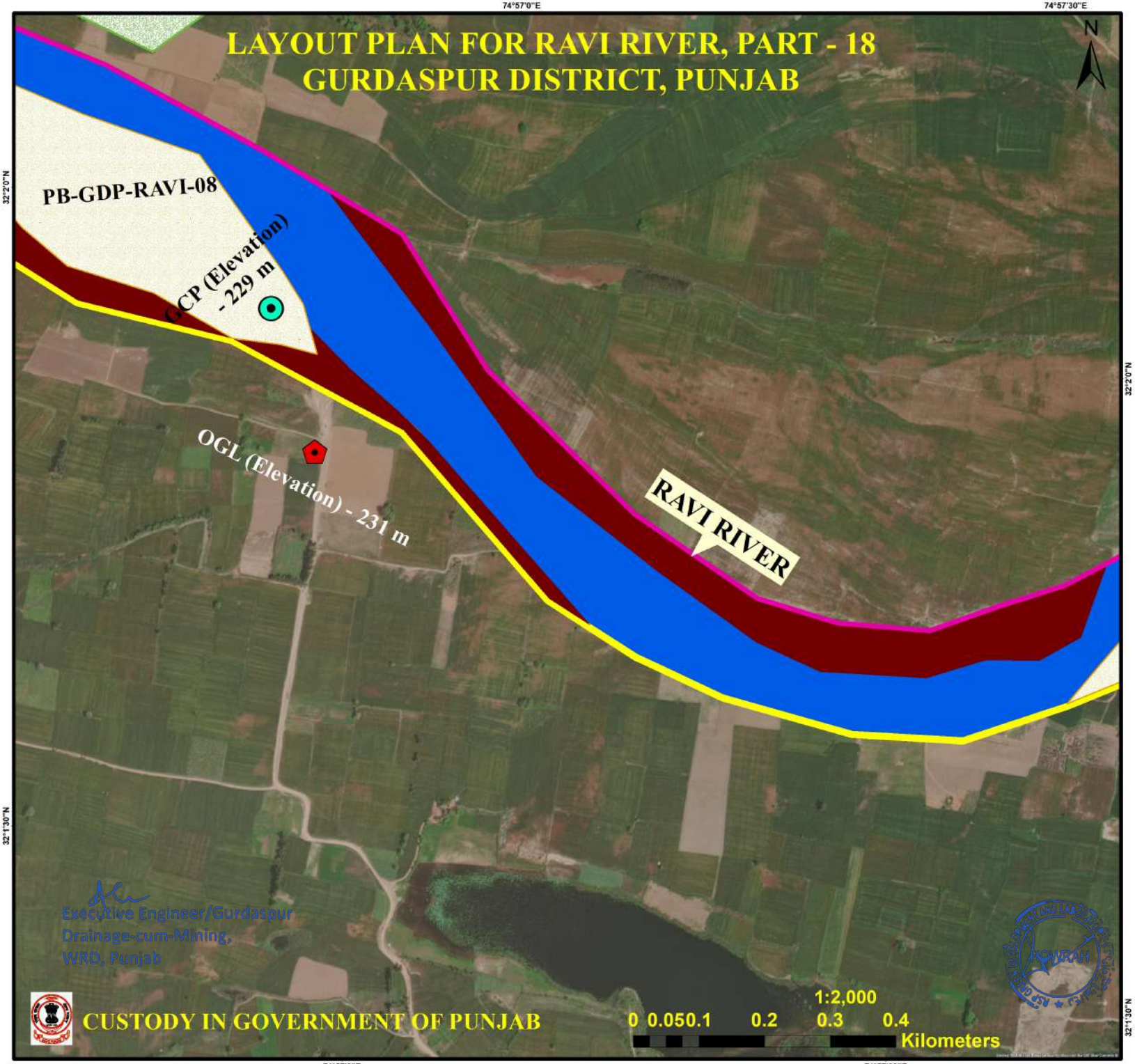
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

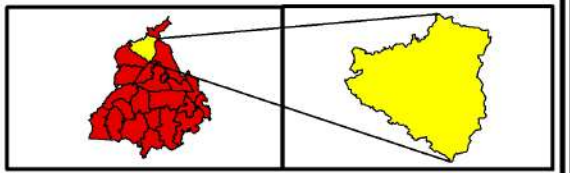
LAYOUT PLAN FOR RAVI RIVER, PART - 18
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

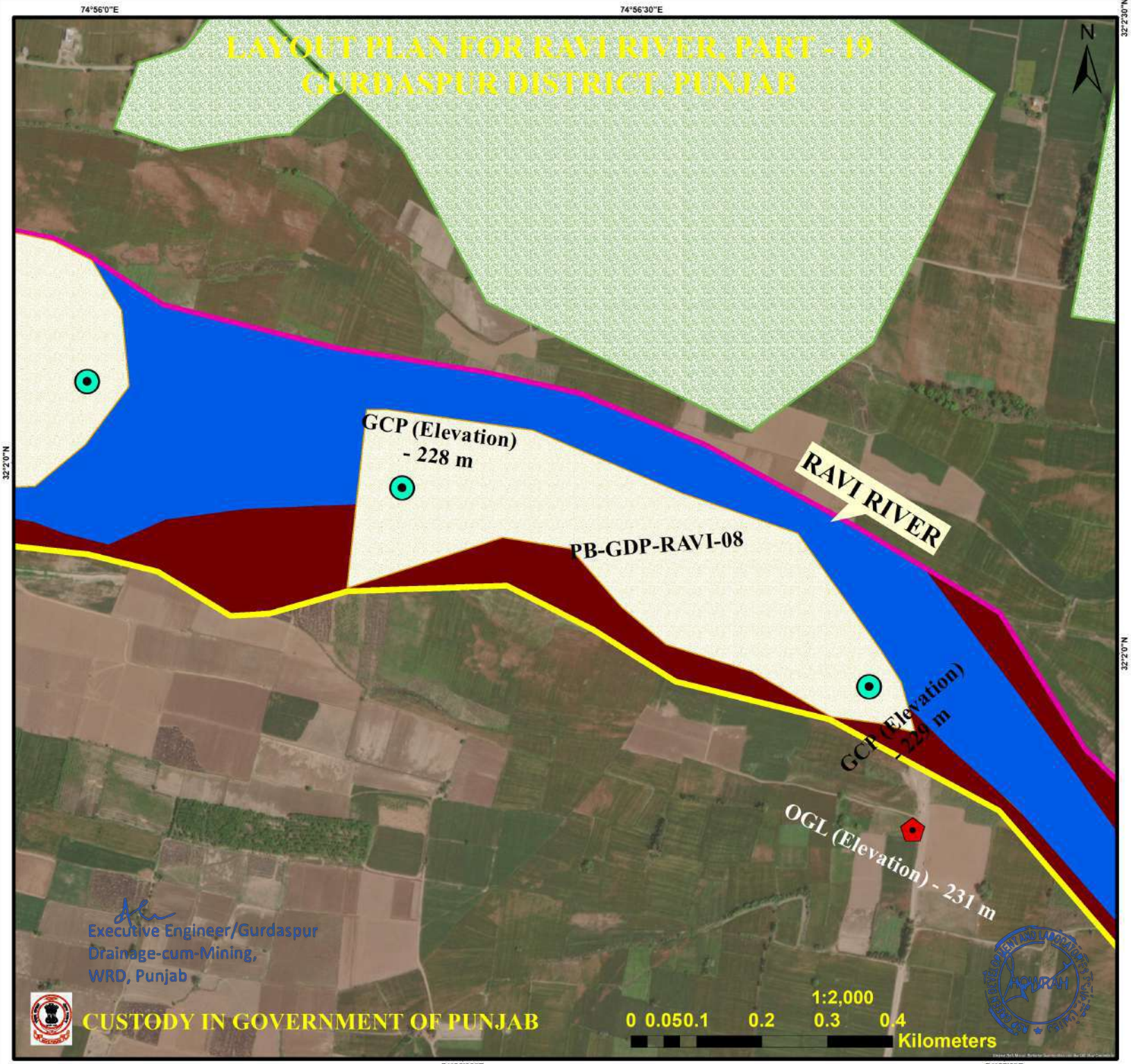
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

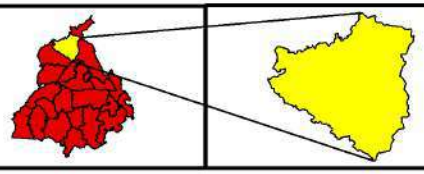
LAYOUT PLAN FOR RAVI RIVER, PART - 19 GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

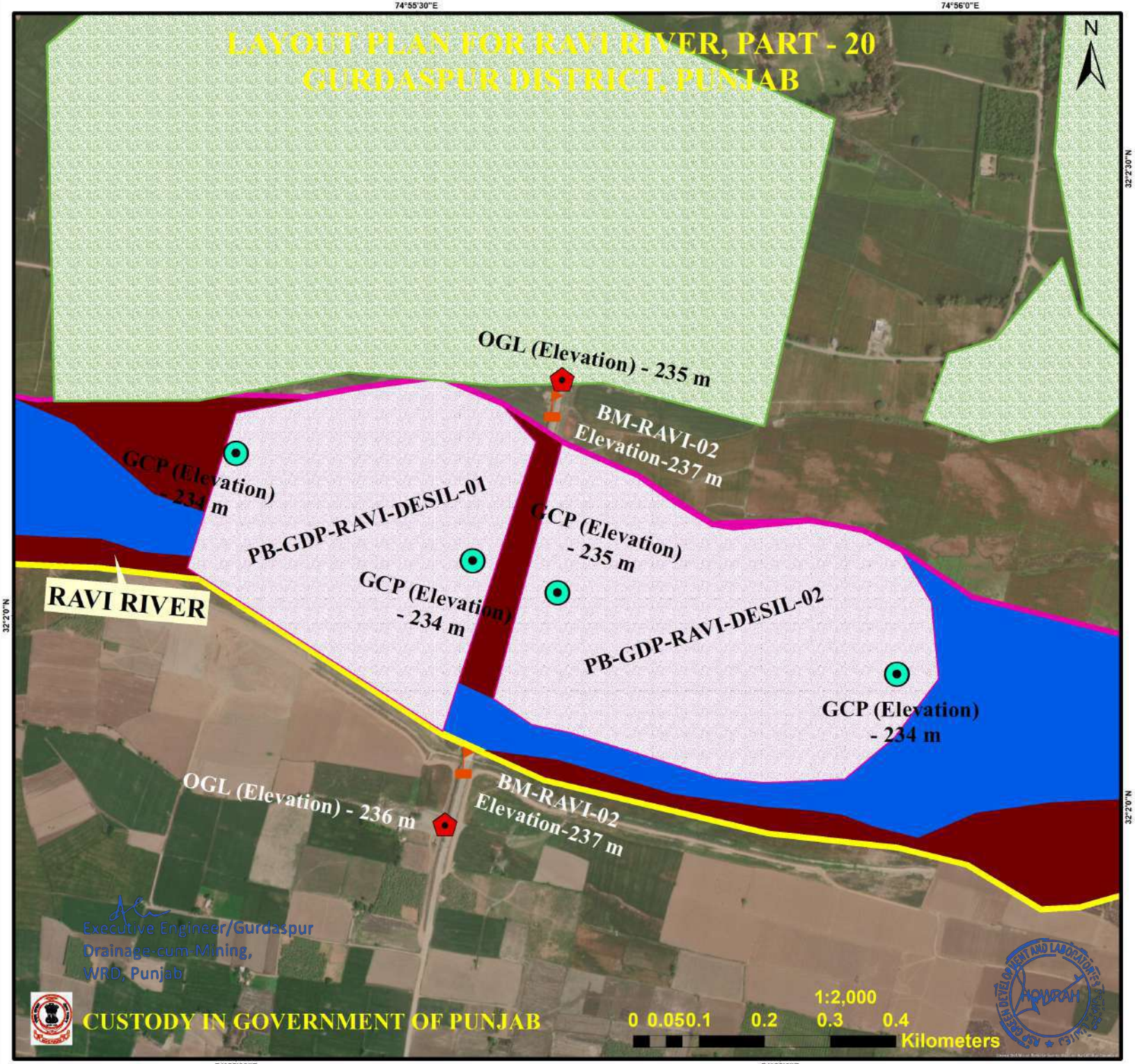
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

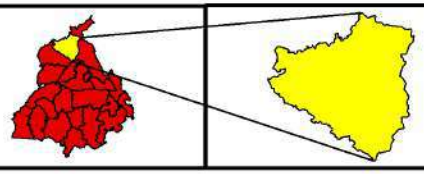
LAYOUT PLAN FOR RAVI RIVER, PART - 20
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

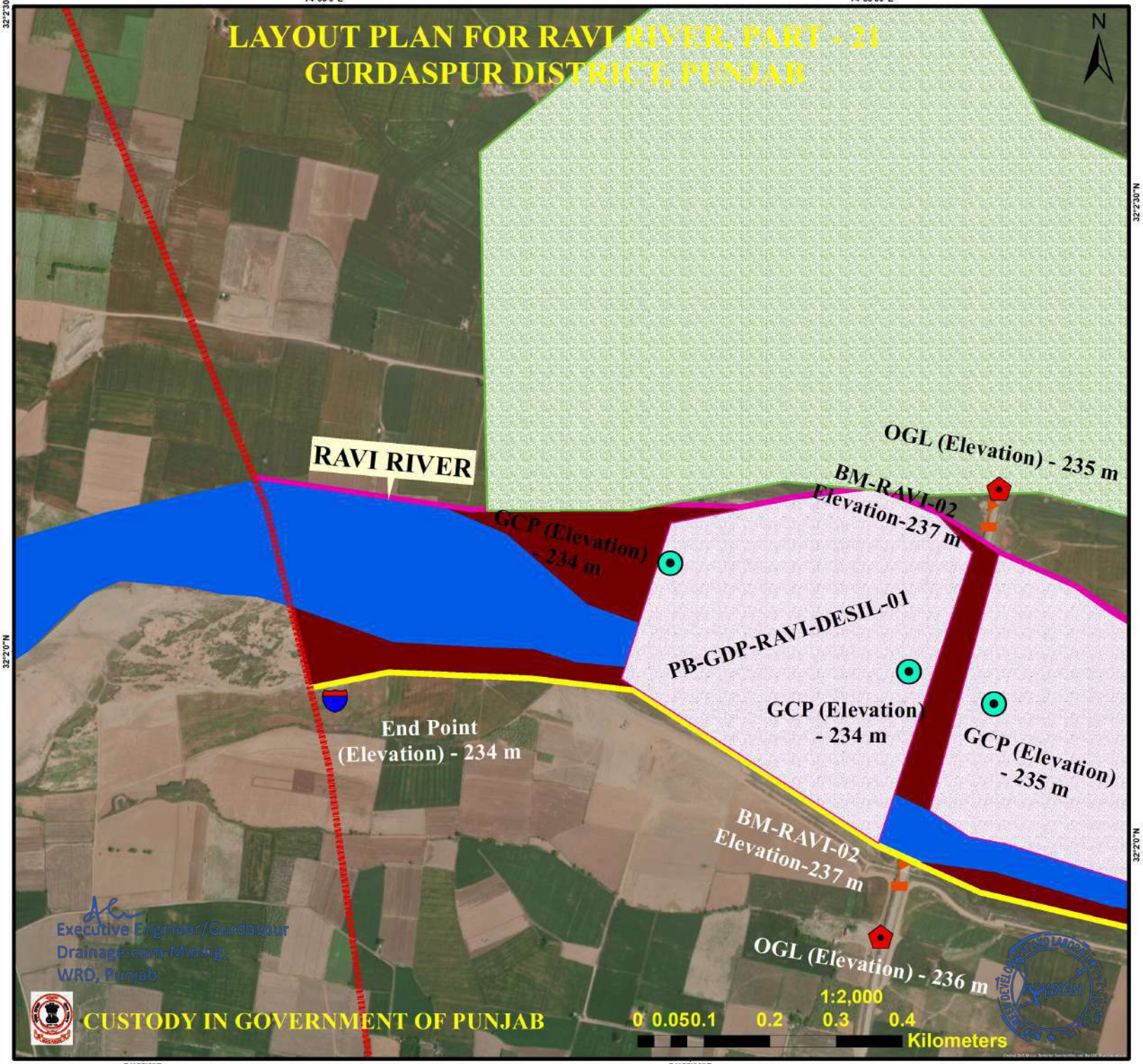
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

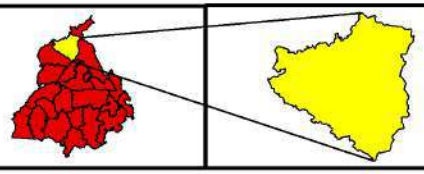
LAYOUT PLAN FOR RAVI RIVER, PART - 21
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	RAVI	RAVI RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

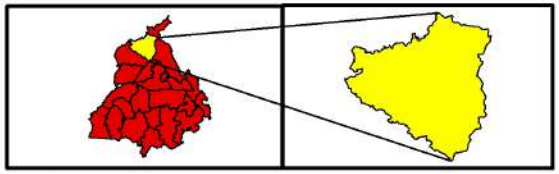
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

LAYOUT PLAN FOR BEAS RIVER, PART - 01
GURDASPUR DISTRICT, PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

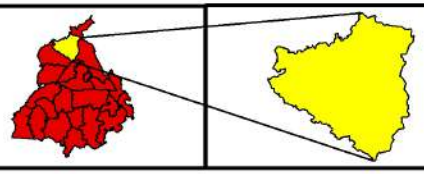
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

LAYOUT PLAN FOR BEAS RIVER, PART - 02
GURDASPUR DISTRICT, PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

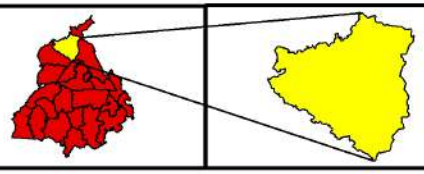
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

LAYOUT PLAN FOR BEAS RIVER, PART - 03
GURDASPUR DISTRICT, PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

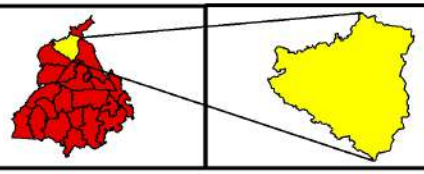
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

LAYOUT PLAN FOR BEAS RIVER, PART - 04
GURDASPUR DISTRICT, PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

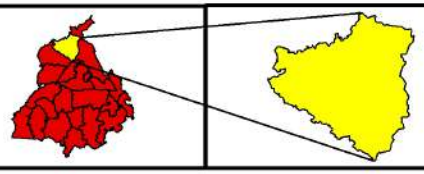
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

LAYOUT PLAN FOR BEAS RIVER, PART - 05
GURDASPUR DISTRICT, PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

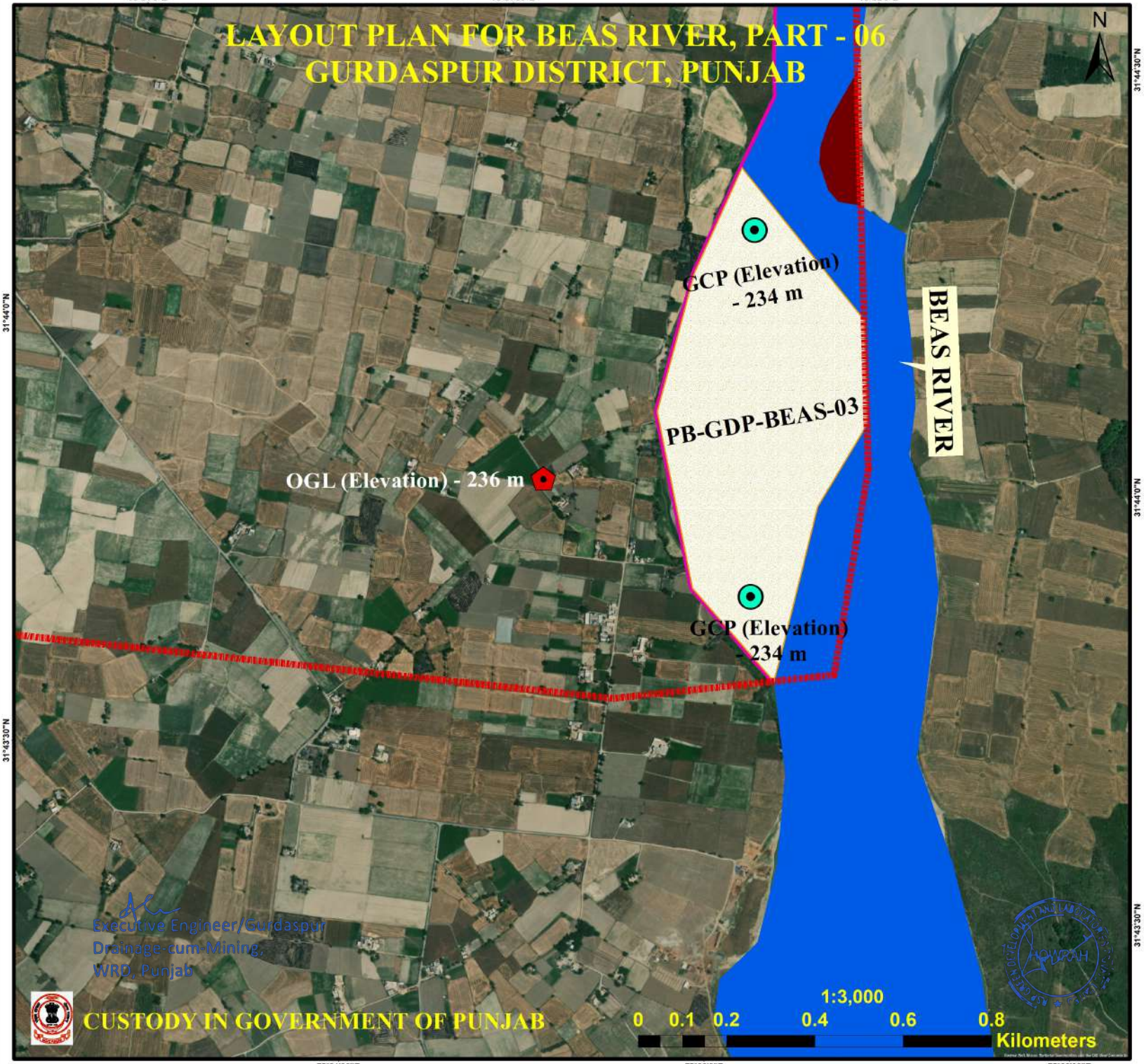
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

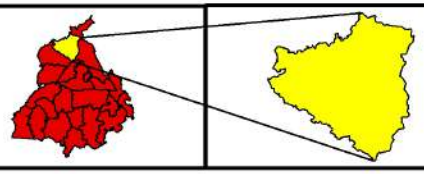
LAYOUT PLAN FOR BEAS RIVER, PART - 06
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

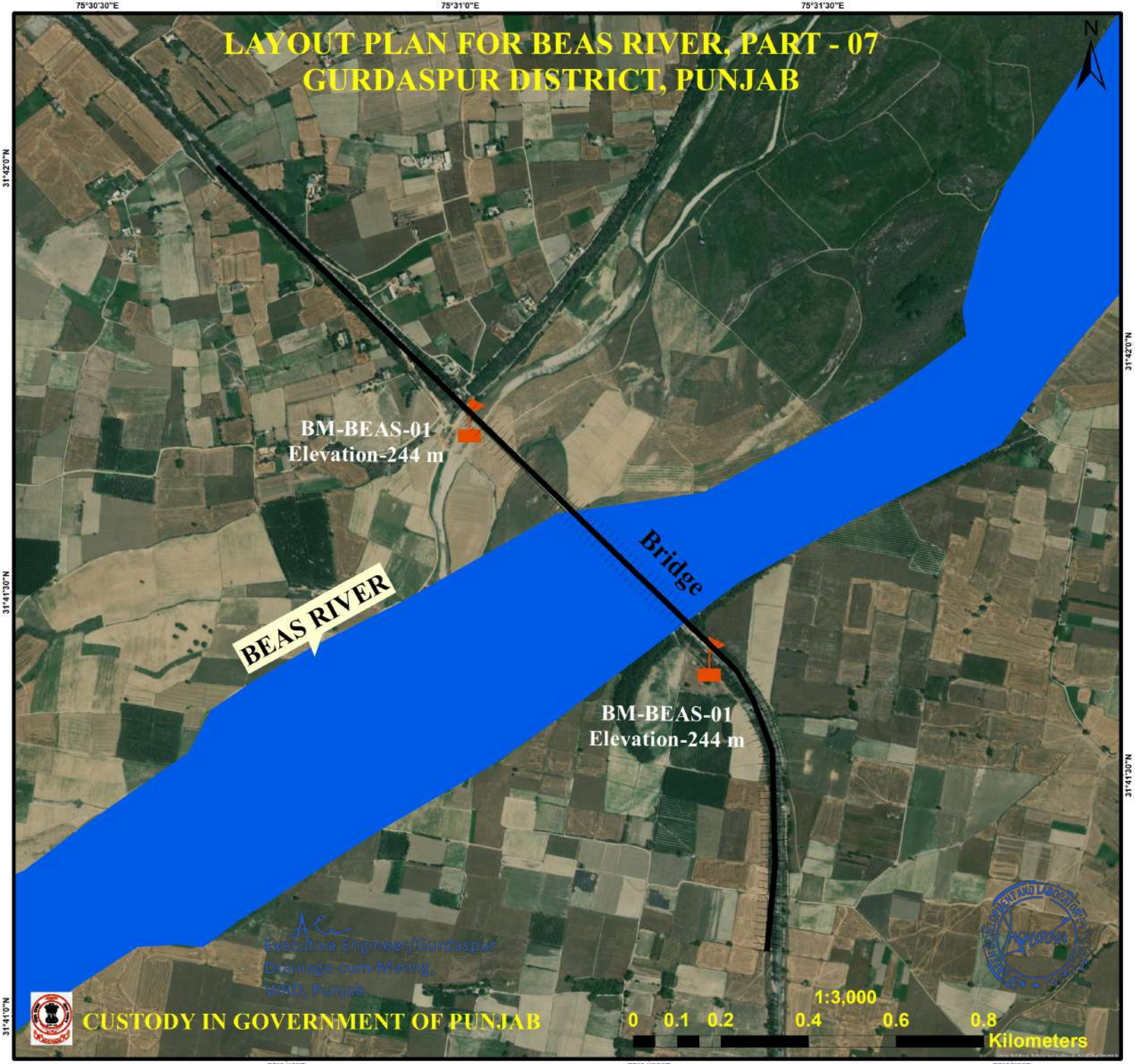
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

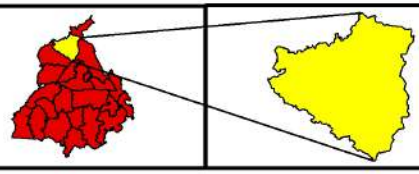
LAYOUT PLAN FOR BEAS RIVER, PART - 07
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

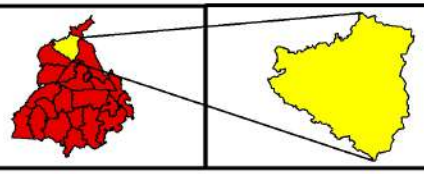
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

LAYOUT PLAN FOR BEAS RIVER, PART - 08
GURDASPUR DISTRICT, PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

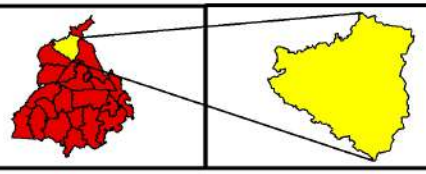
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

LAYOUT PLAN FOR BEAS RIVER, PART - 09
GURDASPUR DISTRICT, PUNJAB

LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



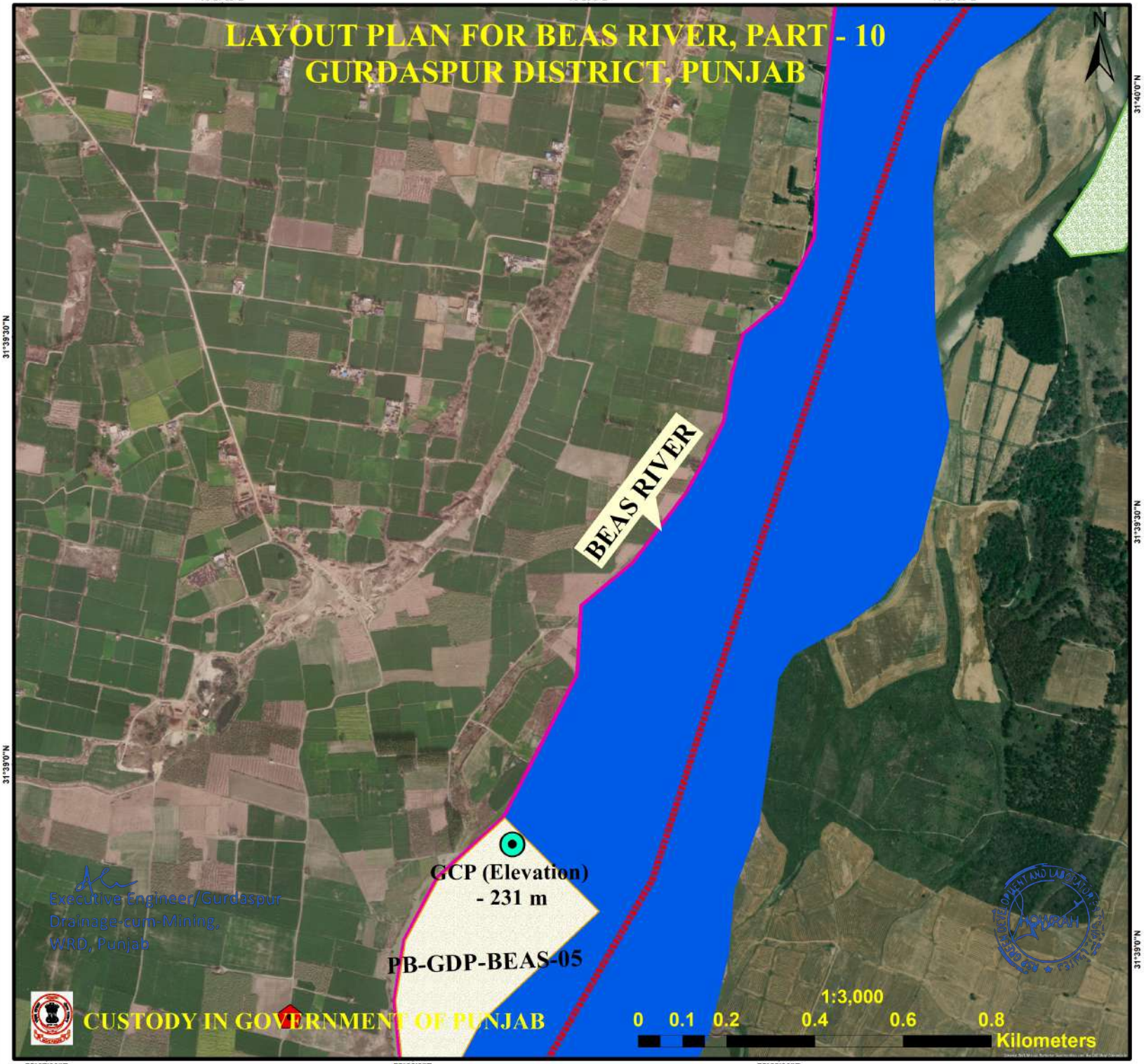
Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

CUSTODY IN GOVERNMENT OF PUNJAB

PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

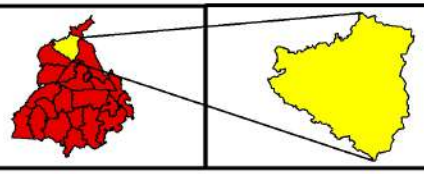
LAYOUT PLAN FOR BEAS RIVER, PART - 10
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



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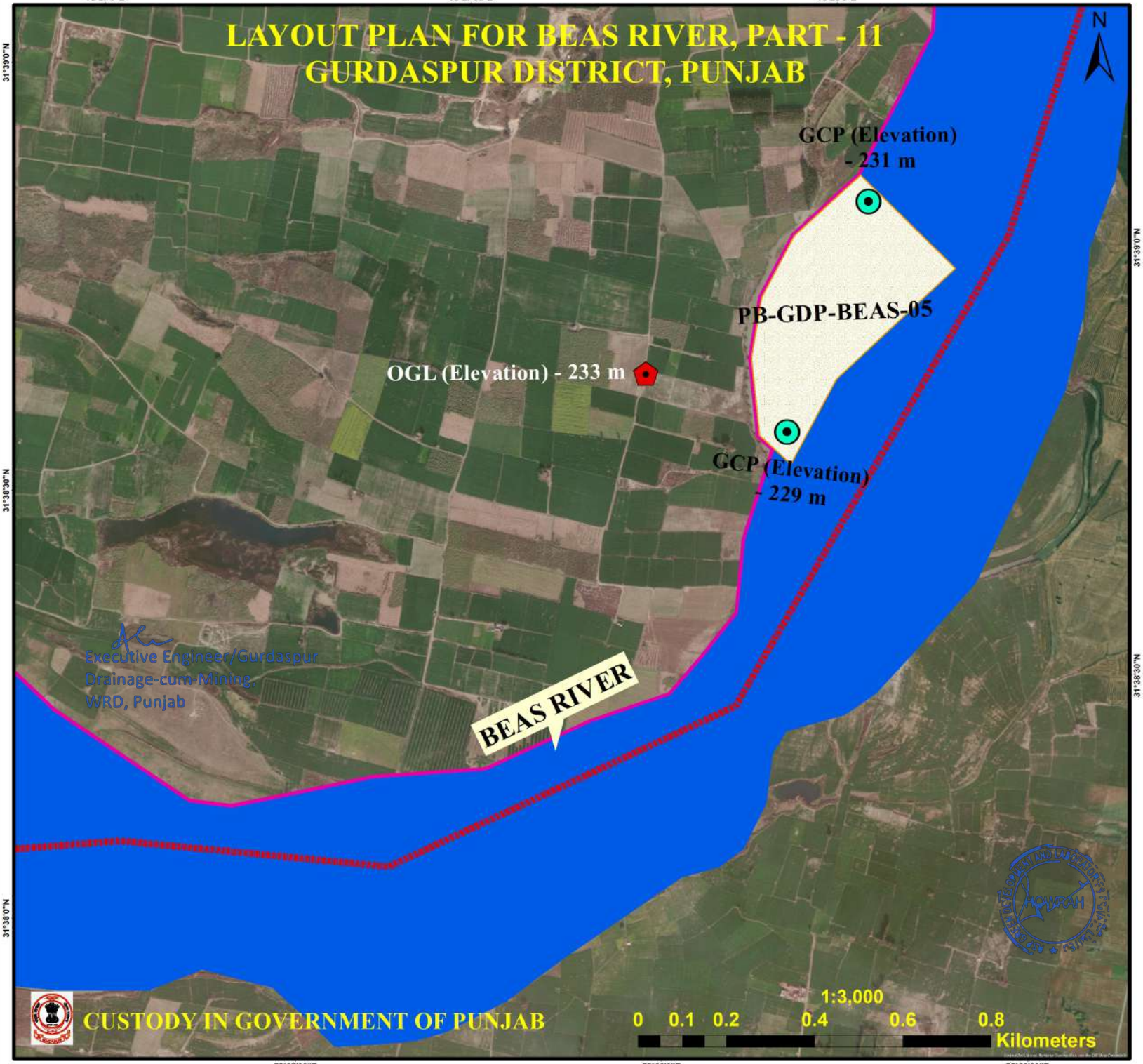
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

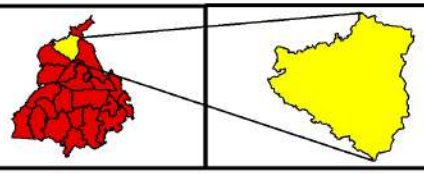
LAYOUT PLAN FOR BEAS RIVER, PART - 11
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

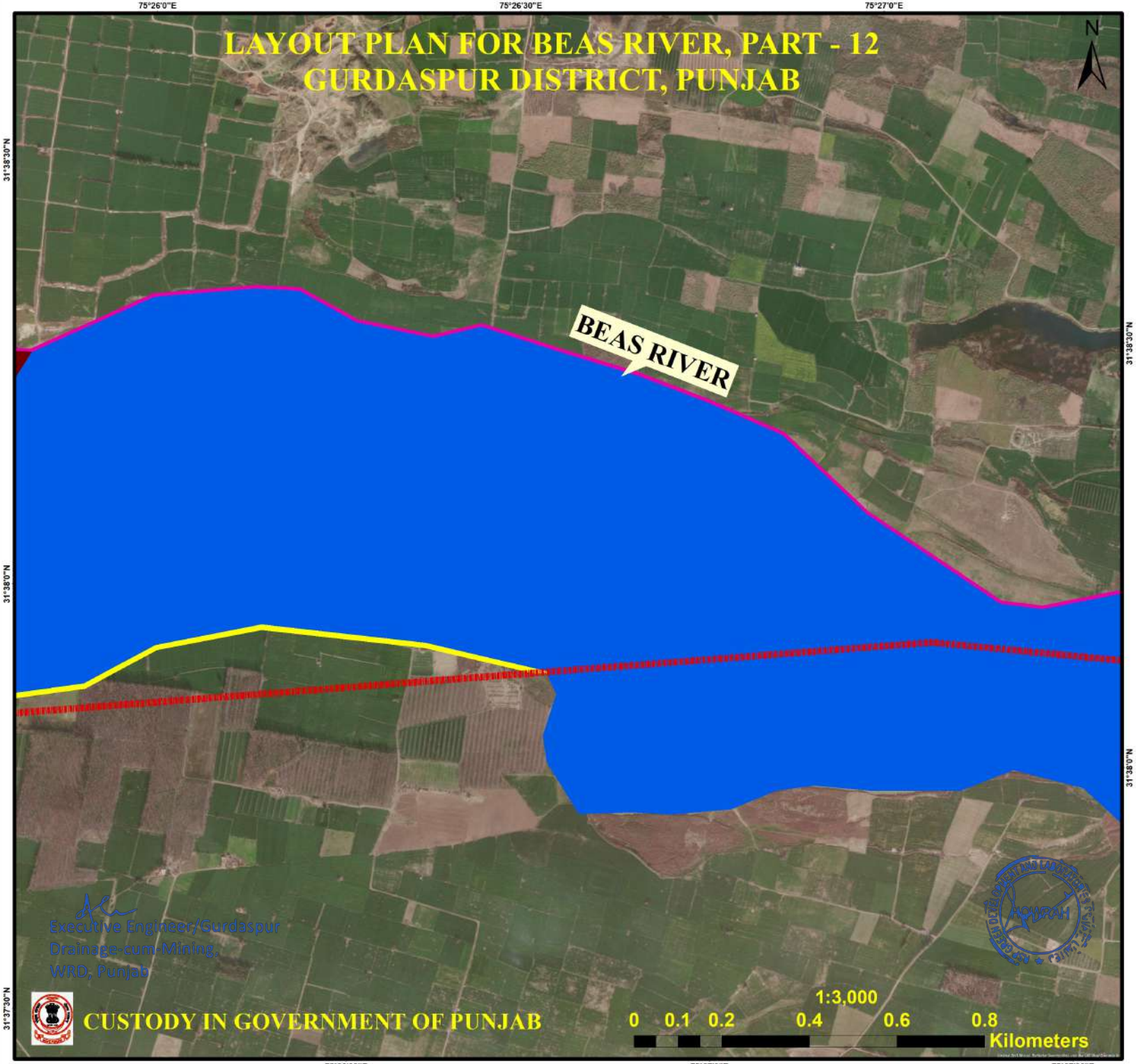
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

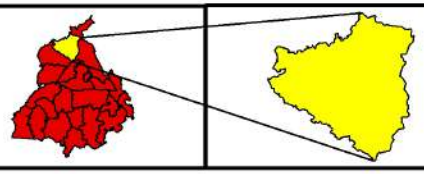
LAYOUT PLAN FOR BEAS RIVER, PART - 12
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

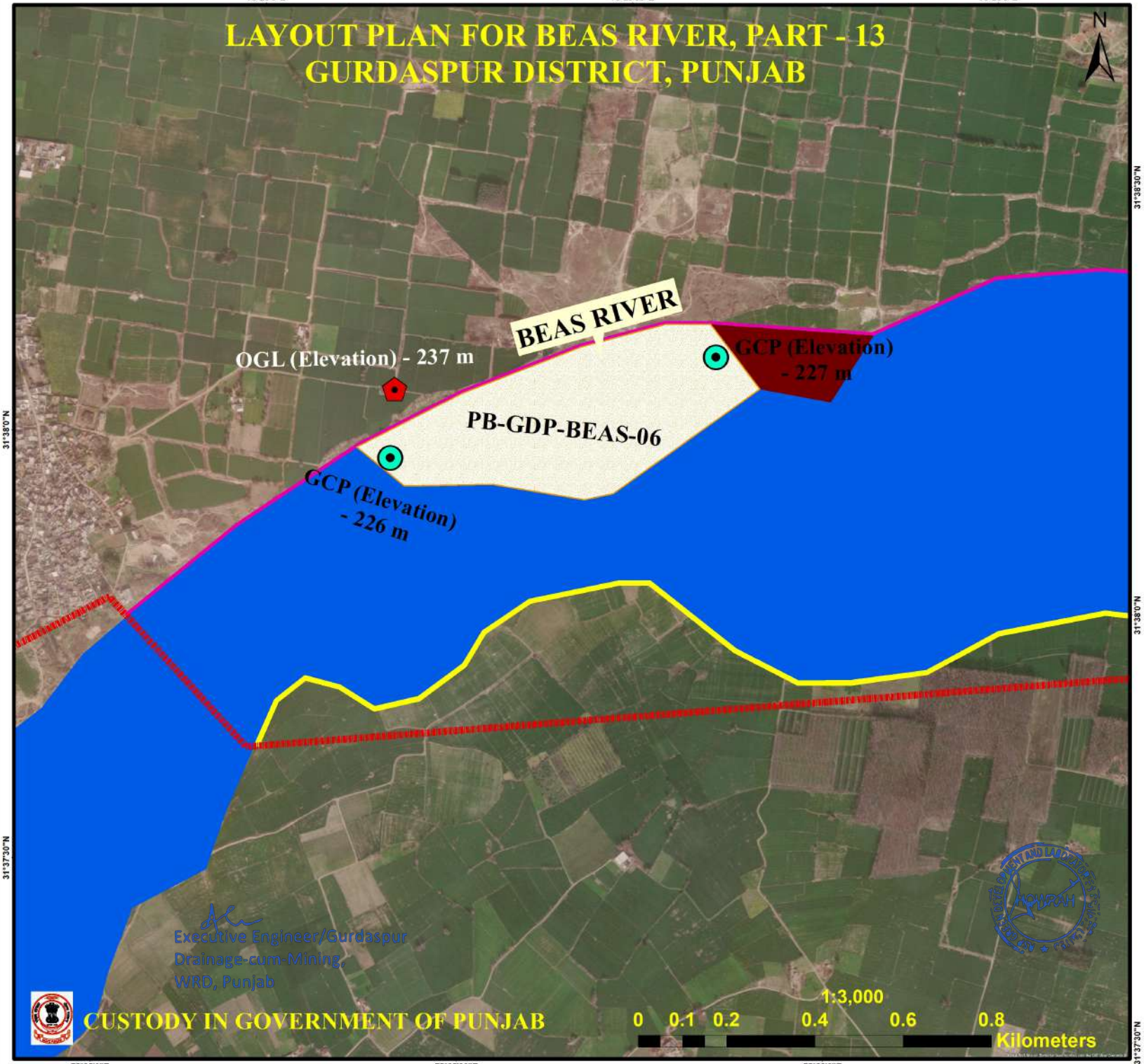
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

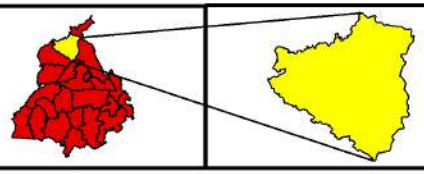
LAYOUT PLAN FOR BEAS RIVER, PART - 13
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



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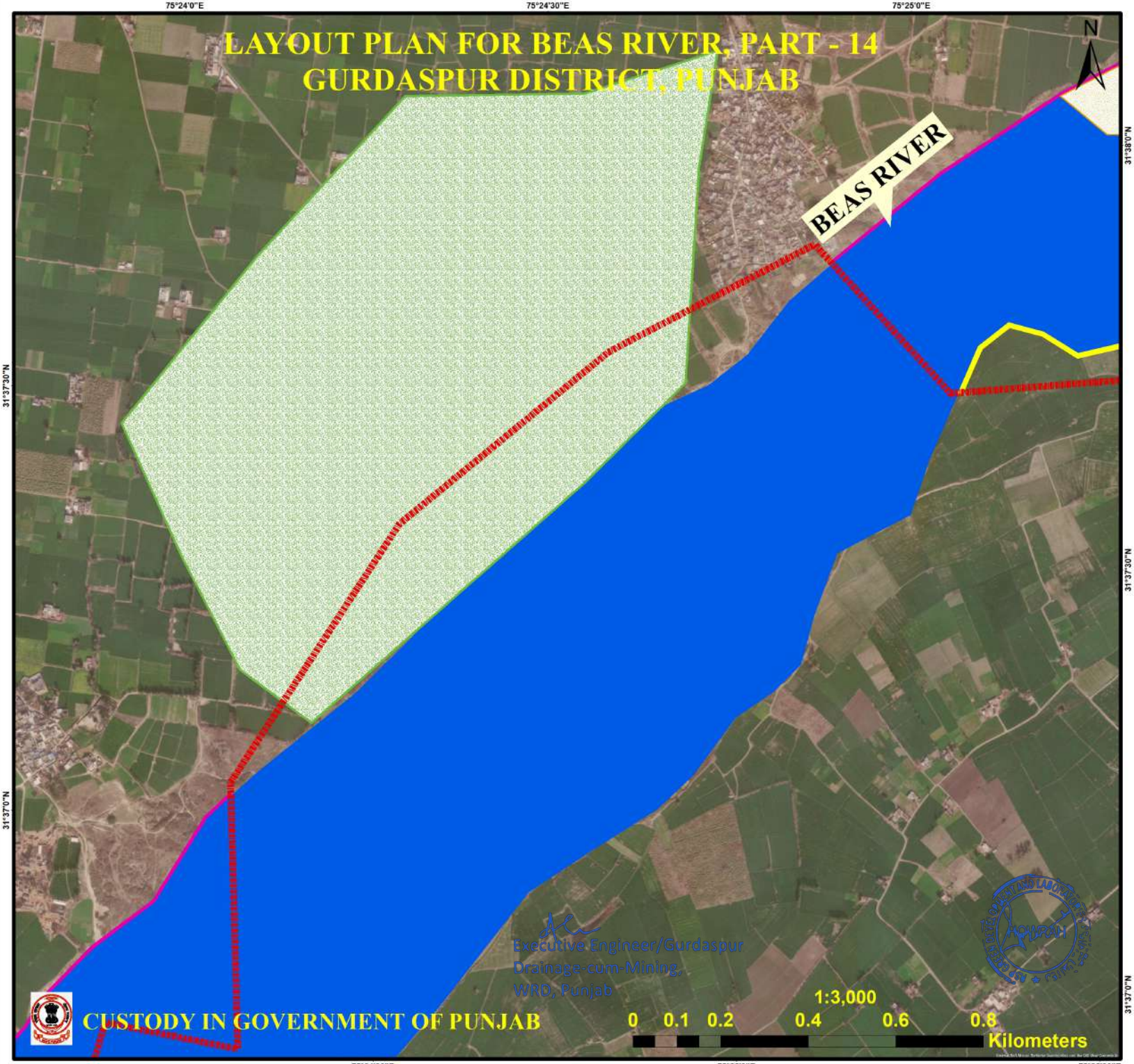
SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

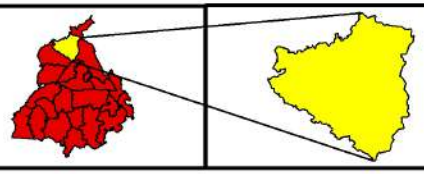
LAYOUT PLAN FOR BEAS RIVER, PART - 14
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

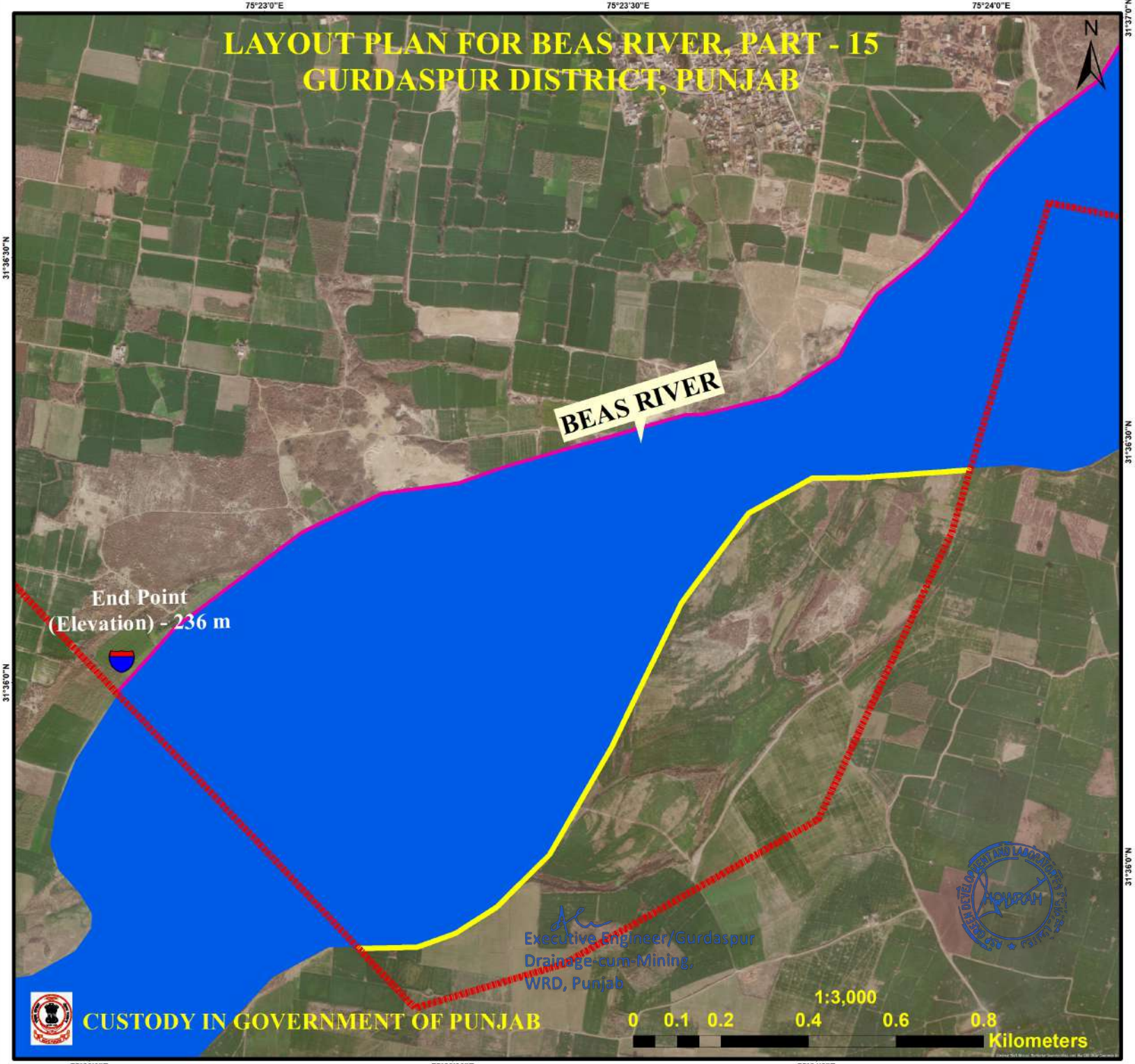
ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

SOURCE: UNITED STATES GEOGRAPHICAL SURVEY (USGS) - SENTINEL - 2 SATELLITE IMAGE, RESOLUTION - 10 m. DATE - DECEMBER -2022, AND FIELD SURVEY DATA

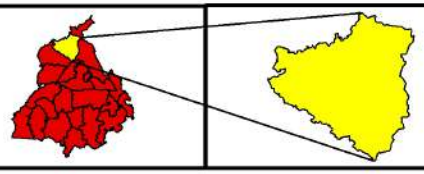
LAYOUT PLAN FOR BEAS RIVER, PART - 15
GURDASPUR DISTRICT, PUNJAB



LEGEND

- District Boundary
- Restricted Zone
- Desilting Potential Sand Blocks
- No Mining Zone
- Forest Boundary
- Wild Life Sanctuary
- Eco Senzitive Zone
- Water Channel
- Left FPB
- Right FPB

ABBREVIATION FORM		
STATE	PB	PUNJAB
DISTRICT	GDP	GURDASPUR
RIVER	BEAS	BEAS RIVER



PREPARED BY: RSP GREEN DEVELOPMENT & LABORATORIES PRIVATE LIMITED

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ANNEXURE – XIV

BULK DENSITY REPORT
DEMAND & SUPPLY OF DISTRICT GURDASPUR
SUB DIVISIONAL COMMITTEE REPORTS
CERTIFICATES OF DIVISIONAL FOREST OFFICER
NEWS PAPER CUTTING

A REPORT OF SUB-DIVISION LEVEL COMMITTEE DINANAGAR SITE VISIT OF POTENTIAL SAND MINING SITES IN TEHSIL DINANAGAR DISTRICT GURDASPUR ON DATED: 10/02/2023 REGARDING

In connection with the above, it is submitted that the Sub-Division Level Committee Dinanagar, conducted a joint site visit on Dt. 02/02/2023 for the purpose of inclusion in the District Survey Report of Gurdaspur of sand mining sites shown below: -

Sr. No.	Owner's Name	Khasra Number	Area	District	Tehsil	Village
1	Sarabjeet Kaur	11//16(8-0),17(8-0),24(8-0),25(8-0), 12//18(8-0), 19(9-0), 20(8-0), 21(8-0),22(8-0),23(8-0),24(8-0),25(8-0), 13//20(5-19), 21(8-0),22(5-16),23(8-0),24(8-0),25(8-0), 14//10/2(6-18),11(8-0),19(8-0),20(8-0),21(8-0),22(8-0),23(8-0),24(8-0),25 (8-0), 15//16/1(2-12), 16/2(5-4), 21(8-0), 25/2(7-16) , 16//20(6-18),21(5-2), 18//1(8-0),2(8-0),3/1(6-8),9(8-0) , 19//4/2(5-0), 6(8-0), 7/1(5-0), 20//1(8-0),2(8-0),3(8-0), 21//4(8-0),5(8-0), 22//4(8-0),5/1(4-0), 5/2(4-0)	4.8	Gurdaspur	Dinanagar	Chak Ram Sahai
2	Manpreet Singh		8.12	Gurdaspur	Dinanagar	Chak Ram Sahai
3	Shivbeer Singh	3//6/1(3-3) 6/2(2-4) 8(7-0) 9(7-2) 12/1(2-19 13/1(3-2) 15/1/1/1(0-16), 4//9(3/7) 1-(4-11) 11(8-0) 12/1(4-16), 5//13(6-10) 17(8-9) 18(8-0) 23/2(1-11), 8//26(9-17)	1.56Ha	Gurdaspur	Dinanagar	Marara
4	Sarbjeet Kaur	35//4/2(4-16), 35//5/1(1-16), 35//7/1(4-16), 35//14/2(1-12) 35//14/3(3-4) 35//15/2(4-4), 23//16/2(4-4) 23//17/2(3-1) 23//24/2(3-12) , 23//25(7-4) 23//24/3(1-4), 24//3(8-0) 4/1(4-0) 4/2(4-0) 5(8-0) 7(8-0), 8//26(9-17)	3.58Ha	Gurdaspur	Dinanagar	Toor

5	Manpreet Singh	2//12/3(1-16) 18/4(0-9) 19/1(3-8) 22/2(3-8) 23(8-0), 6//5(5-10) 15/2(6-0) 16/1(7-16) 17/2(7-2) 18(7-12) 23(5-11) 24(7-11) 25(7-11), 5//1/1(2-18) 3/1(7-5) 4/1(6-4) 7/3(6-4) 8/1(4-0) 12(5-16) 13(7-6) 14/1(2-0) 14/2(1-16) 14/3(4-4) 15/1(2-8) 16/4(2-8) 17(5-16) 19(8-0) 20/2(6-9) 21/1(3-8) 25/1(0-11), 7//5/1(4-4) 5/2(3-16) 6(8-0) 15(8-0) 16(8-0) 25/1(5/16) 25/2(0-0), 8//1/1, 8//5/2, 8//10/3, 8//11,15,20, 21, 9//1,10, 10//5,6, 2//19/1, 2//22/2, 2//23, 5//1/1, 5//3/1, 5//4/1,5//7/3, 5//8/1, 5//12, 5//14/3, 5//15/1, 5//16/4, 5//17, 5//19, 5//20/2, 5//25/1, 6//5, 8//1/1(3-12) 5/2(2-17) 6(7-2) 7/1(3-16) 7/2(3-1), 8(8-0) 10/3(3-12) 11(7-9) 13(8-0) 14(8-0) 15(6-14) 20(8-0) 21(8-0) 9//1(8-0) 10(5-2) , 10// 5(0-6) 6(0-9)	10.12Ha	Gurdaspur	Dorangla (Dinanagar)	Raji Beli
6	Salvinder Kaur	2//15/1(3-7), 3//10(6-18), 3//11/1(3-7), 2//7(3-16), 2//12(7-6), 2//14(7-2), 4//16/2(3-15), 2//19/2/1, 16//13/2, 2//19/2/2(1-13)	1.6Ha	Gurdaspur	Dinanagar	Marara
7	Rajwant Kaur	8R/13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0) , 18(8-0), 19(8-0), 20(2-18), 21(4-6), 22(8-0), 23(8-0), 24(8-0), 25(8-0), 9R/ 9(8-0), 11(8-0), 20(8-0)	1.19Ha	Gurdaspur	Dinanagar	Mamka
8	Balbir Singh	7R/7/1(6-4), 14/2(6-4), 17/1(0-16), 17/2(5-12), 24/2(3-6), 6R/29/1(0-6)	0.44Ha	Gurdaspur	Dinanagar	Raji Beli
9	Rakesh Kumar	24R/23 (7-7) 24R/13/ 16(8-0) 17/1(1-16) 17/1(1-16) 17/2(5-4) 18(5-4) 18(7-11) 19/1(0-15) 19/2(0-16) 20/1(1/11) 24/1(2-15) , 25R/20/2(8-4)	1.2Ha	Gurdaspur	Dinanagar	Toor
10	Gurnam Singh	7R/3/4(0-12) 4(8-0) 13(4-16) 14/1(1-14) 17/3(0-13),18/1(2-19)	0.63Ha	Gurdaspur	Dinanagar	Raji beli
11	Akash Narang	33/17/1(7-0), 25R/23/3(4-1), 24(7-7), 25/1(2-4), 25/2(5-3), 26R/21(7-7), 32R/1(8-0), 10(2-4), 11/2(5-16), 33R/3/2(4-12), 4(8-0), 5(8-0), 6/2(2-18), 7(8-0), 8/1(4-12), 13/2(4-12), 33R/14(8-0), 15(8-0), 16/1(1-12), 16/2(6-8), 17/2(1-0), 32R/22/1(2-0), 33R/6/1 of total 129 kanal 19 marla	6.63	Gurdaspur	Dinanagar	Toor

12	Piyush Narang	24R/19/3 (5-16), 24R/22(8-0), 34R/2/2(3-0), 9/1(5-4), 12/1(4-0), 19(8-0), 22(3-13), 143(0-2), 34R/9/2(2-16), 12/2(0-13), 12/4(2-0) of total 43 kanal 4 marla	2.23	Gurdaspur	Dinanagar	Toor
13	Jagdev Singh, Ashwani Kumar, Joginder Singh	29//7(8-0), 19//23/2/2/1 (1-11) , 29//4 (8), 29//14/1 (0-19), 28//16 , 28//17 (8-0), 29//19 (8-0), 29//20 (8-0), 28//25 (8-0), 29//18(8-0), 19//17(8-0), 19//18 (8-0), 19//19/2 (4-13), 19//23/2/2(1-12), 19//24(8-0), 19//25 (8-0), 29//14/1/1/1(3-15), 32//16(7-12)	5.4 Ha	Gurdaspur	Dinanagar	Chechian Chhaurian
14	Jagdev Singh	3//7(7-19), 3//8(7-7), 3//9 (7-16), 3//10/1(1-12), 3//11/2 (1-12), 3//12,(8-0), 3//13(8-0), 3//14(8-14), 3//17(7-9)	3.048Ha	Gurdaspur	Dinanagar	Fakarpur
15	Balbir Kaur W/O Satnam Singh	151(0-2), 27//21(8-13),27//22/1(2-3),31//1(8-0) 31//2(7-16), 31//10(8-0), 32//5/2(3-0), 32//6/1(3-0)	2.24 Ha	Gurdaspur	Dinanagar	Toor
16	Harbhajan Kaur W/o Kehar Singh	33//16(7-8),17(8-0),18(8-0),23(8-0),24(8-0),25/1(6-8)	1.62Ha	Gurdaspur	Dinanagar	Sidhpur
17	Sukhdeep Singh S/o Parshan Singh, Gurjeet Singh s/o Jankar Singh,	17//4(8-0),7(8-0),11(6-12),12(7-2),13(7-2),14/1(2-13),6//24(5-16),17//8(8-0),9(7-12),10(8-0)	1.42Ha	Gurdaspur	Dinanagar	Sidhpur

The inspection report along with observations of respective Members of Sub-Division Level Committee, Dinanagar in this regard are shown below as: -

1.Divisional Forest Officer, Department of Forests and Wildlife Prevention Punjab

This land of above said sand mining sites at Sr. No. 1, 2, 4 to 17 are not forest land. However, sites at Sr. No. ~~13, 16~~ 13,14,15 & 17 fall in River Beas Conservation Reserve declared by Punjab Government. Mining activity can only be allowed if it does not interfere with the conservation program of the protected species. Moreover, it was observed near mining site at Sr. No. 3 that at a distance of within 50 meters, trees have been planted by the Forest Department. Hence it mining cannot be allowed at this site as it would endanger plantation by Forest Department.

2.Divisional Forest Officer, Wildlife, Department of Forests and Wildlife Prevention Punjab

The land of the above said sand mining sites at Sr. No. 1 to 12 & 15 do not fall in the Eco-Sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under Wildlife Protection Act, 1972 and Punjab Wildlife Preservation Act, 1959 and there is no objection in this regard.

The land of the above said sand mining sites at Sr. No. 13, 14, 16 & 17 fall within 1 km of River Beas Conservation Reserve declared by Punjab Government Notification No. 34/13/2017 FT-5/1052756/1 dated 29.08.2017. Beas River Conservation Reserve is habitat for Gharials (Critically Endangered, IUCN Status) and Dolphins. So, mining cannot be allowed without the prior permission of National Board of Wildlife, India.

3.Environmental Engineer, Punjab Pollution Control Board

It has been observed that Environmental Clearance should be obtained from the competent authority and consent under Air Act 1981 and Water Act 1974 should be taken before starting the work of extracting sand from the said quarries at Sr. No. 1 to 17.

4.Block Development and Panchayat Officer

It has been observed that the above said sand mining sites at Sr. No. 1 to 17 do not fall in Panchayati land. The above said sites are more than 50 meters from any Public Works such as Public Roads and Buildings or Residential Areas and more than 10 meters from Village Roads, 7.5 meters from nearby Private/Government Land.

5.Executive Engineer, Building & Roads, Punjab Public Works Department

It has been observed that the above said sand mining sites at Sr. No. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16 & 17 are more than 1.0 KM from any Bridge or National Highway. There is no objection in this regard. Sand mining sites at Sr. No. 1, 2, & 15 are more than 1.0 KM from any Bridge or National Highway. However, these sites (Sr. No. 1, 2 & 15) fall within 1 km downstream of a proposed bridge (32°11'16" N, 75°21'15" E) across River Ravi. Hence, it is to be ensured by Mining Department that once the construction of the said bridge starts, mining should only be done in area outside the 1 km distance of the said bridge. There is no objection in this regard. Moreover, mining site at Sr. No. 14 falls at a distance of less than 500 meters downstream of Chakki Bridge at Bianpur.

6.Executive Engineer, Irrigation Branch, Department of Water Resources Punjab

It has been observed that the above said sand mining sites at Sr. No. 1 to 17 are more than 50 meters distance from any Reservoir, Tank, Canal etc. There is no objection in this regard.

7.Executive Engineer, Drainage-cum-Mining, Department of Water Resources Punjab

It has been observed that there is no Flood Protection Embankment within 100 meters (inside/outside) of the above said sand mining sites at Sr. No. 1 to 15 & 17. There is no objection in this regard. However, site at Sr. No. 16 fall within 100 meters of Flood Protection Embankment along the Beas River.

8.Chief Agriculture Officer, Department of Agriculture Punjab

It has been observed that the no crop is standing in the land of the above sand mining sites at Sr No. 1 to 12, 15 & 16 and there is no objection in this regard. However, for sites at Sr. No.

13, 14 & 17, it was observed that the land is cultivable and lies near bank of the river. Hence mining in these lands cannot be allowed.

The sites have been appraised by the Sub Division Level Committee, Dinanagar and show mining potential with respect to sand deposits. Keeping in the view the above said, the potential sand mining sites at Sr. No. 4, 5, 6, 7, 8, 9, 10, 11, & 12 in tehsil Dinanagar district Gurdaspur are recommended for inclusion in District Survey Report of Gurdaspur and sites at Sr. No. 1, 2 & 15 are recommended with the condition that once the construction of the said bridge starts, mining should only be done in area outside the 1 km distance of the said bridge.

Divisional Forest Officer,
Gurdaspur

Divisional Forest Officer, Wildlife
Pathankot

Environmental Engineer,
Punjab Pollution Control Board
Batala

Executive Engineer,
CBDC, Gurdaspur
WRD, Punjab

Chief Agriculture Officer
Gurdaspur

Block Development and
Panchayat Officer,
Dinanagar

Executive Engineer,
PWD B & R,
Pathankot

SDE

Executive Engineer/Gurdaspur
Drainage-cum-Mining & Geology
WRD, Punjab

Sub Divisional Magistrate
Dinanagar

A REPORT OF SUB-DIVISION LEVEL COMMITTEE DINANAGAR SITE VISIT OF POTENTIAL SAND MINING SITES IN TEHSIL DINANAGAR DISTRICT GURDASPUR ON DATED: 02/02/2023 REGARDING

In connection with the above, it is submitted that the Sub-Division Level Committee Dinanagar, conducted a joint site visit on Dt. 02/02/2023 for the purpose of inclusion in the District Survey Report of Gurdaspur of sand mining sites shown below: -

Sr. No.	River	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
						Latitude	Longitude
1	RAVI	PB_GDP_ RAVI-01	Dinanagar	Marara	6.14	32°11'25.83"N 32°11'28.11"N 32°11'25.56"N 32°11'21.30"N 32°11'21.42"N 32°11'22.17"N	75°23'29.78"E 75°23'48.76"E 75°23'50.62"E 75°23'40.83"E 75°23'37.66"E 75°23'34.86"E
2	RAVI	PB_GDP_ RAVI-02	Dinanagar	Chak Ram Sahai 1	5.02	32°11'22.20"N 32°11'21.09"N 32°11'18.97"N 32°11'15.59"N 32°11'14.44"N 32°11'15.76"N 32°11'16.91"N 32°11'17.48"N	75°21'8.17"E 75°21'11.17"E 75°21'24.80"E 75°21'29.76"E 75°21'23.52"E 75°21'18.05"E 75°21'16.41"E 75°21'14.40"E
3	RAVI	PB_GDP_ RAVI-03	Dinanagar	Chak Ram Sahai 2	8.74	32°11'26.43"N 32°11'24.49"N 32°11'21.30"N 32°11'14.72"N 32°11'18.23"N 32°11'20.61"N 32°11'22.30"N 32°11'26.11"N 32°11'28.37"N 32°11'24.38"N	75°20'57.16"E 75°20'59.89"E 75°21'6.66"E 75°21'13.61"E 75°21'1.31"E 75°20'55.96"E 75°20'54.03"E 75°20'48.34"E 75°20'47.10"E 75°20'50.57"E
4	RAVI	PB_GDP_ RAVI-04	Dinanagar	Raji Beli	13.21	32°11'51.53"N 32°11'48.23"N 32°11'39.48"N 32°11'27.96"N 32°11'27.94"N 32°11'28.82"N 32°11'31.02"N 32°11'31.83"N 32°11'35.57"N 32°11'50.35"N	75°20'35.67"E 75°20'39.91"E 75°20'46.22"E 75°20'59.34"E 75°20'54.06"E 75°20'49.73"E 75°20'45.46"E 75°20'44.55"E 75°20'43.21"E 75°20'32.13"E

5	RAVI	PB_GDP_ RAVI-05	Dinanagar	Toor	10.44	32°11'48.83"N 32°11'40.74"N 32°11'27.94"N 32°11'27.58"N 32°11'28.58"N 32°11'39.73"N 32°11'43.64"N 32°11'36.36"N 32°11'48.30"N 32°11'50.16"N	75°20'28.39"E 75°20'20.58"E 75°20'13.94"E 75°20'11.39"E 75°20'10.55"E 75°20'13.41"E 75°20'15.52"E 75°20'12.93"E 75°20'21.35"E 75°20'24.25"E
6	RAVI	PB_GDP_ RAVI-06	Dinanagar	Mamka Khizarpur	13.18	32°11'29.59"N 32°11'25.28"N 32°11'8.53"N 32°10'57.99"N 32°10'58.54"N 32°11'2.91"N 32°11'22.98"N	75°20'6.74"E 75°20'5.92"E 75°20'7.65"E 75°20'3.69"E 75°20'2.59"E 75°19'57.81"E 75°20'2.67"E

The inspection report along with observations of respective Members of Sub-Division Level Committee, Dinanagar in this regard are shown below as: -

1.Divisional Forest Officer, Department of Forests and Wildlife Prevention Punjab

This land of above said sand mining sites at Sr. No. 2, 3, 4, 5 & 6 are not forest land and there is no objection in this regard. However, it was observed near mining site at Sr. No. 1 that at a distance of less than 50 meters trees have been planted by the Forest Department. Hence it mining cannot be allowed at this site as it would endanger plantation by Forest Department.

2.Divisional Forest Officer, Wildlife, Department of Forests and Wildlife Prevention Punjab

The land of the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 do not fall in the Eco-Sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under Wildlife Protection Act, 1972 and Punjab Wildlife Preservation Act, 1959 and there is no objection in this regard.

3.Environmental Engineer, Punjab Pollution Control Board

It has been observed that Environmental Clearance should be obtained from the competent authority and consent under Air Act 1981 and Water Act 1974 should be taken before starting the work of extracting sand from the said quarries at Sr. No. 1, 2, 3, 4, 5 & 6.

4.Block Development and Panchayat Officer

It has been observed that the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 do not fall in Panchayati land. The above said sites are more than 50 meters from any Public Works such as Public Roads and Buildings or Residential Areas and more than 10 meters from Village Roads, 7.5 meters from nearby Private/Government Land.

5.Executive Engineer, Building & Roads, Punjab Public Works Department

It has been observed that the above said sand mining sites at Sr. No. 1,5 & 6 are more than 1.0 KM from any Bridge or National Highway and more than 500 meters upstream/downstream of any High-Level Bridge and 250 meters upstream/downstream of other bridges. Sand mining sites at Sr. No. 2, 3 & 4 are more than 1.0 KM from any Bridge or National Highway and more than 500 meters upstream/downstream of any High-Level Bridge and 250 meters upstream/downstream of other bridges. However, the sites at Sr. No. 2, 3 & 4 fall within 1 km downstream of a proposed bridge (32°11'16" N, 75°21'15" E) across River Ravi. Hence, it is to be ensured by Mining Department that mining operations at these sites to be stopped once the construction of the said bridge starts and mining should only be done in area outside the 1 km distance of the said bridge. There is no objection in this regard.

6.Executive Engineer, Irrigation Branch, Department of Water Resources Punjab

It has been observed that the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 are more than 50 meters distance from any Reservoir, Tank, Canal etc. There is no objection in this regard.

7.Executive Engineer, Drainage-cum-Mining, Department of Water Resources Punjab

It has been observed that there is no Flood Protection Embankment within 100 meters (inside/outside) of the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6. There is no objection in this regard.

8.Chief Agriculture Officer, Department of Agriculture Punjab

It has been observed that the no crop is standing in the land of the above sand mining sites at Sr No. 1, 2, 3, 4, 5 & 6 and there is no objection in this regard.

The sites have been appraised by the Sub Division Level Committee, Dinanagar and show mining potential with respect to sand deposits as per the survey report received from the consultant hired by Department of Drainage-cum-Mining & Geology. However, as per observations received from the PWD, B & R Department, sites at Sr. No. 2, 3 & 4 fall within distance of 1 km D/S of the proposed Makoda Pattan Bridge. Keeping in the view the above said, the potential sand mining sites at Sr. No. 5 & 6 in tehsil Dinanagar district Gurdaspur are recommended for inclusion in District Survey Report of Gurdaspur and sites at Sr. No. 2, 3 and 4 are recommended with the condition that once the construction of the said bridge starts, no mining within 1 km distance of the said bridge is to be carried out.

Divisional Forest Officer,
Gurdaspur

Divisional Forest Officer, Wildlife
Pathankot

Environmental Engineer,
Punjab Pollution Control Board
Batala

Executive Engineer,
UBDC, Gurdaspur
WRD, Punjab

Chief Agriculture Officer
Gurdaspur

Block Development and
Panchayat Officer,
Dinanagar

Executive Engineer,
PWD B & R,
Pathankot

Executive Engineer/Gurdaspur
Drainage-cum-Mining & Geology
WRD, Punjab

Sub Divisional Magistrate
Dinanagar

A REPORT OF SUB-DIVISION LEVEL COMMITTEE DERA BABA NANAK SITE VISIT OF POTENTIAL SAND MINING SITES IN TEHSIL DERA BABA NANAK DISTRICT GURDASPUR ON DATED : 19/01/2023 REGARDING

In connection with the above, it is submitted that the Sub-Division Level Committee Dera Baba Nanak, conducted a joint site visit on Dt. 19/01/2023 for the purpose of inclusion in the District Survey Report of Gurdaspur of sand mining sites shown below;

Sr. No.	River	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
						Latitude	Longitude
1	RAVI	PB_GDP_ RAVI-07	Dera Baba Nanak	Gunia	10.65	32°1'44.388"N 32°1'47.062"N 32°1'51.887"N 32°2'1.743"N 32°2'5.142"N 32°2'2.748"N 32°1'58.877"N 32°1'53.239"N 32°1'48.689"N	74°57'38.549"E 74°57'40.691"E 74°57'43.947"E 74°57'50.831"E 74°57'56.075"E 74°58'0.389"E 74°57'57.306"E 74°57'53.559"E 74°57'46.969"E
2	RAVI	PB_GDP_ RAVI-08	Dera Baba Nanak	Gurchak	16.01	32°2'5.285"N 32°2'5.658"N 32°2'5.791"N 32°2'4.031"N 32°2'3.102"N 32°1'58.293"N 32°1'56.945"N 32°1'54.566"N 32°1'54.77"N 32°1'54.664"N 32°1'56.185"N 32°1'56.68"N 32°1'58.232"N 32°2'0.574"N 32°2'0.41"N 32°1'56.809"N	74°56'20.588"E 74°56'21.797"E 74°56'30.052"E 74°56'38.799"E 74°56'45.576"E 74°56'51.311"E 74°56'52.69"E 74°56'53.965"E 74°56'51.84"E 74°56'49.156"E 74°56'44.278"E 74°56'39.357"E 74°56'36.393"E 74°56'33.144"E 74°56'29.329"E 74°56'21.116"E

The inspection report along with observation of respective Members of Sub-Division Level Committee Dera Baba Nanak in this regard are shown below as :-

1.Divisional Forest Officer, Department of Forests and Wildlife Prevention Punjab

This land of above said sand mining sites at Sr. No. 1 not forest land and there is no objection in this regard. However, it has been observed for site at Sr. No. 2 that forest department land falls in the Village Gurchak (Old Khasra Nos. 584, 587, 714, 258, 252, 254, 255, 565, 566, 568, 569, 570). Hence demarcation of this land must be ensured before starting of mining activities so that forest land is not endangered in any way.

2.Environmental Engineer, Punjab Pollution Control Board

It has been observed that Environmental Clearance should be obtained from the competent authority and consent under Air Act 1981 and Water Act 1974 should be taken before starting the work of extracting sand from the said quarries at Sr. No. 1 & 2.

3.Divisional Forest Officer, Wildlife, Department of Forests and Wildlife Prevention Punjab

The land of the above said sand mining sites at Sr. No. 1 & 2 do not fall in the Eco-Sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under Wildlife Protection Act, 1972 and Punjab Wildlife Preservation Act, 1959 and there is no objection in this regard.

4.Block Development and Panchayat Officer

It has been observed that the above said sand mining sites at Sr. No. 1 & 2 do not fall in Panchayati land. The above said sites are more than 50 meters from any Public Works such as Public Roads and Buildings or Residential Areas and more than 10 meters from Village Roads, 7.5 meters from nearby Private/Government Land.

5.Executive Engineer, Building & Roads, Punjab Public Works Department

It has been observed that the above said sand mining sites at Sr. No. 1 & 2 are more than 1.0 KM from any Bridge or National Highway and more than 500 meters upstream/downstream of any High Level Bridge and 250 meters upstream/downstream of other bridges. There is no objection in this regard.

6.Executive Engineer, Irrigation Branch, Department of Water Resources Punjab

It has been observed that the above said sand mining sites at Sr. No. 1 & 2 are more than 50 meters distance from any Reservoir, Tank, Canal etc. There is no objection in this regard.

7.Executive Engineer, Drainage-cum-Mining, Department of Water Resources Punjab

It has been observed that there is no Flood Protection Embankment within 100 meters (inside/outside) of the above said sand mining sites at Sr. No. 1 & 2. There is no objection in this regard.

8.Chief Agriculture Officer, Department of Agriculture Punjab

It has been observed that the no crop is standing in the land of the above sand mining sites at Sr. No. 1 & 2. There is no objection in this regard. However, the agricultural land lies right next to the river, hence it shall be ensured by Mining Department that the agricultural fields are protected from the being washed away due to mining activities.

Keeping in the view the above said, the potential sand mining sites at Sr. No. 1 & 2 in tehsil Dera Baba Nanak district Gurdaspur are recommended for inclusion in District Survey Report of Gurdaspur. It must be ensured that no mining activity takes place within 1 km of Indo-Pak International Boundary.

Divisional Forest Officer,
Gurdaspur

Environmental Engineer,
Punjab Pollution Control Board
Batala

Divisional Forest Officer, Wildlife
Pathankot

Executive Engineer,
UBDC, Madhopur
WRD, Punjab

~~Chief Agriculture Officer~~
Gurdaspur

Block Development and
Panchayat Officer,
Dera Baba Nanak

Executive Engineer,
PWD B & R,
Gurdaspur

Executive Engineer,
Drainage-cum-Mining,
WRD, Punjab

Sub Divisional Magistrate
Dera Baba Nanak

A REPORT OF SUB-DIVISION LEVEL COMMITTEE DERA BABA NANAK SITE VISIT OF POTENTIAL SAND MINING SITES IN TEHSIL DERA BABA NANAK DISTRICT GURDASPUR ON DATED : 19/01/2023 REGARDING

In connection with the above, it is submitted that the Sub-Division Level Committee Dera Baba Nanak, conducted a joint site visit on Dt. 19/01/2023 for the purpose of inclusion in the District Survey Report of Gurdaspur of sand mining sites shown below;

Sr. No.	Owner	Khasra no.	Area (Ha)	Tehsil	Village
1	Balraj Singh	12/15/1, 15//4/2, 15//6/1, 15//7/1, 41//1, 12//6, 27//8, 15//5	0.6Ha	Dera Baba Nanak	Gunia
2	Karnail Singh	11//12/5/1, 23//6/1, 23//14,15,16,17,24, 41//9, 2//6,15,16, 3//10,11,20, 16//25/1, 17//21/2, 22//10/3	0.8Ha	Dera Baba Nanak	Gunia
3	Karnail Singh	11//16, 11//17,11//18/1, 11//19/2, 11//20, 12//15/2, 12//16, 20//13, 20//13, 20//18/2	2.44Ha	Dera Baba Nanak	Gunia
4	Tarsem Singh	11/25, 41//5, 63, 10//20/2, 10/21/1, 11//24/2.15//25/4, 24//4, 24//5, 7//21/1, 10//12/2, 18//5, 19//1, 20//23/2, 20//18/1	0.65Ha	Dera Baba Nanak	Gunia
5	Pritam Singh	11//4/2/2, 11//7/1, 11//14/2, 21//1/2, 41//61, 32//4/1, 32//5/1/1	0.37Ha	Dera Baba Nanak	Gunia
6	Karnail Singh	11R/16-17	0.8Ha	Dera Baba Nanak	Gunia

The inspection report along with observation of respective Members of Sub-Division Level Committee Dera Baba Nanak in this regard are shown below as :-

1.Divisional Forest Officer, Department of Forests and Wildlife Prevention Punjab

This land of above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 are not forest land and there is no objection in this regard.

2.Environmental Engineer, Punjab Pollution Control Board

It has been observed that Environmental Clearance should be obtained from the competent authority and consent under Air Act 1981 and Water Act 1974 should be taken before starting the work of extracting sand from the said quarries at Sr. No. 1,2,3,4,5 & 6.

3.Divisional Forest Officer, Wildlife, Department of Forests and Wildlife Prevention Punjab

The land of the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 do not fall in the Eco-Sensitive Zones Of Wildlife Sanctuary & Conservation Reserves cover under Wildlife Protection Act, 1972 and Punjab Wildlife Preservation Act, 1959 and there is no objection in this regard.

4.Block Development and Panchayat Officer

It has been observed that the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 do not fall in Panchayati land. The above said sites are more than 50 meters from any Public Works such as Public Roads and Buildings or Residential Areas and more than 10 meters from Village Roads, 7.5 meters from nearby Private/Government Land.

5.Executive Engineer, Building & Roads, Punjab Public Works Department

It has been observed that the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 are more than 1.0 KM from any Bridge Or National Highway and more than 500 meters upstream/downstream of any High Level Bridge and 250 meters upstream/downstream of other bridges. There is no objection in this regard.

6.Executive Engineer, Irrigation Branch, Department of Water Resources Punjab

It has been observed that the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 are more than 50 meters distance from any Reservoir, Tank, Canal etc. There is no objection in this regard.

7.Executive Engineer, Drainage-cum-Mining, Department of Water Resources Punjab

It has been observed that there is no Flood Protection Embankment within 100 meters (inside/outside) of the above said sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6. There is no objection in this regard.

8.Chief Agriculture Officer, Department of Agriculture Punjab

It has been observed that the no crop is standing in the land of the above sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6. There is no objection in this regard. However, the agricultural land lies right next to the river, hence it shall be ensured by Mining Department that the agricultural fields are protected from the being washed away due to mining activities.

Keeping in the view the above said, the potential sand mining sites at Sr. No. 1, 2, 3, 4, 5 & 6 in tehsil Dera Baba Nanak district Gurdaspur are recommended for inclusion in District Survey Report of Gurdaspur. It must be ensured that no mining activity takes place within 1 km of Indo-Pak International Boundary.

Divisional Forest Officer,
Gurdaspur

Environmental Engineer,
Punjab Pollution Control Board
Batala

Divisional Forest Officer, Wildlife
Pathankot

Executive Engineer,
UBDC, Madhopur
WRD, Punjab

Satwinder Singh
AEO - Shehzada
~~Chief Agriculture Officer~~,
Gurdaspur

Block Development and
Panchayat Officer,
Dera Baba Nanak

Executive Engineer,
PWD B & R,
Gurdaspur

Executive Engineer/Gurdaspur
Drainage-cum-Mining,
WRD, Punjab

Sub Divisional Magistrate
Dera Baba Nanak

A REPORT OF SUB-DIVISION LEVEL COMMITTEE GURDASPUR SITE VISIT OF POTENTIAL SAND MINING SITES IN TEHSIL GURDASPUR DISTRICT GURDASPUR ON DATED: 03/02/2023 REGARDING

In connection with the above, it is submitted that the Sub-Division Level Committee Gurdaspur, conducted a joint site visit on Dt 03/02/2023 for the purpose of inclusion in the District Survey Report of Gurdaspur of sand mining sites shown below;

Sr. No.	River	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
						Latitude	Longitude
1	BEAS	PB_GDP_ BEAS-01	Gurdaspur	Kishanpur	21.43	31°55'41.80"N	75°32'7.09"E
						31°55'28.01"N	75°32'8.25"E
						31°55'21.96"N	75°32'9.82"E
						31°55'16.94"N	75°32'12.77"E
						31°55'13.97"N	75°32'15.67"E
						31°55'8.73"N	75°32'23.01"E
						31°55'3.27"N	75°32'27.43"E
						31°55'7.52"N	75°32'27.90"E
						31°55'21.92"N	75°32'21.48"E
2	BEAS	PB_GDP_ BEAS-02	Gurdaspur	Fattu Barkat	11.04	31°48'48.90"N	75°33'12.28"E
						31°48'45.70"N	75°33'10.46"E
						31°48'38.90"N	75°33'9.75"E
						31°48'35.93"N	75°33'10.09"E
						31°48'28.95"N	75°33'16.16"E
						31°48'26.84"N	75°33'18.85"E
						31°48'29.40"N	75°33'20.99"E
						31°48'30.37"N	75°33'21.02"E
						31°48'36.21"N	75°33'19.63"E
						31°48'43.50"N	75°33'15.99"E

The inspection report along with observation of respective Members of Sub-Division Level Committee Gurdaspur in this regard are shown below as: -

1.Divisional Forest Officer, Department of Forests and Wildlife Prevention Punjab

This land of above said sand mining sites at Sr. No. 1 & 2 are not forest land. However, these two sites fall in Beas River which has been declared as a Conservation Reserve by Government of Punjab.

2.Divisional Forest Officer, Wildlife, Department of Forests and Wildlife Prevention Punjab

The land of the above said sand mining sites at Sr. No. 1 & 2 fall in River Beas which has been declared a Conservation Reserve by Punjab Government Notification No. 34/13/2017 FT-5/1052756/1 dated 29.08.2017. All sand bars fall in the flow of Beas River which are habitat for Gharials (Critically Endangered, IUCN Status) and Dolphins. So, mining cannot be allowed without the prior permission of National Board of Wildlife, India.

3.Environmental Engineer, Punjab Pollution Control Board

It has been observed that Environmental Clearance should be obtained from the competent authority and consent under Air Act 1981 and Water Act 1974 should be taken before starting the work of extracting sand from the said quarries at Sr. No. 1 & 2.

4.Block Development and Panchayat Officer

It has been observed that the above said sand mining sites at Sr. No. 1 & 2 do not fall in Panchayati land. The above said sites are more than 50 meters from any Public Works such as Public Roads and Buildings or Residential Areas and more than 10 meters from Village Roads, 7.5 meters from nearby Private/Government Land.

5.Executive Engineer, Building & Roads, Punjab Public Works Department

It has been observed that the above said sand mining sites at Sr. No. 1 & 2 are more than 1.0 KM from any Bridge or National Highway and more than 500 meters upstream/downstream of any High-Level Bridge and 250 meters upstream/downstream of other bridges. There is no objection in this regard.

6.Executive Engineer, Irrigation Branch, Department of Water Resources Punjab

It has been observed that the above said sand mining sites at Sr. No. 1 & 2 are more than 50 meters distance from any Reservoir, Tank, Canal etc. There is no objection in this regard.

7.Executive Engineer, Drainage-cum-Mining, Department of Water Resources Punjab

It has been observed that there is no Flood Protection Embankment within 100 meters (inside/outside) of the above said sand mining sites at Sr. No. 1 & 2. There is no objection in this regard.

8.Chief Agriculture Officer, Department of Agriculture Punjab

It has been observed that the no crop is standing in the land of the above sand mining sites at Sr No. 1 & 2 and there is no objection in this regard. However, the agricultural land lies right next to the river, hence it shall be ensured by Mining Department that the agricultural fields are protected from the being washed away due to mining activities.

The sites have been appraised by the Sub Division Level Committee, Gurdaspur and show mining potential with respect to sand deposits as per the survey report received from the consultant hired by Department of Drainage-cum-Mining & Geology. However, as per observations received from the Department of Wildlife and Forest, these sites lie in Beas Conservation Reserve Area where mining cannot be done without prior approval from the National Board of Wildlife (NBWL), India.

Divisional Forest Officer,
Gurdaspur

Divisional Forest Officer, Wildlife
Pathankot

Environmental Engineer,
Punjab Pollution Control Board
Batala

Executive Engineer,
UBDC, Gurdaspur
WRD, Punjab

Chief Agriculture Officer
Gurdaspur

Block Development and
Panchayat Officer,
Gurdaspur

Executive Engineer,
PWD B & R,
Batala

Executive Engineer/Gurdaspur
Drainage-cum-Mining & Geology
WRD, Punjab

Sub Divisional Magistrate
Gurdaspur

A REPORT OF SUB-DIVISION LEVEL COMMITTEE BATALA SITE VISIT OF POTENTIAL SAND MINING SITES IN TEHSIL BATALA DISTRICT GURDASPUR ON DATED: 10/02/2023 REGARDING

In connection with the above, it is submitted that the Sub-Division Level Committee Batala, conducted a joint site visit on Dt. 10/02/2023 for the purpose of inclusion in the District Survey Report of Gurdaspur of sand mining sites shown below: -

Sr. No.	River	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
						Latitude	Longitude
1	BEAS	PB_GDP_ BEAS-03	Batala	Fatta Kulla	30.77	31°44'18.45"N 31°44'10.72"N 31°44'0.53"N 31°43'48.63"N 31°43'42.98"N 31°43'55.82"N 31°44'2.00"N 31°44'9.18"N	75°31'53.29"E 75°31'50.84"E 75°31'49.69"E 75°31'55.05"E 75°32'2.84"E 75°32'4.00"E 75°32'6.92"E 75°32'5.34"E
2	BEAS	PB_GDP_ BEAS-04	Batala	Rampur Talwara	27.82	31°40'5.70"N 31°40'3.43"N 31°40'7.39"N 31°40'11.01"N 31°40'15.08"N 31°40'22.85"N 31°40'31.07"N 31°40'34.40"N 31°40'37.54"N 31°40'40.30"N 31°40'43.87"N 31°40'41.47"N 31°40'38.75"N 31°40'35.49"N 31°40'32.06"N 31°40'29.54"N 31°40'26.34"N 31°40'23.23"N 31°40'13.58"N 31°40'9.79"N	75°28'21.25"E 75°28'22.50"E 75°28'28.23"E 75°28'31.92"E 75°28'39.23"E 75°28'43.58"E 75°28'50.91"E 75°28'52.06"E 75°28'50.43"E 75°28'52.07"E 75°28'57.00"E 75°28'49.40"E 75°28'44.24"E 75°28'41.94"E 75°28'41.63"E 75°28'40.77"E 75°28'37.63"E 75°28'33.93"E 75°28'25.27"E 75°28'22.89"E
3	BEAS	PB_GDP_ BEAS-05	Batala	Kangra	13.58	31°39'1.84"N 31°38'56.85"N 31°38'52.12"N 31°38'47.85"N 31°38'42.54"N 31°38'40.90"N 31°38'47.34"N 31°38'56.47"N	75°28'6.37"E 75°28'1.73"E 75°27'59.90"E 75°27'59.93"E 75°28'1.60"E 75°28'4.53"E 75°28'7.10"E 75°28'15.30"E

4	BEAS	PB_GDP_BEAS-06	Batala	Balarwal	19.33	31°38'2.77"N 31°38'7.68"N 31°38'12.43"N 31°38'14.90"N 31°38'15.40"N 31°38'11.53"N 31°38'2.50"N 31°38'1.77"N 31°38'1.74"N 31°38'0.62"N	75°25'15.49"E 75°25'23.40"E 75°25'32.75"E 75°25'39.15"E 75°25'42.79"E 75°25'47.69"E 75°25'37.11"E 75°25'34.86"E 75°25'27.04"E 75°25'19.93"E

The inspection report along with observations of respective Members of Sub-Division Level Committee, Batala in this regard are shown below as: -

1.Divisional Forest Officer, Department of Forests and Wildlife Prevention Punjab

This land of above said sand mining sites at Sr. No. 1, 2, 3 & 4 are not forest land. However, these sites fall in Beas River which has been declared as a Conservation Reserve by Government of Punjab.

2.Divisional Forest Officer, Wildlife, Department of Forests and Wildlife Prevention Punjab

The land of the above said sand mining sites at Sr. No. 1,2,3 & 4 fall in River Beas which has been declared a Conservation Reserve by Punjab Government Notification No. 34/13/2017 FT-5/1052756/1 dated 29.08.2017. All sand bars fall in the flow of Beas River which are habitat for Gharials (Critically Endangered, IUCN Status) and Dolphins. So, mining cannot be allowed without the prior permission of National Board of Wildlife, India.

3.Environmental Engineer, Punjab Pollution Control Board

It has been observed that Environmental Clearance should be obtained from the competent authority and consent under Air Act 1981 and Water Act 1974 should be taken before starting the work of extracting sand from the said quarries at Sr. No. 1,2,3 & 4.

4.Block Development and Panchayat Officer

It has been observed that the above said sand mining sites at Sr. No. 1,2,3 & 4 do not fall in Panchayati land. The above said sites are more than 50 meters from any Public Works such as Public Roads and Buildings or Residential Areas and more than 10 meters from Village Roads, 7.5 meters from nearby Private/Government Land.

5.Executive Engineer, Building & Roads, Punjab Public Works Department

It has been observed that the above said sand mining sites at Sr. No. 1,2,3 & 4 are more than 1.0 KM from any Bridge or National Highway and more than 500 meters upstream/downstream of any High-Level Bridge and 250 meters upstream/downstream of other bridges. There is no objection in this regard.

6.Executive Engineer, Irrigation Branch, Department of Water Resources Punjab

It has been observed that the above said sand mining sites at Sr. No. 1,2,3 & 4 are more than 50 meters distance from any Reservoir, Tank, Canal etc. There is no objection in this regard.

7.Executive Engineer, Drainage-cum-Mining, Department of Water Resources Punjab

It has been observed that there is no Flood Protection Embankment within 100 meters (inside/outside) of the above said sand mining sites at Sr. No. 1,2,3 & 4. There is no objection in this regard.

8.Chief Agriculture Officer, Department of Agriculture Punjab

It has been observed that the no crop is standing in the land of the above sand mining sites at Sr No. 1,2,3 & 4 and there is no objection in this regard. However, the agricultural land lies right next to the river, hence it shall be ensured by Mining Department that the agricultural fields are protected from the being washed away due to mining activities.

The sites have been appraised by the Sub Division Level Committee, Batala and show mining potential with respect to sand deposits as per the survey report received from the consultant hired by Department of Drainage-cum-Mining & Geology. However, as per observations received from the Department of Wildlife and Forest, these sites lie in Beas Conservation Reserve Area where mining cannot be done without prior approval from the National Board of Wildlife (NBWL), India.

Divisional Forest Officer,
Gurdaspur

Divisional Forest Officer, Wildlife
Pathankot

Environmental Engineer,
Punjab Pollution Control Board
Batala

Executive Engineer,
UBDC, Gurdaspur
WRD, Punjab

Chief Agriculture Officer
Gurdaspur

Block Development and
Panchayat Officer,
Batala

Executive Engineer,
PWD B & R,
Batala

Executive Engineer/Gurdaspur
Drainage-cum-Mining & Geology
WRD, Punjab

Sub Divisional Magistrate
Batala

A REPORT OF SUB-DIVISION LEVEL COMMITTEE BATALA SITE VISIT OF POTENTIAL SAND MINING SITES IN TEHSIL BATALA DISTRICT GURDASPUR ON DATED: 10/02/2023 REGARDING

In connection with the above, it is submitted that the Sub-Division Level Committee Batala, conducted a joint site visit on Dt. 10/02/2023 for the purpose of inclusion in the District Survey Report of Gurdaspur of sand mining sites shown below: -

Sr. No.	Owner's Name	Khasra Number	Area	District	Tehsil	Village
1	Satpal Singh	604(8-0), 605(8-0), 608(8-0) of total 24-0 Kanal, 606(8-0)	1.73Ha	Gurdaspur	Batala	Bhol
2	Sohan Singh	15//1/2(0-1), 15//2/3(2-5), 15//3(0-7), 15//7/1(1-9), 15//8/1(2-2) 15//14/1(1-1) 15//15/1(2-8) , 15//16/1(0-2) of total 10-15 marla out of whoch 8-6 marla of 15//1/4(4-12) , 15//2/1(0-10), 15//8/3/(2-4) , 15//9/3(2-15), 15//10/1(1-15), 15//12/5(0-0), 15//13/2(3-5), 15//14/3(0-7), 15//16/3(0-7), 15//16/3(4-7), 15//17/1(0-18) 16//5/1(2-13) 14//22/3(4-0), 14//23/3(0-7) marla	1.92	Gurdaspur	Batala	Rampur
3	Kartar Singh	38//16(8-0), 38//17(8-0), 38//18(8-0), 38//19(8-0), 39//19(6-14) , 39//20(1-12) , 39//22(0-6) of total 40-12 marla and 1/2 part bakdar 20-6 marla of khasra no. 40//3/2(4-18), 40//4/2(3-16), 40//8(1-1), 40//14(0-2), 40//15/1(2-6) marla of total 12-3 marla aalam of total 32-9 marla	1.78	Gurdaspur	Batala	Talwara

The inspection report along with observations of respective Members of Sub-Division Level Committee, Batala in this regard are shown below as: -

1. Divisional Forest Officer, Department of Forests and Wildlife Prevention Punjab

This land of above said sand mining sites at Sr. No. 1,2 & 3 are not forest land. However, these two sites fall in Beas River which has been declared as a Conservation Reserve by Government of Punjab.

2.Divisional Forest Officer, Wildlife, Department of Forests and Wildlife Prevention Punjab

The land of the above said sand mining sites at Sr. No. 1,2 & 3 fall in River Beas which has been declared a Conservation Reserve by Punjab Government Notification No. 34/13/2017 FT-5/1052756/1 dated 29.08.2017. All sand bars fall in the flow of Beas River which are habitat for Gharials (Critically Endangered, IUCN Status) and Dolphins. So, mining cannot be allowed without the prior permission of National Board of Wildlife, India.

3.Environmental Engineer, Punjab Pollution Control Board

It has been observed that Environmental Clearance should be obtained from the competent authority and consent under Air Act 1981 and Water Act 1974 should be taken before starting the work of extracting sand from the said quarries at Sr. No. 1,2 & 3.

4.Block Development and Panchayat Officer

It has been observed that the above said sand mining sites at Sr. No. 1,2 & 3 do not fall in Panchayati land. The above said sites are more than 50 meters from any Public Works such as Public Roads and Buildings or Residential Areas and more than 10 meters from Village Roads, 7.5 meters from nearby Private/Government Land.

5.Executive Engineer, Building & Roads, Punjab Public Works Department

It has been observed that the above said sand mining sites at Sr. No. 1,2 & 3 are more than 1.0 KM from any Bridge or National Highway and more than 500 meters upstream/downstream of any High-Level Bridge and 250 meters upstream/downstream of other bridges. There is no objection in this regard.

6.Executive Engineer, Irrigation Branch, Department of Water Resources Punjab

It has been observed that the above said sand mining sites at Sr. No. 1,2 & 3 are more than 50 meters distance from any Reservoir, Tank, Canal etc. There is no objection in this regard.

7.Executive Engineer, Drainage-cum-Mining, Department of Water Resources Punjab

It has been observed that there is no Flood Protection Embankment within 100 meters (inside/outside) of the above said sand mining sites at Sr. No. 1,2 & 3. There is no objection in this regard.

8.Chief Agriculture Officer, Department of Agriculture Punjab

It has been observed that the no crop is standing in the land of the above sand mining sites at Sr No. 1, 2 & 3 and there is no objection in this regard. However, the agricultural land lies right next to the river, hence it shall be ensured by Mining Department that the agricultural fields are protected from the being washed away due to mining activities.

The sites have been appraised by the Sub Division Level Committee, Batala and mining sites at Sr. No. 1 & 2 show mining potential with respect to sand deposits. However, as per observations received from the Department of Wildlife and Forest, these sites lie in Beas Conservation Reserve Area where mining cannot be done without prior approval from the National Board of Wildlife (NBWL), India.

Divisional Forest Officer,
Gurdaspur

Divisional Forest Officer, Wildlife
Pathankot

Environmental Engineer,
Punjab Pollution Control Board
Batala

Executive Engineer,
UBDC, Gurdaspur
WRD, Punjab

Chief Agriculture Officer
Gurdaspur

Block Development and
Panchayat Officer,
Batala

Executive Engineer,
PWD B & R,
Batala

Executive Engineer/Gurdaspur
Drainage-cum-Mining & Geology
WRD, Punjab

Sub Divisional Magistrate
Batala

A REPORT OF SUB-DIVISION LEVEL COMMITTEE BATALA SITE VISIT OF POTENTIAL SAND MINING SITES IN TEHSIL BATALA DISTRICT GURDASPUR ON DATED: 10/02/2023 REGARDING

In connection with the above, it is submitted that the Sub-Division Level Committee Batala, conducted a joint site visit on Dt. 10/02/2023 for the purpose of inclusion in the District Survey Report of Gurdaspur of sand mining sites shown below: -

Sr. No.	Owner's Name	Khasra Number	Area (Ha)	District	Village
1	Kulwinder Singh	101//1, 101//2/1, 101//9/2, 101//10/1, 101//12/1, 101//6, 101//7, 101//8, 101//9/1, 101//12/2, 101//14/1, 101//15	0.8	Gurdaspur	Madi Panwa

The inspection report along with observations of respective Members of Sub-Division Level Committee, Batala in this regard are shown below as: -

1.Divisional Forest Officer, Department of Forests and Wildlife Prevention Punjab

This land of above said sand mining site is not forest land. ~~There is no objection in this regard.~~ However this site falls in Beas River Conservation Reserve declared by Punjab Govt.

2.Divisional Forest Officer, Wildlife, Department of Forests and Wildlife Prevention Punjab

The land of the above said sand mining site falls within 10 km of River Beas Conservation Reserve declared by Punjab Government Notification No. 34/13/2017 FT-5/1052756/1 dated 29.08.2017. All sand bars fall in the flow of Beas River which are habitat for Gharials (Critically Endangered, IUCN Status) and Dolphins. So, mining cannot be allowed without the prior permission of National Board of Wildlife, India.

3.Environmental Engineer, Punjab Pollution Control Board

It has been observed that Environmental Clearance should be obtained from the competent authority and consent under Air Act 1981 and Water Act 1974 should be taken before starting the work of extracting sand from the above said quarry.

4.Block Development and Panchayat Officer

It has been observed that the above said sand mining site lies adjoining to the boundary of a school. Also, a panchayat path passes through the above said quarry.

5.Executive Engineer, Building & Roads, Punjab Public Works Department

It has been observed that the above said sand mining site is more than 1.0 KM from any Bridge or National Highway and more than 500 meters upstream/downstream of any High-Level Bridge and 250 meters upstream/downstream of other bridges. There is no objection in this regard.

6.Executive Engineer, Irrigation Branch, Department of Water Resources Punjab

It has been observed that the above said sand mining site is more than 50 meters distance from any Reservoir, Tank, Canal etc. There is no objection in this regard.

7.Executive Engineer, Drainage-cum-Mining, Department of Water Resources Punjab

It has been observed that there is no Flood Protection Embankment within 100 meters (inside/outside) of the above said sand mining site. There is no objection in this regard.

8.Chief Agriculture Officer, Department of Agriculture Punjab

It has been observed that the no crop is standing in the land of the above sand mining site and there is no objection in this regard.

Also, it was observed by the committee at site that a large number of electric poles, carrying live wires, and a transformer were present in the said area. Keeping in view aal the above stated facts, the potential mining site in Village Madi Panuan Tehsil Batala District Gurdaspur is not recommended for inclusion in District Survey Report of Gurdaspur.

Divisional Forest Officer,
Gurdaspur

Divisional Forest Officer, Wildlife
Pathankot

Environmental Engineer,
Punjab Pollution Control Board
Batala

Executive Engineer,
UBDC, Gurdaspur
WRD, Punjab

Chief Agriculture Officer
Gurdaspur

Block Development and
Panchayat Officer,
Batala

Executive Engineer,
PWD B & R,
Batala

Executive Engineer/Gurdaspur
Drainage-cum-Mining & Geology
WRD, Punjab

Sub Divisional Magistrate
Batala

CERTIFICATE

TO WHOM IT MAY CONCERN

Details of Desilting Sites

Sr. No.	River Details	Name of the Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
						Latitude	Longitude
1	RAVI	PB_GDP_RAVI_DESIL_02	Dera Baba Nanak	Mansur 2	21.79	32° 2'0.00"N 32°1'59.08"N 32°1'59.04"N 32°1'58.09"N 32° 1'58.8"N 32°1'59.09"N 32° 2'1.45"N 32° 2'4.55"N 32° 2'7.99"N 32°2'10.10"N 32°2'10.73"N 32°2'10.79"N 32° 2'9.83"N 32° 2'9.83"N 32°2'11.50"N 32°2'12.47"N	74°55'42.77"E 74°55'45.16"E 74°55'47.34"E 74°55'55.81"E 74°55'58.49"E 74°56'2.87"E 74°56'5.25"E 74°56'7.11"E 74°56'5.98"E 74°56'3.88"E 74°56'1.52"E 74°55'58.54"E 74°55'54.46"E 74°55'53.11"E 74°55'48.57"E 74°55'44.13"E
2	RAVI	PB_GDP_RAVI_DESIL_01	Dera Baba Nanak	Mansur 1	16.70	32°1'58.15"N 32°2'12.37"N 32°2'13.81"N 32°2'14.54"N 32°2'13.33"N 32°2'11.28"N 32° 2'3.67"N	74°55'40.18"E 74°55'42.63"E 74°55'40.45"E 74°55'36.69"E 74°55'32.27"E 74°55'25.85"E 74°55'24.65"E

It is certified that for above proposed sites, desilting will be carried out departmentally only after prior approval/NOC from the department concerned with the construction/maintenance of the bridge structure. Further, it is certified that desilting operations will preferably be carried out manually.

Executive Engineer/Gurdaspur
Drainage-cum-Mining & Geology Division
WRD, Punjab

CERTIFICATE

TO WHOM IT MAY CONCERN

Details of Desilting Sites

Sr. No.	River Details	Name of the Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
						Latitude	Longitude
1	RAVI	PB_GDP_ RAVI_ DESIL_02	Dera Baba Nanak	Mansur 2	21.79	32° 2'0.00"N 32°1'59.08"N 32°1'59.04"N 32°1'58.09"N 32° 1'58.8"N 32°1'59.09"N 32° 2'1.45"N 32° 2'4.55"N 32° 2'7.99"N 32°2'10.10"N 32°2'10.73"N 32°2'10.79"N 32° 2'9.83"N 32° 2'9.83"N 32°2'11.50"N 32°2'12.47"N	74°55'42.77"E 74°55'45.16"E 74°55'47.34"E 74°55'55.81"E 74°55'58.49"E 74°56'2.87"E 74°56'5.25"E 74°56'7.11"E 74°56'5.98"E 74°56'3.88"E 74°56'1.52"E 74°55'58.54"E 74°55'54.46"E 74°55'53.11"E 74°55'48.57"E 74°55'44.13"E
2	RAVI	PB_GDP_ RAVI_ DESIL_01	Dera Baba Nanak	Mansur 1	16.70	32°1'58.15"N 32°2'12.37"N 32°2'13.81"N 32°2'14.54"N 32°2'13.33"N 32°2'11.28"N 32° 2'3.67"N	74°55'40.18"E 74°55'42.63"E 74°55'40.45"E 74°55'36.69"E 74°55'32.27"E 74°55'25.85"E 74°55'24.65"E

It is certified that the land proposed for potential desilting sites listed above are not included in areas: -

I. Notified under section 4 and 5 of **PLPA Act 1900**.

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959.**

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Gurdaspur

Divisional Forest Officer, Wildlife
Pathankot

CERTIFICATE

TO WHOM IT MAY CONCERN

Sr. No.	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
					Latitude	Longitude
1	PB_GDP_RAVI-06	Dinanagar	Mamka Khizarpur	13.18	32°11'29.59"N 32°11'25.28"N 32°11'8.53"N 32°10'57.99"N 32°10'58.54"N 32°11'2.91"N 32°11'22.98"N	75°20'6.74"E 75°20'5.92"E 75°20'7.65"E 75°20'3.69"E 75°20'2.59"E 75°19'57.81"E 75°20'2.67"E

It is certified that the land proposed for potential sand mining site listed above is not included in areas:-

I. Notified under section 4 and 5 of **PLPA Act 1900**.

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959**.

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Department of Forests and
Wildlife Prevention Punjab
Gurdaspur

Divisional Forest Officer/Wildlife
Department of Forests and
Wildlife Prevention Punjab
Pathankot

CERTIFICATE

TO WHOM IT MAY CONCERN

Sr. No.	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
					Latitude	Longitude
1	PB_GDP_RAVI-05	Dinanagar	Toor	10.44	32°11'48.83"N 32°11'40.74"N 32°11'27.94"N 32°11'27.58"N 32°11'28.58"N 32°11'39.73"N 32°11'43.64"N 32°11'36.36"N 32°11'48.30"N 32°11'50.16"N	75°20'28.39"E 75°20'20.58"E 75°20'13.94"E 75°20'11.39"E 75°20'10.55"E 75°20'13.41"E 75°20'15.52"E 75°20'12.93"E 75°20'21.35"E 75°20'24.25"E

It is certified that the land proposed for potential sand mining site listed above is not included in areas:-

I. Notified under section 4 and 5 of **PLPA Act 1900**.

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959.**

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Department of Forests and
Wildlife Prevention Punjab
Gurdaspur

Divisional Forest Officer/Wildlife
Department of Forests and
Wildlife Prevention Punjab
Pathankot

CERTIFICATE

TO WHOM IT MAY CONCERN

Sr. No.	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
					Latitude	Longitude
1	PB_GDP_ RAVI-04	Dinanagar	Raji Beli	13.21	32°11'51.53"N 32°11'48.23"N 32°11'39.48"N 32°11'27.96"N 32°11'27.94"N 32°11'28.82"N 32°11'31.02"N 32°11'31.83"N 32°11'35.57"N 32°11'50.35"N	75°20'35.67"E 75°20'39.91"E 75°20'46.22"E 75°20'59.34"E 75°20'54.06"E 75°20'49.73"E 75°20'45.46"E 75°20'44.55"E 75°20'43.21"E 75°20'32.13"E

It is certified that the land proposed for potential sand mining site listed above is not included in areas:-

I. Notified under section 4 and 5 of **PLPA Act 1900.**

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959.**

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Department of Forests and
Wildlife Prevention Punjab
Gurdaspur

Divisional Forest Officer/Wildlife
Department of Forests and
Wildlife Prevention Punjab
Pathankot

CERTIFICATE

TO WHOM IT MAY CONCERN

Sr. No.	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
					Latitude	Longitude
1	PB_GDP_RAVI-03	Dinanagar	Chak Ram Sahai 2	8.74	32°11'26.43"N 32°11'24.49"N 32°11'21.30"N 32°11'14.72"N 32°11'18.23"N 32°11'20.61"N 32°11'22.30"N 32°11'26.11"N 32°11'28.37"N 32°11'24.38"N	75°20'57.16"E 75°20'59.89"E 75°21'6.66"E 75°21'13.61"E 75°21'1.31"E 75°20'55.96"E 75°20'54.03"E 75°20'48.34"E 75°20'47.10"E 75°20'50.57"E

It is certified that the land proposed for potential sand mining site listed above is not included in areas:-

I. Notified under section 4 and 5 of **PLPA Act 1900.**

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959.**

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Department of Forests and
Wildlife Prevention Punjab
Gurdaspur

Divisional Forest Officer/Wildlife
Department of Forests and
Wildlife Prevention Punjab
Pathankot

CERTIFICATE

TO WHOM IT MAY CONCERN

Sr. No.	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
					Latitude	Longitude
1	PB_GDP_ RAVI-02	Dinanagar	Chak Ram Sahai 1	5.02	32°11'22.20"N 32°11'21.09"N 32°11'18.97"N 32°11'15.59"N 32°11'14.44"N 32°11'15.76"N 32°11'16.91"N 32°11'17.48"N	75°21'8.17"E 75°21'11.17"E 75°21'24.80"E 75°21'29.76"E 75°21'23.52"E 75°21'18.05"E 75°21'16.41"E 75°21'14.40"E

It is certified that the land proposed for potential sand mining site listed above is not included in areas:-

I. Notified under section 4 and 5 of **PLPA Act 1900**.

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959.**

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Department of Forests and
Wildlife Prevention Punjab
Gurdaspur

Divisional Forest Officer/Wildlife
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Wildlife Prevention Punjab
Pathankot

CERTIFICATE

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Sr. No.	River	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
						Latitude	Longitude
1	RAVI	PB_GDP_ RAVI-08	Dera Baba Nanak	Gurchak	16.01	32°2'5.285"N	74°56'20.588"E
						32°2'5.658"N	74°56'21.797"E
						32°2'5.791"N	74°56'30.052"E
						32°2'4.031"N	74°56'38.799"E
						32°2'3.102"N	74°56'45.576"E
						32°1'58.293"N	74°56'51.311"E
						32°1'56.945"N	74°56'52.69"E
						32°1'54.566"N	74°56'53.965"E
						32°1'54.77"N	74°56'51.84"E
						32°1'54.664"N	74°56'49.156"E
						32°1'56.185"N	74°56'44.278"E
						32°1'56.68"N	74°56'39.357"E
						32°1'58.232"N	74°56'36.393"E
						32°2'0.574"N	74°56'33.144"E
						32°2'0.41"N	74°56'29.329"E
						32°1'56.809"N	74°56'21.116"E

It is certified that the land proposed for potential sand mining site listed above is not included in areas:-

I. Notified under section 4 and 5 of **PLPA Act 1900**.

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959.**

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Department of Forests and
Wildlife Prevention Punjab
Gurdaspur

Divisional Forest Officer/Wildlife
Department of Forests and
Wildlife Prevention Punjab
Pathankot

CERTIFICATE

TO WHOM IT MAY CONCERN

Sr. No.	River	Name of mines or Desilting sites	Tehsil	Village	Area (Ha)	Coordinates	
						Latitude	Longitude
1	RAVI	PB_GDP_ RAVI-07	Dera Baba Nanak	Gunia	10.65	32°1'44.388"N 32°1'47.062"N 32°1'51.887"N 32°2'1.743"N 32°2'5.142"N 32°2'2.748"N 32°1'58.877"N 32°1'53.239"N 32°1'48.689"N	74°57'38.549"E 74°57'40.691"E 74°57'43.947"E 74°57'50.831"E 74°57'56.075"E 74°58'0.389"E 74°57'57.306"E 74°57'53.559"E 74°57'46.969"E

It is certified that the land proposed for potential sand mining site listed above is not included in areas:-

I. Notified under section 4 and 5 of **PLPA Act 1900**.

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959.**

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Department of Forests and
Wildlife Prevention Punjab
Gurdaspur

Divisional Forest Officer/Wildlife
Department of Forests and
Wildlife Prevention Punjab
Pathankot

CERTIFICATE

TO WHOM IT MAY CONCERN

Sr. No.	Owner's Name	Khasra Number	Area (Hac.)	District	Tehsil	Village
1.	Sarabjeet Kaur	11//16(8-0),17(8-0),24(8-0),25(8-0), 12//18(8-0), 19(9-0), 20(8-0), 21(8-0),22(8-0),23(8-0),24(8-0),25(8-0), 13//20(5-19), 21(8-0),22(5-16),23(8-0),24(8-0),25(8-0), 14//10/2(6-18),11(8-0),19(8-0),20(8-0) 21(8-0),22(8-0),23(8-0),24(8-0),25 (8-0), 15//16/1(2-12), 16/2(5-4), 21(8-0), 25/2(7-16) , 16//20(6-18),21(5-2), 18//1(8-0),2(8-0),3/1(6-8),9(8-0) , 19//4/2(5-0), 6(8-0), 7/1(5-0), 20//1(8-0),2(8-0),3(8-0), 21//4(8-0),5(8-0), 22//4(8-0),5/1(4-0), 5/2(4-0)	4.8	Gurdaspur	Dinanagar	Chak Ram Sahai
2.	Manpreet Singh		8.12	Gurdaspur	Dinanagar	Chak Ram Sahai
3.	Sarbjeet Kaur	35//4/2(4-16), 35//5/1(1-16), 35//7/1(4-16), 35//14/2(1-12) 35//14/3(3-4) 35//15/2(4-4), 23//16/2(4-4) 23//17/2(3-1) 23//24/2(3-12) , 23//25(7-4) 23//24/3(1-4), 24//3(8-0) 4/1(4-0) 4/2(4-0) 5(8-0) 7(8-0), 8//26(9-17)	3.58	Gurdaspur	Dinanagar	Toor
4.	Manpreet Singh	2//12/3(1-16) 18/4(0-9) 19/1(3-8) 22/2(3-8) 23(8-0), 6//5(5-10) 15/2(6-0) 16/1(7-16) 17/2(7-2) 18(7-12) 23(5-11) 24(7-11) 25(7-11), 5//1/1(2-18) 3/1(7-5) 4/1(6-4) 7/3(6-4) 8/1(4-0) 12(5-16) 13(7-6) 14/1(2-0) 14/2(1-16) 14/3(4-4) 15/1(2-8) 16/4(2-8) 17(5-16) 19(8-0) 20/2(6-9) 21/1(3-8) 25/1(0-11), 7//5/1(4-4) 5/2(3-16) 6)8-0) 15(8-0) 16(8-0) 25/1(5/16) 25/2(0-0), 8//1/1, 8//5/2, 8//10/3, 8//11,15,20, 21, 9//1,10, 10//5,6, 2//19/1, 2//22/2, 2//23, 5//1/1, 5//3/1, 5//4/1,5//7/3, 5//8/1, 5//12, 5//14/3, 5//15/1, 5//16/4, 5//17, 5//19, 5//20/2, 5//25/1, 6//5, 8//1/1(3-12) 5/2(2-17) 6(7-2) 7/1(3-16) 7/2(3-1), 8(8-0) 10/3(3-12) 11(7-9) 13(8-0) 14(8-0) 15(6-14) 20(8-0) 21(8-0) 9//1(8-0) 10(5-2) , 10// 5(0-6) 6(0-9)	10.12	Gurdaspur	Dorangla (Dinanagar)	Raji Beli

5.	Salvinder Kaur	2//15/1(3-7), 3//10(6-18), 3//11/1(3-7), 2//7(3-16), 2//12(7-6), 2//14(7-2), 4//16/2(3-15), 2//19/2/1, 16//13/2, 2//19/2/2(1-13)	1.6	Gurdaspur	Dinanagar	Marara
6.	Rajwant Kaur	8R/13(8-0), 14(8-0), 15(8-0), 16(8-0), 17(8-0) , 18(8-0), 19(8-0), 20(2-18), 21(4-6), 22(8-0), 23(8-0), 24(8-0), 25(8-0), 9R/ 9(8-0), 11(8-0), 20(8-0)	1.19	Gurdaspur	Dinanagar	Mamka
7.	Balbir Singh	7R/7/1(6-4), 14/2(6-4), 17/1(0-16), 17/2(5-12), 24/2(3-6), 6R/29/1(0-6)	0.44	Gurdaspur	Dinanagar	Raji Beli
8.	Rakesh Kumar	24R/23 (7-7) 24R/13/ 16(8-0) 17/1(1-16) 17/1(1-16) 17/2(5-4) 18(5-4) 18(7-11) 19/1(0-15) 19/2(0-16) 20/1(1/11) 24/1(2-15) , 25R/20/2(8-4)	1.2	Gurdaspur	Dinanagar	Toor
9.	Gurnam Singh	7R/3/4(0-12) 4(8-0) 13(4-16) 14/1(1-14) 17/3(0-13),18/1(2-19)	0.63	Gurdaspur	Dinanagar	Raji beli
10	Akash Narang	33/17/1(7-0), 25R/23/3(4-1), 24(7-7), 25/1(2-4), 25/2(5-3), 26R/21(7-7), 32R/1(8-0), 10(2-4), 11/2(5-16), 33R/3/2(4-12), 4(8-0), 5(8-0), 6/2(2-18), 7(8-0), 8/1(4-12), 13/2(4-12), 33R/14(8-0), 15(8-0), 16/1(1-12), 16/2(6-8), 17/2(1-0), 32R/22/1(2-0), 33R/6/1 of total 129 kanal 19 marla	6.63	Gurdaspur	Dinanagar	Toor
11	Piyush Narang	24R/19/3 (5-16), 24R/22(8-0), 34R/2/2(3-0), 9/1(5-4), 12/1(4-0), 19(8-0), 22(3-13), 143(0-2), 34R/9/2(2-16), 12/2(0-13), 12/4(2-0) of total 43 kanal 4 marla	2.23	Gurdaspur	Dinanagar	Toor
12	Balbir Kaur W/O Satnam Singh	151(0-2), 27//21(8-13),27//22/1(2-3),31//1(8-0) 31//2(7-16), 31//10(8-0), 32//5/2(3-0), 32//6/1(3-0).	2.24	Gurdaspur	Dinanagar	Toor
13	Balraj Singh	12/15/1, 15//4/2, 15//6/1, 15//7/1, 41//1, 12//6, 27//8, 15//5	0.6	Gurdaspur	Dera Baba Nanak	Gunia
14	Karnail Singh	11//12/5/1, 23//6/1, 23//14,15,16,17,24, 41//9, 2//6,15,16, 3//10,11,20, 16//25/1, 17//21/2, 22//10/3	0.8	Gurdaspur	Dera Baba Nanak	Gunia
15	Karnail Singh	11//16, 11//17,11//18/1, 11//19/2, 11//20, 12//15/2, 12//16, 20//13, 20//13, 20//18/2	2.44	Gurdaspur	Dera Baba Nanak	Gunia

16	Tarsem Singh	11/25, 41//5, 63, 10//20/2, 10/21/1, 11//24/2.15//25/4, 24//4, 24//5, 7//21/1, 10//12/2, 18//5, 19//1, 20//23/2, 20//18/1	0.65	Gurdaspur	Dera Baba Nanak	Gunia
17	Pritam Singh	11//4/2/2, 11//7/1, 11//14/2, 21//1/2, 41//61, 32//4/1, 32//5/1/1	0.37	Gurdaspur	Dera Baba Nanak	Gunia
18	Karnail Singh	11R/16-17	0.8	Gurdaspur	Dera Baba Nanak	Gunia

It is certified that the land proposed for potential sand mining site listed above is not included in areas:-

I. Notified under section 4 and 5 of **PLPA Act 1900.**

II. Falling in the Eco-sensitive Zones of Wildlife Sanctuary & Conservation Reserves cover under **Wildlife Protection Act 1972** and **Punjab Wildlife Preservation Act 1959.**

III. Falling in any Sanctuary and Conservation Reserve.

Divisional Forest Officer
Department of Forests and
Wildlife Prevention Punjab
Gurdaspur

Divisional Forest Officer/Wildlife
Department of Forests and
Wildlife Prevention Punjab
Pathankot

Office of Executive Engineer/
Gurdaspur Drainage-Cum-Mining &
Geology Division, WRDPunjab.

ਦਫਤਰ ਕਾਰਜਕਾਰੀ ਇੰਜੀਨੀਅਰ/
ਗੁਰਦਾਸਪੁਰ ਜਲ ਨਿਕਾਸ-ਕਮ-ਮਾਈਨਿੰਗ ਅਤੇ
ਜਿਓਲੋਜੀ,ਜਲ ਸਰੋਤ ਵਿਭਾਗ,ਪੰਜਾਬ।

ਜਲ ਸਰੋਤ ਵਿਭਾਗ, ਪੰਜਾਬ
ਈ-ਮੇਲ ਆਈ.ਡੀ. - xenminingggsp@gmail.com

TO WHOM IT MAY CONCERN

The levels given in the cross sections and L-Sections in the DSR (District Survey Report) of District Gurdaspur as observed in the field have been checked and found correct.

Executive Engineer
Drainage-cum-Mining Division
Gurdaspur

June, 2022	Hon'ble Supreme Court of India vide its orders dated 03.06.2022 in IA No 1000 of 2003 that Each protected forest, that is national park or wildlife sanctuary must have an ESZ of minimum one kilometer measured from the demarcated boundary of such protected forest in which the activities proscribed and prescribed in the Guidelines of 9th February 2011 shall be strictly adhered to. For Jamua Ramgarh wildlife sanctuary, it shall be 500 meters so far as subsisting activities are concerned.

PUBLIC NOTICE
GOVERNMENT OF PUNJAB
DEPARTMENT OF MINES & GEOLOGY

ਪੰਜਾਬ ਸਰਕਾਰ, ਮਾਈਨਿੰਗ ਵਿਭਾਗ, ਪੰਜਾਬ ਦੀਆਂ ਹਦਾਇਤਾਂ ਅਨੁਸਾਰ ਜ਼ਿਲ੍ਹਾ ਪ੍ਰਸ਼ਾਸਨ, ਗੁਰਦਾਸਪੁਰ ਵੱਲੋਂ Sustainable Sand Management (SSMG), 2016 and Enforcement Guidelines for Sand Mining, 2020 issued by MOEF & CC ਅਤੇ ਭਾਰਤ ਦੇ ਮਾਣਯੋਗ ਸੁਪਰੀਮ ਕੋਰਟ, ਭਾਰਤ ਦੇ ਮਾਣਯੋਗ ਹਾਈ ਕੋਰਟ ਅਤੇ ਮਾਣਯੋਗ National Green Tribunal ਦੁਆਰਾ ਜਾਰੀ ,ਵੱਖ-ਵੱਖ ਨਿਰਦੇਸ਼ਾਂ ਅਨੁਸਾਰ Potential Sites of District Survey Report of District Gurdaspur ਪਬਲਿਕ ਡੋਮੇਨ/ਜ਼ਿਲ੍ਹੇ ਦੀ ਵੈੱਬਸਾਈਟ (https://gurdaspur.nic.in/document/potential-sites-of-district-survey-report-of-district-gurdaspur/) 'ਤੇ 30 ਦਿਨਾਂ ਲਈ ਮਿਤੀ 11.01.2023 ਨੂੰ ਆਨਲਾਈਨ ਕੀਤੀ ਗਈ ਹੈ। ਜੇਕਰ ਇਸ ਸੰਬੰਧੀ ਕਿਸੇ ਵਿਅਕ਼ਤੀ ਨੂੰ ਕੋਈ ਇਤਰਾਜ਼ ਹੈ ਜਾਂ ਇਸ ਵਿਚ ਕਿਸੇ ਤਰ੍ਹਾਂ ਦੀ ਸੁਧਾਰ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਮਿਤੀ 11.02.2023 ਤੱਕ ਕਾਰਜਕਾਰੀ ਇੰਜੀਨੀਅਰ/ਗੁਰਦਾਸਪੁਰ, ਜਲ ਨਿਕਾਸ-ਕਮ-ਮਾਈਨਿੰਗ ਅਤੇ ਜਿਓਲੋਜੀ ਮੰਡਲ, ਗੁਰਦਾਸਪੁਰ ਜੀ ਦੇ ਦਫ਼ਤਰ ਵਿਖੇ ਆਪਣਾ ਇਤਰਾਜ਼/ਸੁਝਾਅ ਦੱਸ ਸਕਦਾ ਹੈ।

ਸਹੀ/- ਕਾਰਜਕਾਰੀ ਇੰਜੀਨੀਅਰ/ਗੁਰਦਾਸਪੁਰ,
ਜਲ-ਨਿਕਾਸ-ਕਮ-ਮਾਈਨਿੰਗ ਅਤੇ ਜਿਓਲੋਜੀ ਮੰਡਲ,
ਜਲ ਸਰੋਤ ਵਿਭਾਗ, ਪੰਜਾਬ।

DPR/Pb/20445

PUBLIC NOTICE

GOVERNMENT OF PUNJAB

DEPARTMENT OF MINES & GEOLOGY

ਪੰਜਾਬ ਸਰਕਾਰ, ਮਾਈਨਿੰਗ ਵਿਭਾਗ, ਪੰਜਾਬ ਦੀਆਂ ਹਦਾਇਤਾਂ ਅਨੁਸਾਰ ਜ਼ਿਲ੍ਹਾ ਪ੍ਰਸ਼ਾਸਨ ਗੁਰਦਾਸਪੁਰ ਵਲੋਂ Sustainable Sand Management Guidelines (SSMG), 2016 and Enforcement & Monitoring Guidelines for Sand Mining, 2020 issued by MOEF & CC ਅਤੇ ਭਾਰਤ ਦੇ ਮਾਣਯੋਗ ਸੁਪਰੀਮ ਕੋਰਟ, ਭਾਰਤ ਦੇ ਮਾਣਯੋਗ ਹਾਈਕੋਰਟ ਅਤੇ ਮਾਣਯੋਗ National Green Tribunal ਦੁਆਰਾ ਜਾਰੀ ਵੱਖ-ਵੱਖ ਨਿਰਦੇਸ਼ਾਂ ਅਨੁਸਾਰ District Survey Report ਤਿਆਰ ਕਰਕੇ ਪਬਲਿਕ ਡੋਮੇਨ/ਜ਼ਿਲ੍ਹੇ ਦੀ ਵੈੱਬਸਾਈਟ (https://gurdaspur.nic.in/document./draft-distirct-survey-report-of-river-bed-sand-miniing-other-minor-minerals/) 'ਤੇ 30 ਦਿਨਾਂ ਲਈ ਮਿਤੀ 06.11.2022 ਆਨਲਾਈਨ ਕੀਤੀ ਗਈ ਹੈ। ਜੇਕਰ ਇਸ ਰਿਪੋਰਟ ਸੰਬੰਧੀ ਕਿਸੇ ਵਿਅਕਤੀ ਨੂੰ ਕੋਈ ਇਤਰਾਜ਼ ਹੈ ਜਾਂ ਇਸ ਰਿਪੋਰਟ ਵਿਚ ਕਿਸੇ ਤਰ੍ਹਾਂ ਦੀ ਸੁਧਾਰ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਮਿਤੀ 06.11.2022 ਤੱਕ ਕਾਰਜਕਾਰੀ ਇੰਜੀਨੀਅਰ ਜਲ ਨਿਕਾਸ-ਕਮ-ਮਾਈਨਿੰਗ ਮੰਡਲ ਗੁਰਦਾਸਪੁਰ ਅਤੇ ਉਪ ਮੰਡਲ ਮੈਜਿਸਟਰੇਟ (ਗੁਰਦਾਸਪੁਰ, ਦੀਨਾਨਗਰ, ਬਟਾਲਾ, ਕਲਾਨੌਰ ਅਤੇ ਡੇਰਾ ਬਾਬਾ ਨਾਨਕ) ਜੀ ਦੇ ਦਫ਼ਤਰ ਵਿਖੇ ਆਪਣਾ ਇਤਰਾਜ਼/ਸੁਝਾਅ ਦੱਸ ਸਕਦਾ ਹੈ।

ਸਹੀ/-ਕਾਰਜਕਾਰੀ ਇੰਜੀਨੀਅਰ,
ਜਲ ਨਿਕਾਸ-ਕਮ-ਮਾਈਨਿੰਗ ਮੰਡਲ, ਗੁਰਦਾਸਪੁਰ।

No: 12/12200/2021/18020

ਪੰਜਾਬ ਸਰਕਾਰ

ਗਰੇਟਰ ਮੋਹਾਲੀ ਏਰੀਆ, ਡਿਵੈਲਪਮੈਂਟ ਅਥਾਰਟੀ
ਪੁੱਡਾ ਭਵਨ, ਸੈਕਟਰ 62, ਐਸ.ਏ.ਐਸ. ਨਗਰ

ਟੈਂਡਰ/ਹਵਾਲਾ ਨੰ: GMADA/DE(PH-2)/2022/8719-8732 ਮਿਤੀ: 20.10.2022

ਡਵੀਜ਼ਨਲ ਇੰਜੀਨੀਅਰ (ਪੀ ਐਚ-2) ਗਮਾਡਾ ਦੁਆਰਾ ਈਕੋਸਿਟੀ-2 ਐਕਸਟੈਨਸ਼ਨ, ਨਿਊ ਚੰਡੀਗੜ੍ਹ ਐਸ.ਏ.ਐਸ. ਨਗਰ ਦੇ ਵਿਕਾਸ ਦੇ ਕੰਮ ਲਈ ਸਥਾਪਿਤ (ਐਨ ਓ ਸੀ) ਲਈ ਸਹਿਮਤੀ ਅਤੇ ਸਾਫ਼ ਵਾਤਾਵਰਨ ਮੰਗਣ ਅਤੇ ਇਨਵਾਇਰਨਮੈਂਟਲ ਇੰਪੈਕਟ ਅਸੈਸਮੈਂਟ ਸਟੱਡੀ ਲਈ ਆਨਲਾਈਨ ਬੋਲੀਆਂ ਦੀ ਮੰਗ ਕੀਤੀ ਜਾਂਦੀ ਹੈ।

ਅੰਤਿਮ ਮਿਤੀ ਅਤੇ ਸਮਾਂ : 01.11.2022 ਨੂੰ ਸਵੇਰੇ 11.00 ਵਜੇ।

ਵੇਰਵਿਆਂ ਲਈ ਲਾਗਆਨ ਕਰੋ : **https://eproc.punjab.gov.in**

ਟਿੱਪਣੀ : ਟੈਂਡਰ ਨੋਟਿਸ ਲਈ ਕੋਈ ਸੋਧ (ਸੋਧਾਂ) ਕੇਵਲ ਉਪਰੋਕਤ ਵੈੱਬਸਾਈਟ 'ਤੇ ਪ੍ਰਕਾਸ਼ਿਤ ਕੀਤੀ ਜਾਵੇਗੀ।

No: 12/12199/2021/18019

[illegible]

Phone 0186-2220541

[illegible]

[illegible]

...NJAB AGRI EXPORT ...PORATION LIMITED

...No. 2 - A, Sector 28A, Madhya Marg, ...garh 160002 | Phone 0172-5074211

Website www.punjabagro.gov.in

CIN U51909CH1999SGC022921

Notice

...ne-art multi fruit & vegetable ...cessing centers, invites e-tender ...authorized representatives for ...

	Capacity
	...unjab) of capacity 2000 kg/hr
	...ur (Punjab) of capacity 2000 kg/hr
	...Punjab) of capacity 1000 kg/hr

... pre-bid meeting to be held on ... ...tailed Notice Inviting Tender (DNIT) ...can be obtained/downloaded from ...oc.punjab.gov.in. Last date for ... AM on 30.01.2023.

... be issued on website only ... ...c.punjab.gov.in

GENERAL MANAGER

GOVERNMENT OF PUNJAB

Tender Notice Reference No. LG/MCOUNCIL/AHD/2022-23/05

The Department of Municipal Council Ahmedgarh invites online bids for the following :

Sr. No.	Item	Quantity (Lacs)
1	PROVIDING AND FIXING LOADER ON TRACTOR FOR SANITATION BRANCH	4.00
2	REPAIR OF MACHINERY PARTS SANITATION BRANCH (TRACTOR TROLLIES AND OTHER MACHINERIES ETC	2.00
3	STRENGTHENING OF KUNDAN LAL ROAD SAMADH ROAD, BANK ROAD, CIVIL HOSPITAL ROAD	34.00
4	STRENGTHENING OF TEMPOO UNION ROAD	49.09
5	STRENGTHENING OF ROAD KABIR NAGAR W No. 3	13.02

Closing Date & Time : **24.01.2023, 11.00 a.m.**
For details logon to : **https://eproc.punjab.gov.in.**
NOTE: Any corrigendum(s) to the Tender Notice shall be published on the above website only.

Sd/- President,
Municipal Council
Ahmedgarh.

DPR/Pb/20434

Sd/- Executive Officer,
Municipal Council
Ahmedgarh.

GOVERNMENT OF PUNJAB

GREATER MOHALI AREA DEVELOPMENT AUTHORITY

PUDA Bhawan, Sector 62, SAS Nagar

Tender Reference No. GMADA/ DE (PH-1)/2023/ 163-176 dated 12-01-2023

Item	Divisional Engineer (PH-1), GMADA invites online bids for **"Dismantling and laying of new Storm line from junction 73/74 (Cheema Chowk) to junction 72/73 (Mohali tower Chowk) on Airport Road, S.A.S Nagar (DNIT Amount: Rs 32.30 lacs)**
Quantity	As per DNIT

Closing date & time - **24-01-2023 at 11:00 AM**
For details logon to - **https://eproc.punjab.gov.in**
NOTE: Any corrigendum(s) to the tender notice shall be published on the above website only

DPR/Pb/20455

PUBLIC NOTICE
GOVERNMENT OF PUNJAB
DEPARTMENT OF MINES & GEOLOGY

[illegible] Sustainable Sand Management (SSMG), 2016 and Enforcement Guidelines for Sand Mining, 2020 issued by MOEF & CC [illegible] National Green Tribunal [illegible] Potential Sites of District Survey Report of District Gurdaspur [illegible]

[illegible]

DPR/Pb/20445

PUNJAB STATE POWER CORPORATION LIMITED

REGD. OFFICE. PSEB HEAD OFFICE, THE MALL, PATIALA
Corporate Identity Number : U40109PB2010SGC033813
Website: www.pspcl.in (Contact Number: 96461-23800)

Sr. Xen Civil Const. & Mtc. Division, Officer Flat No. 18, Near 23 No. Railway Crossing, Shakti Vihar, PSPCL, Patiala invites open tender through e-tendering mode for the execution of the following works.

Name of Work	Tender Enquiry Number/Date
Balance Work of Construction of Extension of SHB at 66 KV S/S Noushera (under O&M Division, Patiala)	37/CCM/PTA/2022-23/ 13.01.2023
Extension of SHB at 66 KV S/Stn Kapial under O&M Division, Sangrur	41/CCM/PTA/2022-23/ 13.01.2023
Extension of SHB at 66 KV S/Stn Bhutal Kalan under O&M Division, Patran	43/CCM/PTA/2022-23/ 13.01.2023

For detailed NIT and Tender Specifications please refer to **https://eproc.punjab.gov.in** from **16/01/2023 from 09:00 a.m.** onwards

Note: Corrigendum and addendum, if any, will be published online at **https://eproc.punjab.gov.in** C23/23 DPR/Pb/20443

COURT NOTICE

SUPREME COURT OF INDIA
...RDINARY APPELLATE JURISDICTION
Diary No.19219 of 2020
...TH PRAYER FOR INTERIM RELIEF
...CATION FOR CONDONATION OF DELAY IN FILING

...nfrastructure Development Corporation Limited and Others **PETITIONER(s)**

VERSUS

RESPONDENT(s)

	RAMRATI D/O BHAGWANI, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164814/2022 FOR R(52) IN DIARY NO.19219/2020 (SEC IV-B)
	SARBATI D/O BHAGWANI, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164815/2022 FOR R(53) IN DIARY NO.19219/2020 (SEC IV-B)
	SAVTRI D/O BHAGWANI, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164816/2022 FOR R(54) IN DIARY NO.19219/2020 (SEC IV-B)
	BALBIR S/O CHHOTI, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164817/2022 FOR R(55) IN DIARY NO.19219/2020 (SEC IV-B)
	ATTAR SINGH S/O CHHOTI, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164818/2022 FOR R(56) IN DIARY NO.19219/2020 (SEC IV-B)
	SUKHBIR S/O CHHOTI, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164819/2022 FOR R(57) IN DIARY NO.19219/2020 (SEC IV-B)
	GODHA D/O CHHOTI, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT, SONEPAT, HARYANA	PID:164820/2022 FOR R(58) IN DIARY NO.19219/2020 (SEC IV-B)

15	NIRMALA D/O CHHOTI, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164821/2022 FOR R(59) IN DIARY NO.19219/2020 (SEC IV-B)
16	SANTOSH W/O NARAIN SINGH, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT - SONEPAT, HARYANA	PID:164822/2022 FOR R(60) IN DIARY NO.19219/2020 (SEC IV-B)
17	POOJA D/O NARAIN SINGH, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164823/2022 FOR R(61) IN DIARY NO.19219/2020 (SEC IV-B)
18	RENU D/O NARAIN SINGH, VILLAGE NANGAL KALAN, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164824/2022 FOR R(62) IN DIARY NO.19219/2020 (SEC IV-B)
19	SADHU RAM S/O RAMJI LAL, VILLAGE ATERNA, TEHSIL AND DISTRICT SONEPAT, HARYANA	PID:164825/2022 FOR R(84) IN DIARY NO.19219/2020 (SEC IV-B)
20	SANT RAM S/O JAGE RAM, VILLAGE ATERNA, TEHSIL AND DISTRICT SONEPAT, HARYANA.	PID:164826/2022 FOR R(85) IN DIARY NO.19219/2020 (SEC IV-B)
21	MUKESH W/O VED PARKASH, VILLAGE NANGAL KALAN, DISTRICT SONEPAT,	PID:164827/2022 FOR R(90) IN DIARY NO.19219/2020 (SEC IV-B)

...G: Remove ...om board of ...

...PRAKASH
...SERVICE

...I, JANUARY 13

...the appointments ...elhi Lieutenant Gov... (L-G) VK Saxena on ...sked for the removal ... Aam Aadmi Party ...nominees from the ...f electricity distribu... ...mpanies (discoms) ...y Anil Ambani.

...ominees are Jasmine ... AAP spokesperson); ... ND Gupta, son of ...P ND Gupta; Umesh ...nd JS Deswal. These ...es will now be ...d with senior govern... ...fficials, read an order ...by the L-G.

...es said an inquiry ...about their "wrongdo... ...submitted by the Delhi ... Department and the ...Secretary, had prompt... ...L-G to act.

...inquiry is said to have ...onducted after a com... ...that the nominees ...providing undue finan... ...benefits to Ambani's ...

UNDUE BENEFIT...

- Sources said an inq... their "wrongdoings" ... Delhi Power Departm... Secretary, had prom...
- The nominees were ... undue financial bene... Ambani's company ...

...company at the cost the ... Government-run und... ...ings – the DTL, the ... and the PPCL.

The L-G, in his order... that these individuals w... ...gally appointed by th... government as "gove... nominees" on the boar... BRPL (BSES Rajdhan... Ltd) and the BYPL ... Yamuna Power Ltd) ... despite written object... the then L-Gs, Najeeb ... 2016, and Anil Baijal in...

The order stated t... nominees facilitated ... ...sion of unilaterally lo... interest rates charged ... LPSC (that these ... owed to the DTL/PPC... CL) from 15-18 per ce...

...gives bail to ...apam scam ...histleblower'

...DELHI, JANUARY 13

...Supreme Court on Friday ...ted bail to Vyapam scam ...tleblower Anand Rai ... was arrested by the Mad... Pradesh Police under ...sions of the IPC and SC ...ST (Prevention of Atroc... Act in November last year ... Bench led by Chief Jus... of India DY Chandrachud ...k note of the submissions ...de by senior advocate ...pil Sibal that Rai, an oph... ...thalmologist, had been in jail ...the last 60 days.

"This man is an ophthalmol... ...gist. He says he is also the ...whistleblower in the Vyapam ...am. The allegation is that he ...as part of a mob that ...tacked the district collector. ...ow long will you keep him in ...il?" the Bench asked Solici... ...r General Tushar Mehta, ...who represented the Madhya ...Pradesh Government. "There ...were four-five FIRs against ...him prior to this so-called ...whistleblower blew the whis... ...tle," Mehta submitted.

The Bench took note of the ...fact that the chargesheet has ...not been filed by the police. The bail would be subject to the conditions to be imposed by the trial court, the top court said. — TNS

Union Home Minister ...

Tribut...

TRIBUNE NEWS S...

NEW DELHI, JANUARY ... Cutting across pa... leaders, including L... Speaker Om Birl... Home Minister A... BJP chief JP Nad... gress leader Rahu... and former Bihar ... Devi, gathered a... Yadav's residence ... to pay their last r... the socialist stal... passed away last ni...

Yadav's daugh... ...hashini said he ga... thousands who w... ...less, while stressin... ideas should be c...

FCI scam: CBI sea...

RSP Green Development and Laboratories Pvt. Ltd.
An ISO 9001 : 2015 & ISO 14001 : 2015 Certified Company
QCI-NABET ACCREDITED ENVIRONMENTAL CONSULTANT
CIN NO : U74999WB2017PTC219565
QCI NABET
NABET / EIA / 1922 / IA0049

Ref. No. - RSP/DSR/PUNJAB/22-23/134 **DATE – 10.03.2023**

To
The Executive Engineer-cum-District Mining Officer,
Gurdaspur, Punjab.

SUB – Bulk Density Reports

Respected sir,

We, RSP Green Development and laboratories after Soil Chemical analysis by **M.L. Jackson, Green Vission (NABL)** stated the following observation of Bulk Density for different blocks in Ravi River and Beas River of Gurdaspur.

SL.NO.	BLOCK CODE	BULK DENSITY (gm/cc)_
1	PB_GDP _RAVI_02 TO PB_GDP _RAVI_08	1.46

SL.NO.	BLOCK CODE	BULK DENSITY (gm/cc)_
1	PB_GDP _BEAS_01 TO PB_GDP _BEAS_06	1.37

Two, agricultural mining site Bulk Density Report,

SL.NO.	Owner name	BULK DENSITY (gm/cc)_
1	Salvinder Kaur	1.45
2	Rajwant Kaur	1.45

For RSP Green Development and Laboratories Pvt. Ltd.

Thank You,

Best Regards,

RSP GREEN DEVELOPMENT AND LABORATORIES PVT. LTD. HOWRAH

Mousumi Chakraborty
(Director)

Projected Demand of Gravel (in MT) for District Gurdaspur

Sr. No	District Name	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
1	Gurdaspur	5933061	7276410	9001734	11217645	14063638	17718873

Projected Demand of Sand (in MT) for District Gurdaspur

Sr. No	District Name	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
1	Gurdaspur	2779042	3569247	4584144	5887621	7561734	9711873

Executive Engineer/Gurdaspur
Drainage-cum-Mining & Geology Division
WRD, Punjab

A REPORT ON DEMAND AND SUPPLY IN DISTRICT GURDASPUR

In compliance with the Supreme Court orders dated 10.11.2021, District Survey Reports (DSR) are being prepared by Sub-Divisional Committees in various Districts in State of Punjab as per Enforcement & Monitoring Sand Mining Guidelines-2020 issued by the Government of India. According to the EMSMG-2020 guidelines, demand, and supply of the riverbed materials through market survey needs to be carried out. In addition to this, riverbed materials demand for the next 5 years needed to be considered.

To evaluate the Demand and Supply of Riverbed Material in the State of Punjab, one Three-member committee has been constituted by office of Superintending Engineer, Patiala Drainage Circle Water Resources Department Punjab vide office letter no. 1558 dated 05.11.2022 as below;

1. Dr. Rajinder Ghai, Executive Engineer
2. Sh. Shyam Verma, Sub Divisional Officer
3. Sh. Navneet Singh, Asst. Design Engineer

The Supply aspects of study shall be catered by District Survey Report as Quantity/Reserves will be there under potential mining sites (proposed) for auctioning/leasing out. Therefore, a separate study of supply of material shall not be required. The supply aspect can be controlled or managed at the level of Water Resources Department (Mines and Geology) Punjab.

For studying demands of materials, various consumers like Roads, Industries, Buildings, Construction related Departments and private individuals are involved. Therefore, a comprehensive study has been done to get reliable /trustworthy data in this regard.

Firstly, yhe committee decided to adopt *Cement Consumption Methodology* out of two available methodologies (other being *RBI Index Base*

Methodology) in Sand Mining Framework March-2018 to calculate minerals demands in the state of Punjab.

The committee visited various offices like GST Department Punjab Patiala and Director Census, Punjab and hold meeting at Head Office Level on dated 2.12.2022 with various concern Departments in this regard. The cement consumption in State of Punjab has been taken from the information provided by GST Department Punjab vide letter No. FileNo.ET-GST1017/253/2022-PAT-ETC-GST-1 dated 08.12.2022

TABLE 1: CEMENT CONSUMPTION

Sr. No	Year	Quantity of Cement (MT)	Rate of Growth (%age)
(1)	(2)	(3)	(6)
1	2017-18	60,03,928	--
2	2018-19	75,30,208	25.42 %
3	2019-20	75,92,704	0.83 %
4	2020-21	72,52,730	(-) 4.48 %
5	2021-22	1,04,47,711	44.05 %

Source : Office of Taxation Commissioner Punjab Patiala

At Sr. No 4, Growth Rate is (-) 4.48% due to COVID-19 pandemic is ignored, and average growth rate of cement consumption is calculated as 23.43%. In addition to this, a 5% incremental growth is there to this for development of various smart cities projects and rapid urbanisation due to liberal policies in state. Therefore, the committee has taken 28.43% annual growth in cement consumption

TABLE 2: PROJECTED DEMAND OF SAND

Sr. No	Year	Projected Qty. of Cement (MT)	Conversion Factor	Projected Demand of Sand Qty. (MT)
(1)	(2)	(3)	(4)	(5)
1	2021-22	1,04,47,711	--	2,61,19,277
2	2022-23	1,34,18,462	2.5	3,35,46,155
3	2023-24	1,72,33,929	2.5	4,30,84,823
4	2024-25	2,21,34,305	2.5	5,53,35,762
5	2025-26	2,84,28,076	2.5	7,10,70,190
6	2026-27	3,65,11,447	2.5	9,12,78,618
7	2027-28	4,68,93,282	2.5	11,72,33,204

As in para 5.1.1.3 of *Sand Mining Framework March-2018*, 65% out of total cement consumed across the country is used in Housing Sector, whereas cement consumption is 20% and 15% in Infrastructure and Commercial & Industries Sectors respectively. In the housing sector sand is mostly used with cement and usage of gravel with cement and sand is negligible and hence neglected in calculations. Hence, 35% of total cement used in country is used with Sand and Gravel. Also, Gravel is approximately twice the Quantity of Sand (by weight) used with cement in Infrastructure Sector and Commercial & Industries Sector.

Conversion Factor for Gravel (from Sand)

Proportions of Infrastructure and Commercial & Industries Sectors

= 20% + 15% = 35%

Factor for Converting Sand into Gravel

= 2.0

Or $\frac{35}{100} \times 2.0 = 0.70$

TABLE 3: PROJECTED DEMAND OF SAND AND GRAVEL

Sr. No	Year	Projected Demand of Sand Qty. (MT)	Conversion Factor (x 0.7)	Projected Demand of Gravel Qty. (MT)
(1)	(2)	(3)	(4)	(5)
1	2022-23	3,35,46,155	0.70	2,34,82,309
2	2023-24	4,30,84,823	0.70	3,01,59,376
3	2024-25	5,53,35,762	0.70	3,87,35,033
4	2025-26	7,10,70,190	0.70	4,97,49,133
5	2026-27	9,12,78,618	0.70	6,38,95,033
6	2027-28	11,72,33,204	0.70	8,20,63,243

Also, Committee has observed that there have been construction or Infrastructure activities where riverbed materials are required without cement consumption. The committee further explored more sources of Demand where Riverbed Materials is consumed, and cement is not consumed. In recent years, National Highway or Expressways projects across State of Punjab have been undertaken by MORTH under Bharatmala Pariyojana.

To assess approximate overall riverbed materials demand, inclusion of demands from such big projects was required. The information of proposed/yet to be constructed National Highway or Expressways Project in State of Punjab is as shown below;

S.NO.	DESCRIPTION	LANES (NOS.)	LENGTH (IN KM)
NATIONAL EXPRESSWAY 5 (NE-5)			
1	Ghagga (Patiala)-Bhawanigarh (Sangrur)	4	30.90
2	Bhawanigarh (Sangrur)-Bhogiwal (Malerkotla)	4	36.90
3	Bhogiwal (Malerkotla)-Mullanpur Dakha (Ludhiana)	4	35.00
4	Mullanpur Dakha-Nakodar-Kang Sahbu	4	34.00
5	Kang Sahbu (Jalandhar)-Khojewal (Kapurthala)	4	15.50
6	Khojewal (Kapurthala)-Sri Hargobindpur	4	43.00
7	Sri Hargobindpur-Gurdaspur	4	35.30
8	Details awaited (Gursaspur-Balsua)	4	25.80
9	Balsua (Gurdaspur)-Gurah Baildaran (Kathua)	4	44.60
NATIONAL EXPRESSWAY 5A (NE-5A)			
10	Nakodar (Jalandhar)-Dhunda (Tarn Taran)	4	41.00
11	Dhunda (Tarn Taran)-Manawala Khurd (Tarn Taran)	4	30.00
12	Manawala Khurd (Tarn Taran)-Harsha Chhina (Amritsar)	4	28.00
NATIONAL HIGHWAY (NH754 A TO NEE-5A)			
13	Tibba (Kapurthala)-Sangat Kalan (Bathinda)	6	155.00
14	Sangat Kalan (Bathinda)-Lohgarh/ Chautala (Sirsa)	4	30.00
	Total Length (KMs)		585

2614 cum per KM per Lane of Riverbed Material is consumed approximately in the above proposed National Highway/ Expressways. The total of **96,97,940 MT** of Riverbed Material is required in Two years and 48,48,970 MT is demand annually

As per information provided by Punjab Mandi Board, periodic repair work of Road is undertaken by the Departments in the State . Hence, it can be assumed that at least one time repair work (only bituminous layer) of whole length of Road is done in five years of span by Mandi Board Punjab and PWD B&R Punjab. The demand for such repair work has been calculated accordingly and shown in Table 5 below.

TABLE 5 : PROJECTED DEMAND OF GRAVEL IN REPAIR WORK OF EXISTED ROADS

SR. NO	YEAR	LANE (NOS.)	LENGTH (KM)	GRAVEL QTY. PER KM PER LANE (CUM)	PROJECTED DEMAND OF GRAVEL QTY. (MT)
(1)	(2)	(3)	(4)	(5)	(6)
1	Length of Existing NH/NE in State of Punjab	4	3501	573	1,12,34,522
2	Length of Existing SH in State of Punjab	4	859	573	27,55,429
3	Length of Existing MDR in State of Punjab	2	1697	573	27,22,667
4	Length of Existing Other Roads in State of Punjab	1.5	4624	573	55,64,420
5	Length of Link Roads under 80 Market Committees fall under the jurisdiction of PWD (B&R) department	1	32890	291	1,33,98,465
6	Length of Link Roads under 74 Market Committees fall under the jurisdiction of Punjab Mandi Board	1	31988	291	1,30,31,016
TOTAL PROJECTED DEMAND (MT)					4,87,06,518

Demand of Riverbed Material (Gravel)as Repair Work is done once in 5 years = 97,41,304 MT

The total Projected Demand of Riverbed Material in Roads becomes,

= **97,41,304 MT+ 48,48,970 MT**

=145,90,240 MT

Hence, annual Demand of Riverbed Material for Roads (where cement is not used or negligible used) becomes **1,45,90,240 MT per Year**

TABLE 6: PROJECTED GROSS DEMAND OF GRAVEL

SR. NO	YEAR	PROJECTED DEMAND OF SAND QTY. (MT)	PROJECTED DEMAND OF GRAVEL QTY. (MT) AS PER TABLE 3 & TABLE 5		
			WITH CEMENT	WITHOUT CEMENT	TOTAL
(1)	(2)	(3)	(4)	(5)	(6)
1	2022-23	3,35,46,155	2,34,82,309	1,45,90,240	7,16,18,704
2	2023-24	4,30,84,823	3,01,59,376	1,45,90,240	8,78,34,439
3	2024-25	5,53,35,762	3,87,35,033	1,45,90,240	10,86,61,035
4	2025-26	7,10,70,190	4,97,49,133	1,45,90,240	13,54,09,563
5	2026-27	9,12,78,618	6,38,95,033	1,45,90,240	16,97,63,891
6	2027-28	11,72,33,204	8,20,63,243	1,45,90,240	21,38,86,687

The above report has been submitted with recommendation for requirement of evaluate the Demand and Supply of Riverbed Material for the purpose of preparation of District Survey Reports in the State of Punjab as per the Enforcement and Monitoring Guidelines for Sand Mining, 2022.

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