098161-71614
094640-58506

M/s LAKHWINDER SINGH

(STONE CRUSHER & SCREENING PLANT UNIT-2)

Site : Village - Kungrat (Mahal-Thara Heeran)
Teh. Haroli, Distt. Una (H.P.)

Ref. No. :..... *Dated :* 26-02-2024

To,
Environmental Engineer,
Regional office
Himachal Pradesh State Pollution Control Board,
Phase IV, Rakkar colony,
Una, District- Una,

Sub: Request for conduct of Public Hearing for the Environment Clearance of Project proposal for Mining of Minerals for extraction of sand, stone & bajri by Sh. Lakhwinder Singh; Prop: M/s Lakhwinder Singh Stone Crusher and Screening Plant located at Mauza/Mohal Kungrat, Tehsil Haroli, District Una, Himachal Pradesh. with project cost of Rs. 50 lakhs/-.

Respected Sir,

As a pre-requisite for grant of Environmental Clearance, 'Terms of Reference' (TORs) were issued by SEIAA Himachal Pradesh. Apart from other requirements, Public Hearing which is one of the requirements in TOR, which is to be conducted by SPCB. Accordingly, we are sending herewith the following documents:

1. Bank Draft no **019677** dt. **26-02-2024** for Rs. 5,000/- in the favor of Environment Engineer, HPPCB, payable at Una, against the project cost of Rs. 50,00,000/-
2. Draft EIA report---------- 20 Copy
3. Executive summary English & Hindi ------- 20 Copy each

It is requested that the subject public hearing may be conducted at the earliest enabling us to get prior Environmental Clearance for the project.

Thanking You.

Yours Faithfully,

For Lakhwinder Singh

Prop.

DA: as above

DRAFT ENVIRONMENT IMPACT ASSESSMENT REPORT

OF

MINING OF MINOR MINERALS

Project	**Extraction of Sand, Stone & Bajri by Sh. Lakhwinder Singh**
Location	**Khasra no. 358 (0-80-79 Ha), 553 (2-68-51 Ha) & 557 (01-69-16 Ha) falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, H.P.**
Land Status/ Type	**Private Land/ Hill Slope**
Mining Area	**05-18-46 Ha**
Category (as per EIA Notification, 2006)	**Category B1**
Production	**2,08,279 MTPA**
TOR Letter No.	**HPSEIAA/2023/1095-4037-4043 dated 13/02/2024**
Baseline study period	**November 2023- January 2024**

APPLICANT

Sh. Lakhwinder Singh S/o Sh. Jagmail Singh

Prop: M/s Lakhwinder Singh Stone Crusher & Screening Plant

HIG- 824, Phase-II, Mohali, Punjab

PREPARED BY

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/2225/RA 0250)

Address: E- 126, Phase- VII, Industrial Area, Mohali, Punjab- 160055.

Contacts: 0172-4669295, 5090312

E-mail: cptleia@gmail.com

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PROJECT AT A GLANCE

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<tr><td>2.</td><td>Type of project</td><td>Mining of Minor Minerals (Sand, Stone & Bajri)</td></tr>
<tr><td>3.</td><td>Location</td><td>Falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, H.P.</td></tr>
<tr><td>4.</td><td>Lease Area Co-ordinates</td><td>
<table>
<tr><th>Pillar No.</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>P1</td><td>31°21'50.96"N</td><td>76°14'02.35"E</td></tr>
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</table>
</td></tr>
<tr><td>5.</td><td>Elevation (Altitude at origin)</td><td>Highest 490 meters above MSL.
Lowest 450 meters below MSL.</td></tr>
<tr><td>6.</td><td>Land Status/ Type</td><td>Private Land/ Hill Slope</td></tr>
<tr><td>7.</td><td>Mining Area</td><td>05-18-46 Hectare</td></tr>
<tr><td>8.</td><td>Products</td><td>Sand, Stone and Bajri</td></tr>
<tr><td>9.</td><td>Production Capacity</td><td>2,08,279 MT for first year or 10,41,395 MT over a period of five years (Excluding silt/clay)</td></tr>
<tr><td>10.</td><td>Bench Level</td><td>5 X 4 meters</td></tr>
<tr><td>11.</td><td>Project Cost</td><td>Rs. 50 lakhs</td></tr>
<tr><td>12.</td><td>Source of Electricity</td><td>Not required</td></tr>
<tr><td>13.</td><td>Alternative source</td><td>Nil</td></tr>
<tr><td>14.</td><td>Power Requirement at mining area</td><td>Not required</td></tr>
<tr><td>15.</td><td>Water consumption</td><td>4 KLD</td></tr>
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</table>

18.	**Hazardous chemical**	Nil.
19.	**Hazardous waste**	Nil.
20.	**Manpower requirement**	173 persons
21.	**Validity of Lease**	As per grant order
22.	**Method of mining**	Manual and semi-mechanical
23.	**Working Days**	300
24.	**Waste (silt/clay)**	36,755 MT for one year or 183776 over a period of five years.

TOR LETTER

State Level Environment Impact Assessment Authority
Himachal Pradesh
Ministry of Environment, Forest & Climate Change, Government of India,
at Department of Environment Science Technology & Climate Change
Paryavaran Bhawan, Near US Club, Shimla-1
Ph: **0177-2656559, 2659608** Fax: **2659609**

F. No. HPSEIAA/2023/1095 4037-4043 Dated: 13/2/2024

To

M/s Lakhwinder Singh Stone Crusher & Screening Plant,
Prop: Sh. Lakhwinder Singh, R/o Flat no. 824,
HIG Phase-2, Mohali (Punjab).

Subject: **Project proposal for Mining of Minerals – Terms of References-reg.**

Sir/Madam,

This has a reference to your online application No. SIA/HP/MIN/435443/2023 for approval of Terms of References for undertaking Environment Impact Assessment Study for further seeking Environmental Clearance under Environment Impact Assessment Notification, 2006.

The proposal has been appraised as per prescribed procedure in the light of provisions under the Environment Impact Assessment Notification, dated 14th September 2006 on the basis of documents viz; Form-I, Pre-feasibility Report, Proposed ToRs etc. by the State Expert Appraisal Committee constituted by the competent authority in its 94th meeting of the SEAC held on dated 7th & 8th August, 2023. The said project involves following salient features:

a)	Proposal No.	SIA/HP/MIN/435443/2023 HP SEIAA/2023-1095
b)	Project type	Extraction of Sand, Stone & Bajri.
c)	Project Location	Khasra number 358 (0-80-79 ha), 553 (2-68-51 ha) & 557 (1-69-16 ha) falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, HP.
d)	Jamabandi	Jamabandi for the year 2017-18.
e)	Land Status	Private Land, Hill Slope.
f)	Capacity	2,08,279 MTPA.
g)	Mining Area	05-18-46 Hectare, Private land/hill slope
h)	Leases with in 500 meter from the periphery of the area applied.	One mining lease exist within 500 meters: Sh. Lakhwinder Singh Stone Crusher (4-17-79 Hectare)
i)	Letter of Intent	Letter of Intent issued on ated 07/06/2022 (Valid for one year i.e. up to 06/06/2023)
j)	Validity period of ToR	3 Years as per the provision of EIA Notification 2006 & OM No. J-11013/41/2006-IA-11 (I) (Part) dated 29/08/2017 issued by MoEF&CC, GoI

The SEIAA examined the proposal in its 64th meeting held on dated 5th Sept., 2023 and considered the recommendations made by SEAC in its 94th meeting of the SEAC held on dated 7th & 8th August, 2023. After considering the recommendations of the State Level Expert Appraisal Committee, the State level Environmental Impact Assessment Authority under the provisions of EIA Notification 2006, accord approval to standard Terms of References as published by MoEF&CC, GoI afresh for Mining of Minerals, for the purpose of preparing Environment Impact Assessment Report, Environment Management Plan for obtaining prior Environment Clearance with public consultation, if applicable, with the following additional conditions:

1. The project proponent shall also assess the air quality of the area using Air Quality Models.
2. The project proponent shall assess and provide comprehensive details of muck disposal in the final EIA/ EMP report.
3. The project proponent shall provide details of labour, its management.
4. The traffic/ vehicle flux assessment shall be included in the EIA/ EMP.
5. The project proponent may use baseline data for EIA/ EMP reports from already formulated EIA/ EMP as per the provision of EIA notification 2006 with prior consent of the respective proponent and his undertaking to be submitted to the SEAC.

Member Secretary
State Level Environment Impact Assessment Authority
Himachal Pradesh

Received
Amit Kumar

Endst. No. As Above. Dated: 2024
Copy to following for further necessary action:

1/2

1. The Secretary (Environment), Ministry of Environment, Forests & Climate Change (MoEF&CC), GoI, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003
2. The Chairman, Central Pollution Control Board, Him Parivesh Bhawan, CBD-cum-office Complex, East Arjun Nagar, New Delhi-110032.
3. The Chairman, Himachal Pradesh State Pollution Control Board, Shimla-171009.
4. The Director (Environment, Science & Technology) to the GoHP, Shimla-171001.
5. The Adviser (IA), MoEF&CC, GoI, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003.
6. The Integrated Regional Office, MoEF&CC, CGO Complex, Shivalik Khand, Longwood, Shimla, HP-171001.
7. The Monitoring Cell, MoEF&CC,GoI, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110003
8. Record File.

Member Secretary
State Level Environment Impact Assessment Authority
Himachal Pradesh

2/2

TOR COMPLIANCE

S.NO.	TORS POINT	TOR COMPLIANCE	Reference in EIA
1.	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.	The proposed mining unit will be operational only after the grant of EC.	
2.	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	Attached as Annexures.	Page no. 186-187
3.	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.	Agreed and will be complied.	
4.	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ Toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Location map on 10 km Toposheet is provided at Fig. 3.1, Pillar Co-ordinates map is provided at Fig. 3.2 and 500m radius map is provided at Fig. 3.3. of Chapter-3.	Fig 3.1 at page no 43 Fig. 3.2 at page no 44, Fig. 3.3 at page 45
5.	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	Location map on 10 km Toposheet map provided at Fig.3.1, geological plan provided as figure 2.1, and land use and land cover Map provide in figure 3.6	Page no: 43, 28,63
6.	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.	The proposed project satisfies all the requirements of state mining policy as detailed in approved mining plan and obtained Letter of Intent.	
7.	It should be clearly stated whether the proponent Company has a well laid down Environmental Policy approved by its Board of Directors? If so, it may be spelt out in the EIA report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large may also be detailed in the EIA report.	The project will formulate a comprehensive environmental policy and the same will be executed by duly constituted EMC.	

8.	Issues relating to Mine safety; including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	All safeguards applicable to open cast mining of minor minerals through pits shall be taken care of.	Chapter 7, page no 119-123
9.	The study area will comprise of 10km zone around the mine lease from the lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine/lease period.	Provided at Fig. 3.1 and details provided in table no 3.1	Refer Chapter 3, page no 43
10.	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlement and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted Impact, if any, of change of land use should be given.	All the details of land use plan is covered in LULC map provided in Chapter 3.	Refer Chapter 3 page no, 63
11.	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.	No overburden is involved as the mining will be done in scientific and systematic way. The top soil will be spread over the benches developed after mining.	Refer Chapter 2, page no. 24
12.	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	There is no involvement of forest land in the mining lease area. The same has been concluded in Joint Inspection Report.	Refer to Annexure- V.
13.	Status of Forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	Not Applicable in view of 12 above.	
14.	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable in view of 12 above.	
15.	The vegetation in the RF/PF areas in the study area, with necessary details, should be given.	All type of vegetation conducive to the environment of Una district is prevalent in RF/PF forests.	

16.	A study shall be got done to ascertain the impact of the mining project on wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be given worked out with cost implications and submitted.	The common wild life of the area is not likely to be impacted by the operation of proposed project and no endangered/threatened species is Found. The same has been concluded in DFO certificate.	Refer to Annexure- VIII.
17.	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors. Ramsar site Tiger/Elephant Reserves (existing as well as proposed), if any, within 10km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.	No National Parks, Sanctuaries, Biosphere reserve, Wildlife Corridors, Tiger & Elephant Reserves falls within 10km of the mine lease.	Refer to Annexure- VIII.
18.	A detailed biological study of the study area (core zone and buffer zone (10kms radius of the periphery of the mine lease)) shall be carried out. Details of Flora and Fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicated the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forestand Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	No endangered, endemic, RET species are present in the core and buffer zone.	Provided at para. 3.18 of Chapter 3.
19.	Proximity to areas declared as "Critically Polluted" or the Project areas likely to come under the 'Aravalli range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed, Authorities such as the SPCB or State Mining Department should be secured and furnished to the effect of the proposed activities could be considered.	No such protected area exists near the project site.	
20.	Similarly, for coastal projects, A CRZ map duly authenticated by one of the authorized by one of the authorized species demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t. CRZ, coastal features such as mangroves, if any should be furnished. (Note: Mining project falling under CRZ would also need to obtain approval of the conserved Coastal Zone Management Authority).	Not applicable	
21.	R & R Plan/ compensation details of the Project, affected people (PAP) should be furnished. While preparing the R & R plan, the relevant site/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs/STs and other weaker sections of the society inthe study area, a need-based sample survey, family-wise, should be undertaken to assess their requirements, and action programmers prepared and submitted accordingly, integrating the sectoral programmers of line departments of the State Government. It may be clearly brought out whether the village (s) located in the mine lease area will be shifted or not. The issued related to shifting	Not applicable, as no displacement and subsequent rehabilitation is involved.	

	of village(s) including their R & R and socio-economic aspects should be discussed in the Report.		
22.	One season (non-monsoon) (i.e., March-May (Summer Season)' October-December (post-monsoon season): December-February (winter season) primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and Flora and Fauna shall be collected and the AAQ and other data so compiled presented data-wise in the EIA and EMP report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.	Primary Baseline data on Ambient air quality, water quality, noise level, soil, Flora and Fauna was collected during November 2023, December 2023 & January 2024. Details are provided in para 3.8 to 3.17	Refer Chapter 3, page 53 to 88
23.	Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.	As this a non-coal mining project, there is no particular point of emission, so modelling will be done on the basis of fugitive emission and vehicular moments in the mining area.	
24.	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	Only 4.0 KLD water is required. The water will be sourced through Borewell and water tanker facilities.	
25.	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.	The permission for use of borewell or groundwater has been taken from the competent authority. The affidavit regarding this is enclosed in Annexures.	Refer to Annexure VII.
26.	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	Since no water will be used in the mining operations, therefore, no waste water will be generated, small amount of domestic waste water shall be treated in septic tanks at crusher site before using it for plantation.	
27.	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	Since no water will be used in the mining operations, therefore, no waste water will be generated, thereby no impact on groundwater and surface water quality. Details for the same has been provided at para 3.16, 3.16.1 and 3.16.2.	Refer to Chapter 3, Page no. 75-84
28.	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be	No, the mining operation will not intersect groundwater. All the precaution and rules shall be followed accordingly as mentioned mine plan.	

	undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground water Authority for Working below ground water and for pumping of ground water should also be obtained and copy furnished.		
29.	Details of any stream, seasonal or otherwise, passing through the lease area and modification/diversion proposed, if any, and the impact of the same on the hydrology should be brought out.	Mining will be done in Hill Slope. No modification or diversion will be done. The mining will be done manual and semi-mechanical manner.	
30.	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.	The elevation of the area is relatively higher than that of the western part. The elevation varying between 332 meters and 1162 meters AMSL.	Refer chapter 3
31.	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up from on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.	For greenbelt development plan, 250 no. of trees will be planted in the 2500 sqm.	Para 2.12 in chapter 2, page no. 25
32.	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road networks (including those outside the project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.	Only tipper/trucks will be used for transportation of material through approach road.	
33.	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA report.	Local labor will be employed. Hence, no onsite shelter and facilities are required. However, toilets with septic tank will be provided.	
34.	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	As the type of land is Hill Slope, therefore, after extraction of mineral material, the configuration of hill slope topography will change to terraced & pit type topography	
35.	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measure with required facilities proposed in the mining area may be detailed.	Agreed & complied. The project specific occupational health mitigation measure with required facilities proposed in the mining area are detailed in chapter 11.	Refer to table 10.1 & Chapter 11 page no. 139
36.	Public health implications of the Project and related activities for the population of the impact zone should be systematically evaluated and the proposed remedial measures should be detailed	Though, mining would be manual and semi-mechanized manner, and far away from pollution therefore there may not be major impact	Provided at para 10.6- and 10.7- Chapter 10

	along with budgetary allocation.	envisaged related to project activity. For reducing it upto minimum level all the step has taken in budget.	
37.	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Agreed and complied.	Provided at para 3.19.3 ofChapter 3
38.	Detailed Environment Management Plan (EMP) to mitigate the environmental impacts which should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed project.	Baseline study has been done for socio economic.	
39.	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound action plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	Will be included in Final EIA report.	
40.	Details of litigation pending against the project, if any, with direction/order passed by any court of Law against the Project should be given.	No litigation pending.	
41.	The cost of the project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	The cost of the project is Rs. 50 Lakhs/-, and EMP cost (Capital) is Rs. 13.2 Lakhs/- only.	
42.	A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.	Agreed & complied.	

ADDITIONAL CONDITIONS

ADDITIONAL TOR			
1.	The project proponent shall also assess the air quality of thearea using air quality models.	The air quality of area is assessed using the AEROMOD developed by American Meteorological Society and approved by CPCB and it will be provided in Final report.	Refer to Chapter 3
2.	The project proponent shall assess and provide comprehensive details of muck disposal in the final EIA/EMP report.	The silty sand & top soil is likely to be generated as mine waste and will be temporarily stacked in the premises of mine lease area. About 183776 MT shall be used for filling and leveling of approach road, plantation, back filling and for other purposes during five years working. The stacked material will be provided with Gabion/crate wire structures to prevent spilling of the material during rainy season. There is an occasional demand of this material in the market for use as a leveling and filling in road construction and for other purposes.	Refer to Chapter 2, Para 2.8.1, page no. 25.
3.	The project shall provide details of labor, its management.	The mining activity will be manual & the workers will be engaged for extraction and loading of river bed material. The total employment generation will be around 170-175 persons both skilled and unskilled workers. All the workers will be from surrounding villages. Facilities like restrooms, clean drinking water and toilet will be provided at the mining site. Appropriate PPE like safety shoes, nose masks, earplugs & safety helmets will be provided. The workers will be educated regarding safe work practices and the health hazards associated with mining.	Refer to Chapter 2, Para 2.13, page no. 27
4.	The traffic/vehicle flux assessment shall be included in the EIA/EMP.	An estimated 46-50 trucks will be required each day for transportation of 2,08,279 MT/Annum or 10,41,395 MT/Annum (excluding wastage) of material in 300 working days/year. The daily material transport shall be 694 MT requiring approximately 46 @ 15 ton/tipper. The applied mining lease area is located in the form of a Hill Slope near the village Kungrat of Tehsil Haroli, District Una. The mining lease area lies at a distance of 18 Kms from Una and 10 Kms Haroli. The site is approachable through Palakwah- Lalahri- Tahliwal Road diverting RHS from the Nangal Khurd	Refer para 3.20 of chapter 3.

		Road	
5.	The project proponent may use baseline data for EIA/EMP as per the provision of EIA notification 2006 with prior consent of the respective proponent and his undertaking to be submitted to the SEAC.	Baseline study has been done in the month of November, 2023 and December, 2023 and January 2024.	Refer to Chapter 3

EXECUTIVE SUMMARY

1.0 PROJECT NAME AND LOCATION:

Sh. Lakhwinder Singh S/o Sh. Jagmail Singh, Prop: M/s Lakhwinder Singh Stone Crusher and Screening Plant, Village & P.O. Kungrat, Tehsil Haroli, District Una, Himachal Pradesh has been issued "Letter of Intent" for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-01/2022-2654 on dated 07/06/2022 for extraction/ collection of sand stone & bajri from Hill slope over an area measuring 05-18-46 Hectares bearing Khasra no. 358, 553 & 557 (Private land) falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, State- Himachal Pradesh. Accordingly, the validity period of Letter of Intent is extended for further term of one-year w.e.f. 06.06.2023 onwards for the purpose of obtaining Environment Clearance. Based on mining plan prepared by a registered Geologist and subsequently approved by the Industries Department. The project falls in category B1; hence the Environmental Clearance is to be given by SEIAA, Shimla, H.P.

2.0 YEAR WISE PRODUCTION PROGRAMME:

Details of the production of the Sand, Stone and Bajri during the five-year period is given below:

Showing Year-wise production programme

Period	Bench Level (in meters)	Useable Material Consumed from the bench (M.T.)	Wastage (Mining Wastage+ Top Soil)
1st year	488, 484,480, 476	208200	36723
2nd year	476, 472, 468, 464	208200	36741
3rd year	464, 460	208200	36641
4th year	460, 456,452	208200	36920
5th year	452,448	208595	36751

Thus, during five-year total production of minerals will be ***10,41,395 metric tons.***

3.0 WASTE DISPOSAL & ARRANGEMENT:

During mining operation, low grade mineral like silty sand and top soil as mine waste will be produced after screening in the stone crusher. The waste material will be partly used for the maintenance of road and part of this mineral can be stacked at proper place for utilization of this material during road construction or some other use as a filling material. The top soil will be spread over the benches developed after mining for growing plantation. The year wise generation of silty sand/ Top soil is shown in the following table: -

Showing year wise generation of silty sand & Top soil

S. No.	Year	Quantity of Wastage (MT)
1.	**1st year**	36723
2.	**2nd year**	36741
3.	**3rd year**	36641
4.	**4th year**	36920
5.	**5th year**	36751
Total		**183776**

4.0 RECLAMATION PLAN:

Best possible terracing of hill slope: The mining is suggested in a way so that there is best possible terracing of the hill slopes.

Aesthetic: Proper mining will form terraces in the hillslopes so that they are able to bear systematic cultivation of agricultural /horticultural crops, thus enhancing the aesthetic look. The proper management of the landscape will add to the aesthetic look of the area.

5.0 PLANTATION:

The plantation shall be done on the exhausted/excavated benches and the applied mining lease area after leaving the safety zone shall be fenced properly.

Year wise area proposed plantation with number of trees to be planted and amount spent is as given in the table below:

Sr. No.	Year	Area in Sq. mtrs.	No of plants to be planted
1.	**1st Year**	500	50
2.	**2nd Year**	500	50
3.	**3rd Year**	500	50
4.	**4th Year**	500	50
5.	**5th Year**	500	50
Total area		**2500**	**250**

The total cost of plantation including its maintenance for five years shall be approx. 5.0 Lakhs. The cost includes cost of plants, minerable and other labour activities. The estimated ***survival rate*** proposed to be achieved shall be 80%.

6.0 CHECK DAM:

- Five nos. of retaining structures/gabion/crate wire structure of 8.0 meters in length and 1.5 metres in height have been proposed to be raised in five years.
- Each retaining structure/gabion/crate wire structure shall cost Rs. 60,000 and the total cost for construction of these in five years shall be Rs. 3,00,000.

Year	Retaining walls/crate wire structures	Length (m)	Height (m)	Width (m)	Tentative cost (in Rs.)
1	**C-1**	10.0	1.5	1.0	1,20,000
2	**C-2**	10.0	1.5	1.0	1,20,000
3	**C-3**	10.0	1.5	1.0	1,20,000
4	**C-4**	10.0	1.5	1.0	1,20,000
5	**C-5**	10.0	1.5	1.0	1,20,000
Total					**6,00,000**

7.0 MANPOWER REQUIREMENT:

Total production for five years including waste – 10,41,395 MT

Total production for one year – 2,08,279 MT

Total production for one day - 694 MT

No. of labors required for mining 694 tons/day = 173

An estimated 170-175 persons, mostly locals will be employed for day-to-day operation of the project as per the following details:

CATEGORY	NUMBERS
Mining Engineer	01
Geologist	01
Foreman	01
Operators/ Drivers	26
Labors	144
Total	173

8.0 COST DETAILS:

Capital cost of the project is Rs 50.0 Lakhs and that of EMP is Rs. 13.2 Lakhs.

9.0 PROTECTION POINT OF PUBLIC UTILITY:

There is no point of public utility or interest that need to be protected while undertaking mining operations.

10.0 END USE OF MINERALS:

The extracted material after screening will be used in the already established stone crusher unit for manufacturing grit and manufactured sand.

11.0 SITE DETAILS:

The mining lease area is located near the village of Kutharbeet in the form of a Hill slope. The geographical location of the applied mining lease area is covered under survey of India Toposheet

No. H43E3.

The location of important nearby places is tabulated below.

Sr. no.	Places	Distance (in kms)
1.	Una	18.0
2.	Haroli	10.0
3.	Shimla	275.0
4.	Nangal	14.0
5.	Mining Office Una	15.0

12.0 BASELINE ENVIRONMENTAL DATA AND THEIR IMPACTS:

Various Environmental factors as existing in the study area which are liable to be affected by the activities have been assessed both quantitatively and qualitatively. Baseline environmental data generation of study area was carried out during the period of ***November 2023 to January 2024***.

12.1 AMBIENT AIR QUALITY:

The PM2.5, PM10, SO2, NO2, CO levels were monitored at eight locations in the study for three months period of November 2023, December 2023 and January 2024. The P98 levels of criteria pollutants are as follows: PM2.5 is 37.2 µg/m3, PM10 is 68.2 µg/m^3, SO2 is 6.45 µg/m^3, NO2 is 10.05 µg/m^3 and CO is not found. The baseline air quality level is within the National Ambient Air Quality Standards prescribed for Industrial, Residential, Rural & Other area and also satisfies the Air Quality Index (AQI) w.r.t. health bracket for all the monitoring. (Standards are 60, 100, 80 and 80µg/m3 for PM2.5, PM10, SO2 and NO2 respectively).

12.2 WATER QUALITY:

One groundwater sample was collected from the study area for chemical, metallic and biological analysis. The groundwater quality of the study is satisfactory. No metallic or bacterial contamination was found in the water sample.

12.3 NOISE ENVIRONMENT:

Ambient noise levels were monitored at 8 locations in the study area. Noise levels in the study area vary from 43.6 dB (A) to 48.4 dB (A) in day time and 31.6 dB (A) to 35.4 dB (A) during night. The baseline noise levels at all locations are well within the CPCB standards for Noise.

12.4 ECOLOGICAL ENVIRONMENT:

Ecological data has been collected through secondary sources and by site visits. The tree species Poplar, Euclyptus, Siris, Pipal, Jangli Tut, Kachnar, Kher etc., are the dominant plant species in the study area. Leopard, Hare, Jackal, Monkey, Sambar, Crow, Woodpecker, Patridge and variety of birds are the common animals found in the study area. No endangered species of plants and animals are found in the study area.

13.0 SENSITIVE ECOSYSTEM:

Within 10 km distance of the project site, no plant or animal species were found to be on the endangered list. No ecologically sensitive area like biosphere reserve, tiger reserve, migratory corridors of wild elephant, wetland, national park and wildlife sanctuary are present within 10 km radius of the project site.

14.0 SOCIOECONOMIC CONDITION:

Socioeconomic status has been studied from secondary sources and by site visits. The social requirements such as drinking water requirement, promotion of educational and medical facilities to the villagers (especially Senior Citizens and infants or pregnant ladies) were identified. Community centers, recreation facilities etc. will be developed as part of social responsibility.

15.0 POSSIBLE RISK AND ITS MANAGEMENT:

1) **Inundation -** It is the filling of mine due to excessive rains. Mining will be done during non-monsoon season thereby problem of inundation is not likely to occur.

2) **Dewatering –** Dewatering is required only when water table is intersected. Since, mining is limited to 1m depth or the water table which average less, thereby no water intersection and dewatering operation is involved.

3) **Failure of Pit Slope** – Since, mining is limited to 1m depth and with the maintenance of proper slope, risk due to pit failure is not anticipated.

4) **Failure of Waste dumps & its control –** During mining silt and clay will be removed as waste materials. The waste material will be partly used for embankment and road levelling and the balance will be stacked and stabilized before being disposed off. The waste dump will be protected by suitable gabion structure. Therefore, there is no risk associated with failure of waste dumps.

5) **Risk of Accidents due to Trucks and Dumpers** – During transportation, vehicles are involved which may result in accidents. Factors that may lead to accident are:

- Rough access roads
- Time pressure
- Inadequate brakes
- Carelessly parked vehicles
- Unsafe coupling of trailers
- Untrained drivers
- Overtaking by vehicles

LIST OF OCCUPATIONAL RISK

S. No.	Activities	Human Risk		
		Probability of Occurrence	**Consequence**	**Risk Level**
1	Mineral Loading	Possible	Critical	Low
2	Transport/Vehicular Movement	Possible	Critical	High
3	Mineral Dumping and Storage	Possible	Critical	Low
4	Inundation/Flooding	Possible	Minor	Moderate

15.1 RECOMMENDATION FOR RISK EDUCTION:

Being a riverbed there shall not be any mining operation during monsoon or rainy days. Whenever there is any alert of flooding the workers will be moved to safer area along the banks.The truck shall be brought to lower level so that the loading operation suits to the ergonomiccondition of the workers

- The loading will be done from one side of the truck only
- The workers shall be provided with gloves and safety shoes during loading
- The maximum permissible speed limit shall be ensured.
- The truck drivers with proper driving license would only be employed.
- Vehicles will be periodically checked and maintained in good condition.

16.0 CER ACTIVITIES (CORPORATE ENVIRONMENTAL RESPONSIBILITY):

Requisite amount against the CER activities will be deposited in the account of Directorate of Environment, Science & Technology (DEST), GoHP along with the Environment Clearance of the proposal. The CER activities will be decided and executed by the DEST itself.

17.0 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN:

Details of expenditure on environment given below:

Expenditure on environmental measures

S.No.	Title	Capital Cost (Rs. In Lacs)	Recurring Cost (Rs. in Lacs)	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker and trolleys.	--	1.5	Twice a day & as per requirement
2.	Plantation & its maintenance for five years.	5.0	2.0	With affect from the first monsoon after the grant of EC & completion within two years.
3.	Waste management.	2.0	0.4	As per mining plan
4.	Testing of air, water and noise parameters as per norms of HP Pollution Control Board.	----	0.25	As per SPCB
5.	Check dams/ retaining structures & its maintenance	6.0	1.2	As per mining plan
6.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	0.20	0.05	As per mining regulations.
Total		**13.2**	**5.4**	

CHAPTER-1.0
INTRODUCTION

1.1 PURPOSE OF THE REPORT:

Environmental Impact Assessment (EIA) is the management tool to ensure the sustainable development and it is a process, used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision-making tool, which guides the decision makers in taking appropriate decisions for undertaking any project. EIA systematically examines both beneficial and adverse consequences of the proposed project on the surrounding environment and ensure that these impacts are taken into account during the project execution ***namely Sh. Lakhwinder Singh Stone Crusher & Screening Plant.***

CATEGORY OF THE PROJECT:

As per amended MoEF&CC notification no. S.O 3977 (E) dated 14th August, 2018, the lease area being <100 ha, the project is categorized as 'B' and its 'EC' will be provided from State Level Impact Assessment Authority, Himachal Pradesh.

1.2 IDENTIFICATION OF THE PROJECT & PROJECT PROPONENT:

1.2.1IDENTIFICATION OF THE PROJECT:

The proposal pertains to the EC for the lease area of 05-18-46 Hect. for mining of sand, stone & bajri & falls under Cat.B1 as per EIA Notification,2006 & its subsequent amendments. The details of the project are tabulated below:

PROJECT DETAILS		
1.	Name of the applicant	Sh. Lakhwinder Singh
2.	Name & Address	Sh. Lakhwinder Singh; Prop: M/s Lakhwinder Singh Stone Crusher & Screening Plant, Mauza/Mohal Kungrat, Tehsil Haroli, District Una, Himachal Pradesh.
3.	Area (Ha)	05-18-46 Hect. (Pvt. Land- Hill Slope)
4.	Postal address	Sh. Lakhwinder Singh S/o Sh. Jagmail Singh R/o HIG- 824, Phase- II, Mohali, Punjab.

1.2.2 PROJECT PROPONENT:

Sh. Lakhwinder Singh S/o Sh. Jagmail Singh is involved in this business considering motive of sustainable and ecofriendly work culture and no harm to surrounding environment from the project activities.

1.3 LEGAL PROVISION:

The proponent satisfies all legal requirements necessary for the projects such as **Letter of Intent** attached as Annexure-I, **Approval letter of mine plan** from concerned authority as Annexure-II, **500-meter radius certificate** as Annexure-III and duly signed **Joint Inspection Report** as Annexure-IV.

1.4 BRIEF DESCRIPTION:

1.4.1 NATURE OF THE PROJECT:

The mining lease area forms a part of the Hill- Slope and is covered with Upper Siwalik Formation. The Hill is mainly comprised of thick boulder bed of the Upper Siwalik Formation comprising of boulders, cobbles, pebbles, sand/silt deposits of terrace alluvium.

1.4.2 SIZE OF THE PROJECT

The project lease area is 05-18-46 Hect. and the production capacity is 2,08,279 MTA. The size and magnitude of the operation depend upon the availability of labourers, weather conditions and other local conditions. The major mining activity will be undertaken during the dry seasons only. The average number of working days in the year would be 300 days.

1.4.3 LOCATION OF THE PROJECT:

The mining area is situated in the form of a Hill Slope near the village Kungrat of Tehsil Haroli, District Una. The total lease area of mining measuring 05-18-46 Hectare. The mining lease area lies at a distance of 18 kms from Una and 10 kms from Haroli. The site is approachable through Palakwah- Lalahri- Tahliwal road diverting RHS from the Nangal Khurd Road. The details for the same given in table 1.1. Figure 1.3 shows satellite image of the project.

Table 1.1 Detail of Revenue records

Khasra Number	358, 553 & 557
Owner of land	Private Land
Kism	Banjar Kadeem & Khadaitar
Mauza/Mohal	Kungrat
Name of the Panchayat	Kungrat
Area (Hectares)	05-18-46 Hectare

1.4.4 DETAIL OF ROAD TRANSPORT:

The mining site is located in the form of Hill slope beside the village Kungrat. The main connectivity of the site is through Palakwah- Lalahri- Tahliwal Road diverting RHS from the Nangal Khurd Road. There is very low to no traffic from the applied mining lease area to the stone crusher site.

The average rate of production of various constituents is proposed around 2,08,279 metric tons per year. Taking into consideration 300 working days in a year, roughly 694 MT mineral will be produced per day for which about 46 to 50 trucks/tippers of 15 metric tonnes capacity would be used to carry the finished products.

FIGURE – 1.1

Location Map (From India Map to Local Map)

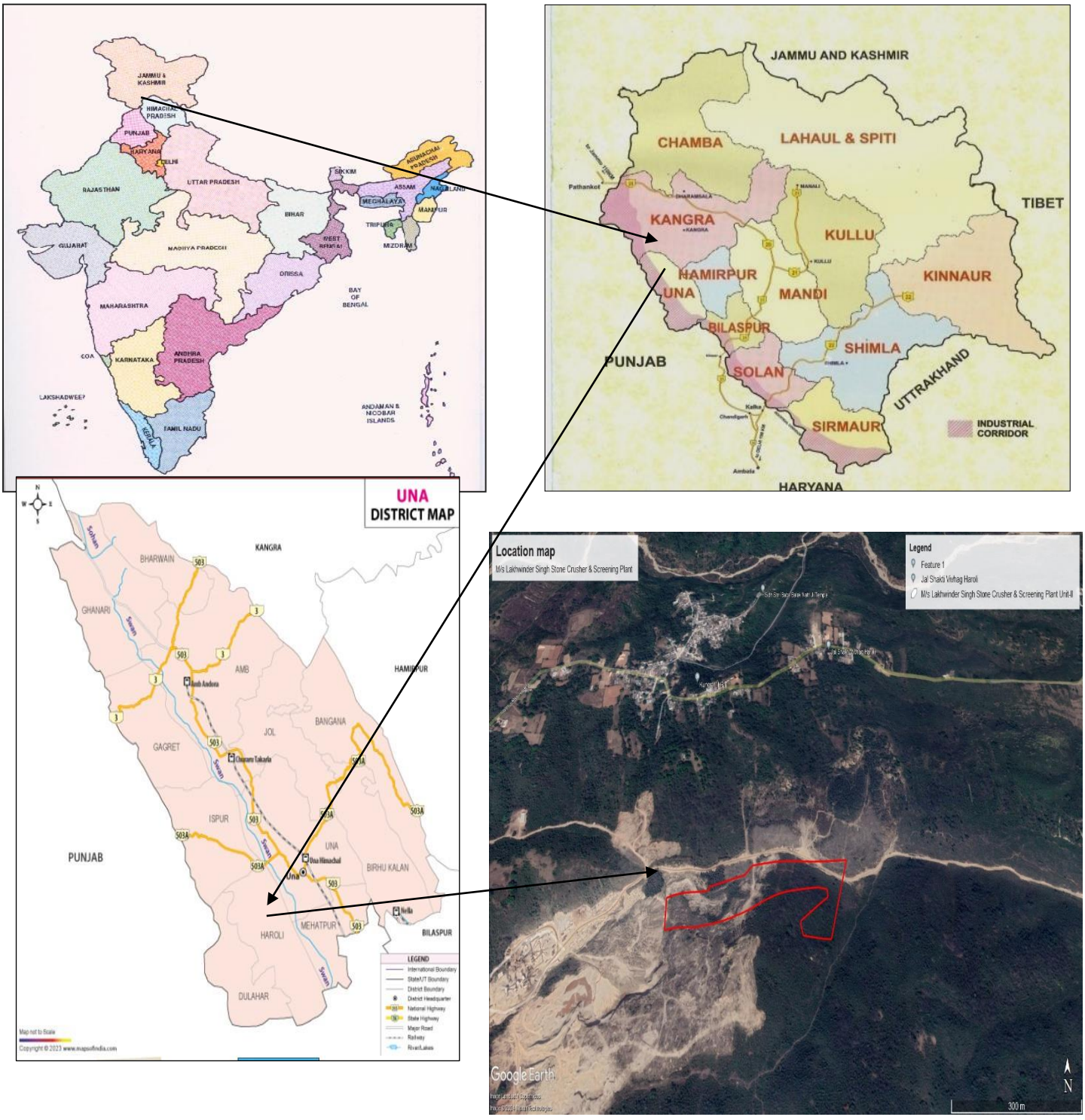
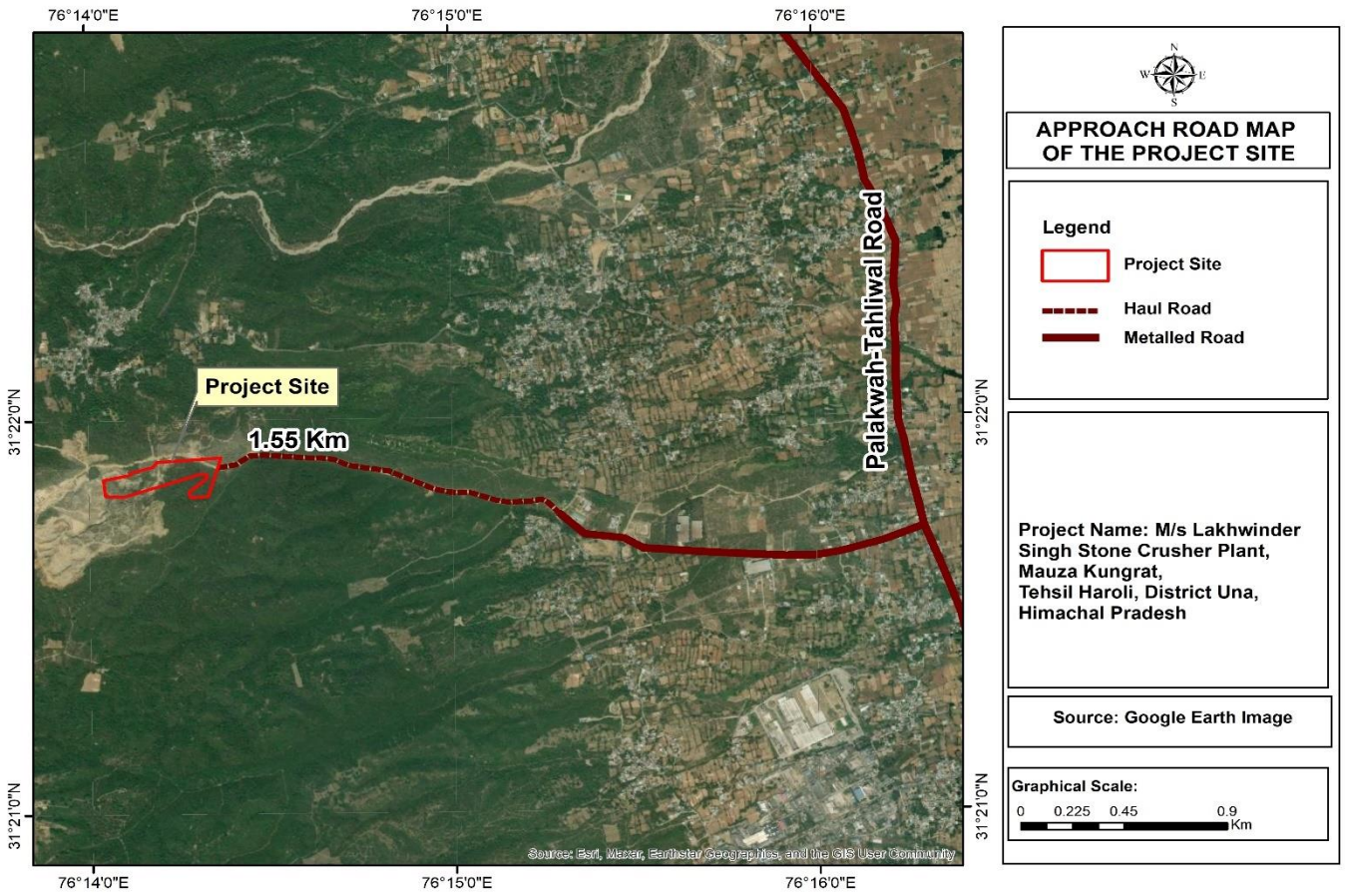


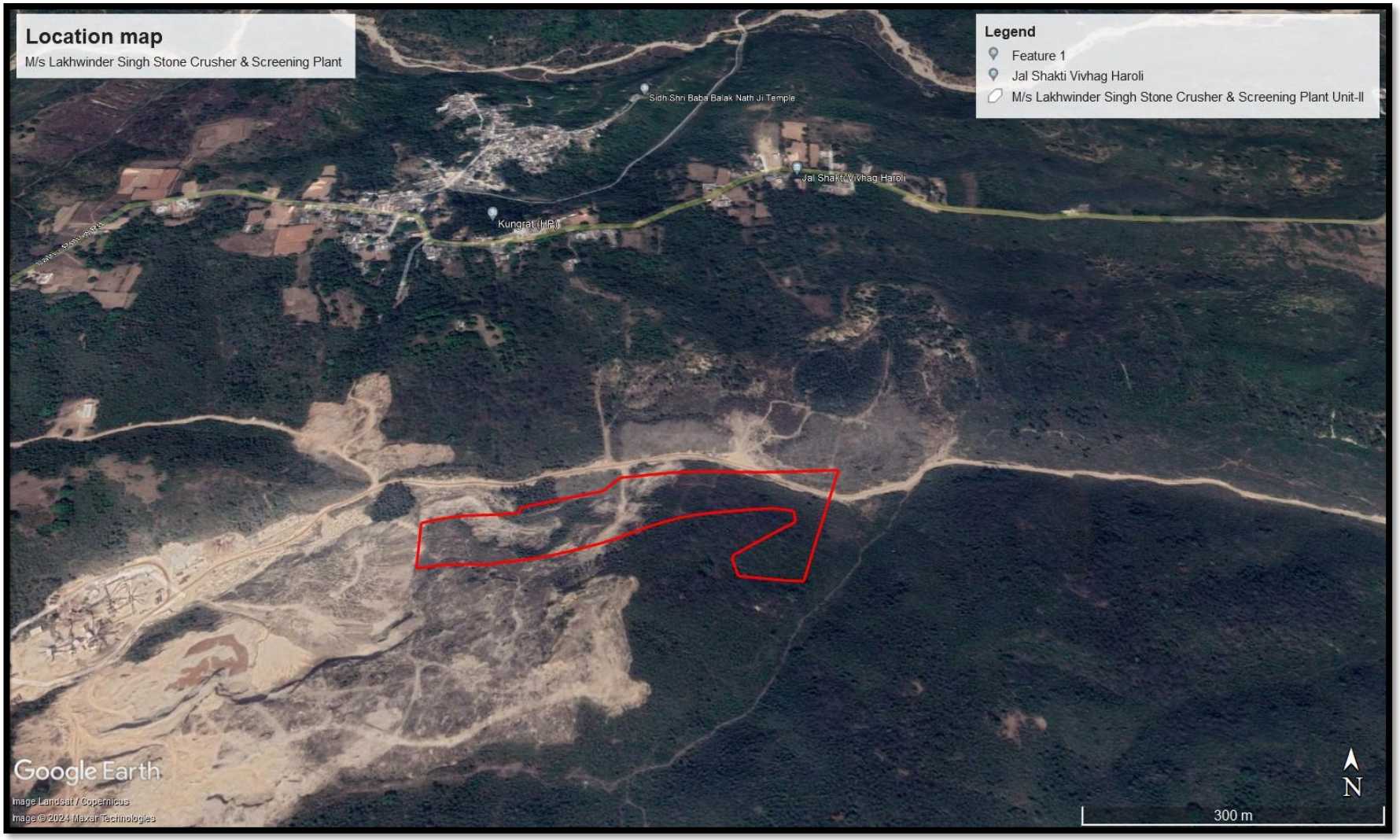
FIGURE 1.2 APPROACH ROAD TO THE MINING AREA



The site is located in the form of Hill Slope near the village Kungrat of Tehsil Haroli, District Una. The mining lease area lies at a distance of 18 kms from Una and 10 Kms from Haroli. The site is approachable through Palakwah- Lalahri- Tahliwal Road diverting RHS from the Nangal Khurd Road.

FIGURE 1.3

SATTELITE IMAGE OF THE MINING AREA



1.5 SCOPE OF THE STUDY:

This study contains various information on the Environmental factors viz-a-viz contribution of pollution by the proposed unit. These factors include air, water, noise, health, socio economic, land use and agricultural pattern, hydrological conditions, geomorphological and physiographicalstudy It discusses the predicted impact of the proposed plant activities on these factors. Broadly under the scope it is envisaged:

To assess the present status of air, water, land, noise, biological & socio-economic hydrological components of environment.

- To identify, quantify & evaluate positive or negative impacts of various operations on different environmental components.
- To evaluate proposed pollution control measures and to suggest additional control strategies, if any, to mitigate the adverse effects.
- To identify risk factors & suggest their mitigation including occupational health of the workers.
- To prepare Environmental Management Plan for utilization and adoption of safety measures.
- To delineate future Environmental quality monitoring programme.
- To identify the needs of the study area and suggest supportive measures under Corporate Social Responsibility.

1.5.1 METHODOLOGY:

Various steps involved in Environmental Impact Assessment study of the proposed project are divided into the following phases:

- Identification of significant environmental parameters and to study the existing status within the impact zone with respect to air, water, noise, soil and socio-economic and hydrological components of the environment
- Study of various activities of the proposed project for manufacture of final product and to identify the area's leading to impact/change in environmental quality.
- Identification/prediction of impacts for the identified activities and to study levels of impacts on various environmental components.

- Evaluation of final levels of various parameters after superimposing the predicted impacts over the baseline quality.
- Formulation of Environmental management plan for implementation in the proposed project.

1.6 IMPORTANCE TO THE COUNTRY OR REGION:

The mine lease area is part of Hill-Slope. Due to rapid infrastructure development in India, the demand of construction material has increased. The operation of project will provide demand & increased employment to the surrounding people, thereby improving the socio-economic status of area.

- **Demand and Supply:** The demand of this basic material is fast growing due to boost in the infrastructure of country. The minerals are used mainly in the construction activities like buildings, bridges etc. The requirement for the mineral is always high in the nearby cities and towns. There is therefore, a good demand of mineral in the domestic market.
- **Domestic/ Export market:** The demand of Stone is limited to local domestic market and it has no potential for export.
- **Export possibility:** There is no proposal for the export of mined minerals as the same will cater to the indigenous demand which is increasing each passing day.

CHAPTER-2.0

PROJECT DESCRIPTION

2.1 GENERAL:

Sh. Lakhwinder Singh has proposed a new project of non-coal mining for obtaining E.C from the concerned authority having production capacity is 2,08,279 MTPA. According to EIA notification and subsequent amendments it is a ***B1 Category*** project of serial no. 1(a) of EIA notification. In this project, mining of minor minerals is manual & semi mechanized in the Hill Slope having an area measuring 05-18-46 hectares. The mine plan has been prepared by registered H.P.R.Q.P. and approved by Industry Department of Himachal Pradesh. Description of mine development and information associated with this project has been furnished in this chapter.

2.2 YEAR WISE PRODUCTION PROGRAMME:

The mining lease is located on hilly terrain and suitable material is available for crushing. The mining operations would be carried by formation of 5 X 4 meters (Height X Width) benches from the top level of the applied mining lease i.e. from 488 M.R.L. and up to the level of 448 M.R.L.

Details of the production of the stone, silty sand and top soil from various benches from first to fifth year are given below in table 2.1.

Table: - 2.1 Showing year-wise production programme of mining

Period	Bench Level (in meters)	Useable Material Consumed from the bench (M.T.)	Wastage (Mining Wastage+ Top Soil)
1st year	488, 484,480, 476	208200	36723
2nd year	476, 472, 468, 464	208200	36741
3rd year	464, 460	208200	36641
4th year	460, 456,452	208200	36920
5th year	452,448	208595	36751

Thus, during five-year total production of minerals will be ***10,41,395 metric tons.***

2.3 DEVELOPMENT AND PRODUCTION:

The mineable reserves have been estimated by the cross- sectional area method and 02 numbers of cross-sections A-A' & B-B' were plotted at 200.00 meters intervals. The specific gravity of the conglomerate has been taken 2.25 for calculating the mineable reserves. Details of mineable reserves are tabulated below:

Table showing estimated mineable reserves in Tonnes	
Reserves	Quantity (In MT)
Total Reserves	1225170
Useable Reserves	1041395
Wastage	183776

2.3.1 DEVELOPMENT AND PRODUCTION AT THE END OF 1ST YEAR:

- Mining is proposed in 51,846 sqm. area on the Hill slope.
- 208200 MT of stone will be produced as useable mineral.
- 36723 MT of silty sand & top soil will be generated as mine waste.

The production of each mineral constituent is as under: -

Production of mineral and mine waste during first year in metric tonnes:

Name of mineral constituents	Quantity in metric tones
Stone (Production)	208200
Silty sand & Top Soil (Mine waste)	36723
Total	**2,44,923**

2.3.2 DEVELOPMENT AND PRODUCTION AT THE END OF 2ND YEAR:

- Mining is proposed in 51,846 sqm. area on the Hill slope.
- 208200 MT of stone will be produced as useable mineral.
- 36741 MT of silty sand & top soil will be generated as mine waste.

The production of each mineral constituent is as under: -

Production of mineral and mine waste during first year in metric tonnes:

Name of mineral constituents	Quantity in metric tonnes
Stone (Production)	208200
Silty sand & Top Soil (Mine waste)	36741
Total	**2,44,941**

2.3.3 DEVELOPMENT AND PRODUCTION AT END OF THIRD YEAR:

- Mining is proposed in 51,846 sqm. area on the Hill slope.
- 208200 MT of stone will be produced as useable mineral.
- 36641 MT of silty sand & top soil will be generated as mine waste.

The production of each mineral constituent is as under: -

Production of mineral and mine waste during first year in metric tonnes:

Name of mineral constituents	Quantity in metric tonnes
Stone (Production)	208200
Silty sand & Top Soil (Mine waste)	36641
Total	**2,44,841**

2.3.4 DEVELOPMENT AND PRODUCTION AT END OF FOURTH YEAR:

- Mining is proposed in 51,846 sqm. area on the Hill slope.
- 208200 MT of stone will be produced as useable mineral.
- 36920 MT of silty sand & top soil will be generated as mine waste.

The production of each mineral constituent is as under: -

Production of mineral and mine waste during first year in metric tonnes:

Name of mineral constituents	Quantity in metric tonnes
Stone (Production)	208200
Silty sand & Top Soil (Mine waste)	36920
Total	**2,45,120**

2.3.5 DEVELOPMENT AND PRODUCTION AT END OF FIFTH YEAR:

- Mining is proposed in 51,846 sqm. area on the Hill slope.
- 208200 MT of stone will be produced as useable mineral.
- 36751 MT of silty sand & top soil will be generated as mine waste.

The production of each mineral constituent is as under: -

Production of mineral and mine waste during first year in metric tonnes:

Name of mineral constituents	Quantity in metric tonnes
Stone (Production)	208200
Silty sand & Top Soil (Mine waste)	36751
Total	**2,44,951**

2.4 END USE OF MINERAL:

The extracted material after screening will be used in the already established stone crusher unit for manufacturing grit and manufactured sand.

2.5 GEOLOGY:

The geology of the catchment Area:

The Siwalik Group mainly represents the rocks of the district and also of catchment area. In addition to this at few places the newer alluvium of Quaternary age is also present. In the advent of Neocene, a depression was formed in front of the rising mountains (Prto-Himalaya). This depression becomes a repository of a thick sequence of the molasses sediments of the Siwalik Group comprising conglomerates in general are poorly cemented but at places they are very hard. These consist mainly of pebbles and cobbles of quartzite, the stray pebbles of granite, limestone, sandstone, breccias and lumps of clay stone are also observed at places. Often the sizeof pebbles is large enough to be called as boulders. The conglomerates not only occur as regular band but also as lenticular bands alternate with micaceous sandstone and clay beds. The sediments were bough down 2 to 25 million years ago by the numerous fast flowing rivers issuing forth from rapidly rising mountain mass of the Himalaya in the north. The Siwalik Groupis divisible into three sub-groups respectively the lower, Middle and upper on the basis of the litho-Stratigraphy.

Siwalik Group

The Siwalik Group in the Himachal Himalaya forms a parallel foot-hill belt in the Sub- Himalayan zone, extending along the southern margin of the Paleogene Sirmur Group belt from the Ravi to the Yamuna and forms part of the larger Sub- Himalayan mega belt extending from Potwar basin in NW to the Arunachal foot-hill in SE. In the Himachal Himalaya it has maximumwidth between Hoshiarpur and Joginder agar.

The Siwalik sediments through occurring as an independent structural belt, are also seen to overlie the Muree in the Jammu Sector of the Kashmir Himalayan and the Kasauli in the Himachal Himalayan Pilgrim (1910) recorded a gradual transition from Muree beds to Lower Siwalik in the Rawalpindi and Jhelum districts of Pakistan and from Kasauli to Lower siwalik (Nahan) in the Himachal Himalaya. This fact assumes importance because there is a tendency to ignore this normal relationship between the Siwalik and Sirmour Groups at Dharamshala, Sarkaghat and Nalagarh.

At Haritalyangar near Bilaspur, the Lower Siwalik is seen resting on the Dagshai with an unconformity, which is described as the most striking discordance in the whole sequences of freshwater deposits and evidently representing a period of considerable earth movements (Pascoe, 1964).

The Siwalik Group is divisible into three subgroups respectively the Lower, Middle and Upper on the basis of lithostratigraphy (Table—Karunakaran and Ranga Rao, 1979).

Lower Siwalik Subgroup

The Lower Siwalik subgroup consists essentially of sandstone-clay alternation. The lower boundary of the Lower Siwalik does not crop out at surface in the Jawalamukhi sector. In a deep well drilled in the over Thrust block of the jawalamukhi Thrust, however the Lower Siwalik is found conformably is also marked by an increase in the percentage of heavy minerals giving a dark appearance to the rock and incoming of less rounded heavy minerals like staurolite and unstable types like zosite and epidote.

Table 2.2 Showing Lithostratigraphy of the Siwalik Group

Sub Group	Lithology	Thickness (approx.)
Upper Siwalik	B) predominantly massive boulders with red orange clay as matrix and minor sandstone andearth, buff and brown clay stone A) Sandstone, clay and conglomerate alternation.	2300 m
Middle Siwalik	B) Massive sandstone with minor conglomerate and local variegated clay stone. A) Predominantly medium to coarse- gained sandstone and red clay alternation, soft pebbly with subordinate clay stone, locally thick prism of conglomerate.	1400 m to 2000m
Lower Siwalik	B) Alternation of fine to medium-grain sporadically pebbly sandstone, calcareous cement a prominent chocolate and maroon clays tone in the middle part. A) Red and mauve clay stone with thin intercalation of medium to fine-grained sandstone.	1600m

2.6 GEOLOGY OF THE PROJECT SITE:

As the mining site is the part of Hill Slope which is covered with B members of the Upper Siwalik Formation. The Hill is mainly comprised of a thick boulder bed of the B member of the Upper Siwalik Formation comprising of boulders, cobbles, pebbles, river-borne bajri, clay and sand/silt deposits of terrace alluvium. The study of the rocks in and around the applied mining lease area belongs to the Siwalik Group comprising of Boulders, Pebbles, Cobbles, Clay, Sand and Silt.

2.7 ESTIMATE OF GEOLOGICAL RESERVES OF EACH MINERAL:

An average specific gravity i.e., 2.25 is taken into consideration for the calculation of mineral potential in the area mining for mining purpose. The geological reserves have been estimated by the

cross- sectional area method 02 nos. of cross sections A-A' & B-B' were plotted at 200 meters intervals. As no exploration works by way of drilling have been carried out but, it is implied from the field observations that a similar kind of rock is available along the hill and is easily visible all along the surface as well. In view of the above, the 100% reserves are kept in the proved category. The details of the geological reserves of the rock are as mentioned in the table below:

Table 2.3 Showing Geological reserves in metric tonnes

SECTION LINE	CROSS-SECTIONAL AREA (IN SQM)	SECTION INTERVAL (IN Mtrs.)	RESERVES OF THE ROCK (IN CUM)		RESERVES OF THE ROCK (IN MT)	
			PROVED	POSSIBLE	PROVED	POSSIBLE
A-A'	3000	200	600000	360000	1350000	810000
B-B'	2400	200	480000	288000	1080000	648000
TOTAL					2430000	1458000

2.8 RECLAMATION PLAN:

Best possible terracing of hill slope: The mining is suggested in a way so that there is best possible terracing of the hill slopes.

Aesthetic: Proper mining will form terraces in the hillslopes so that they are able to bear systematic cultivation of agricultural /horticultural crops, thus enhancing the aesthetic look. The proper management of the landscape will add to the aesthetic look of the area.

2.9 WASTE DISPOSAL ARRANGEMENT:

During mining operation, low grade mineral like silty sand and top soil as mine waste will be produced after screening in the stone crusher. The waste material will be partly used for the maintenance of road and part of this mineral can be stacked at proper place for utilization of this material during road construction or some other use as a filling material. The top soil will be spread over the benches developed after mining for growing plantation. The year wise generation of silty sand/ Top soil is shown in the following table 2.4 :

Table 2.4 Showing year wise generation of silty sand & Top soil

S. No.	Year	Quantity of Wastage (MT)
1.	**1st year**	36723
2.	**2nd year**	36741
3.	**3rd year**	36641
4.	**4th year**	36920
5.	**5th year**	36751
Total		**183776**

2.9.1 YEAR WISE DISPOSAL OF MINE WASTE:

As the mining is proposed in Hill slope, around 183776 metric tonnes of silt mixed with clay/soil as mining waste will be generated as waste during the opening of benches. The waste material/Top soil shall be dumped in the dumps and shall be spread over the worked-out benches for raising plantation or for the development of agriculture fields. There is an occasional demand of this material in the market for use as a leveling and filling in road construction and for other purposes.

2.9.2 COST OF MINE WASTE DEVELOPMENT:

The material will be brought to the dump site by trucks as well as manually adding little addition to the mining cost of around Rs. 5/- per tonne of waste. The total waste production in 5 years is 61259 tonnes. The total cost of dumping will be around Rs. 3,06,293/- in 5 years.

2.10 TOPSOIL UTILIZATION:

The top soil will be spread over the benches developed after mining for growing plantation.

2.11 PREVENTIVE RETAINING STRUCTURES:

- Five nos. of retaining structures/gabion/crate wire structure of 10.0 meters in length, 1.0 meters width and 1.5 metres in height have been proposed to be raised in five years.
- Each retaining structure/gabion/crate wire structure shall cost Rs. 60,000 and the total cost for construction of these in five years shall be Rs. 3,00,000.

- Details for the same is given in table 2.5:

Table 2.5: List of retaining structures year wise

Year	Retaining walls/crate wire structures	Length (m)	Height (m)	Width (m)	Tentative cost (in Rs.)
1	**C-1**	10.0	1.5	1.0	1,20,000
2	**C-2**	10.0	1.5	1.0	1,20,000
3	**C-3**	10.0	1.5	1.0	1,20,000
4	**C-4**	10.0	1.5	1.0	1,20,000
5	**C-5**	10.0	1.5	1.0	1,20,000
Total					**6,00,000**

2.12 PLANTATION WORK:

The plantation shall be done on the exhausted/excavated benches and the applied mining lease area after leaving the safety zone shall be fenced properly.

Year wise area proposed plantation with number of trees to be planted and amount spent is as given in the table below:

Table: 2.6: Yearly plan for plantation

Sr. No.	Year	Area in Sq. mtrs.	No of plants to be planted
1.	**1st Year**	500	50
2.	**2nd Year**	500	50
3.	**3rd Year**	500	50
4.	**4th Year**	500	50
5.	**5th Year**	500	50
Total area		**2500**	**250**

The total cost of plantation including its maintenance for five years shall be approx. 5.0 Lakhs. The cost includes cost of plants, minerable and other labour activities. The estimated ***survival rate*** proposed to be achieved shall be 80%.

2.13 MANPOWER REQUIREMENT:

Total production for five years including waste = 10,41,395 MT

Total production for one year = 2,08,279 MT

Total production for one day = 694MT

No. of labors required for mining 694 tons/day = 173

An estimated 170-175 persons, mostly locals will be employed for day-to-day operation of the project as per the following details:

Table: 2.7 Manpower Details

CATEGORY	NUMBERS
Mining Engineer	01
Geologist	01
Foreman	01
Operators/ Drivers	26
Labors	144
Total	173

2.14 TYPE OF MINING & MINING METHOD:

The mining will be manual as well as semi-mechanical. The mining operations shall be carried out in the mining lease area after leaving 05 meters buffer/safety zone.

The following conditions have been taken into consideration:

- The mining method adopted is of open cast mining.
- The mineral excavation starts from RL 434 onwards by preparing 5 X 4 meters (Height X Width) benches.
- 11 number of benches are proposed to be developed while excavating the mineral from the mining lease area.
- No blasting is required /undertaken.
- For safety wire crate/ Gabion structure shall be constructed along the lower side of the applied mining lease area to stop any rolling down of debris/rocks.

- The mining operations in the lease area are confined to day light hours, from 9: 00 A.M. to 6:00 P. M.

2.15 WATER REQUIREMENT:

Total amount of water required for the project is 4.0 KLD. Water will be sourced from borewell and water tanker facilities. A water storage tank of appropriate capacity shall be provided for domestic use. About 3.5 KLD will be required for dust suppression and plantation purpose and about 0.5 KLD for domestic purposes

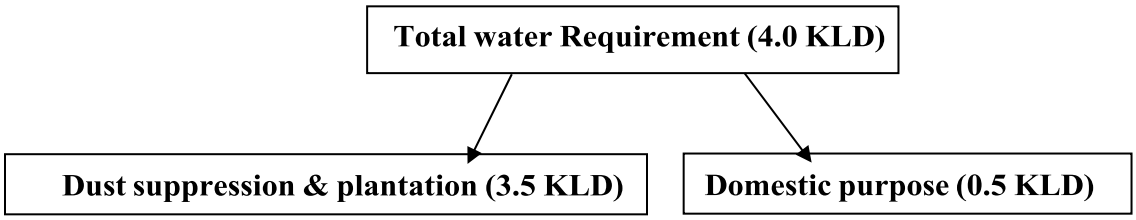


FIGURE-2.1

GEOLOGICAL PLAN

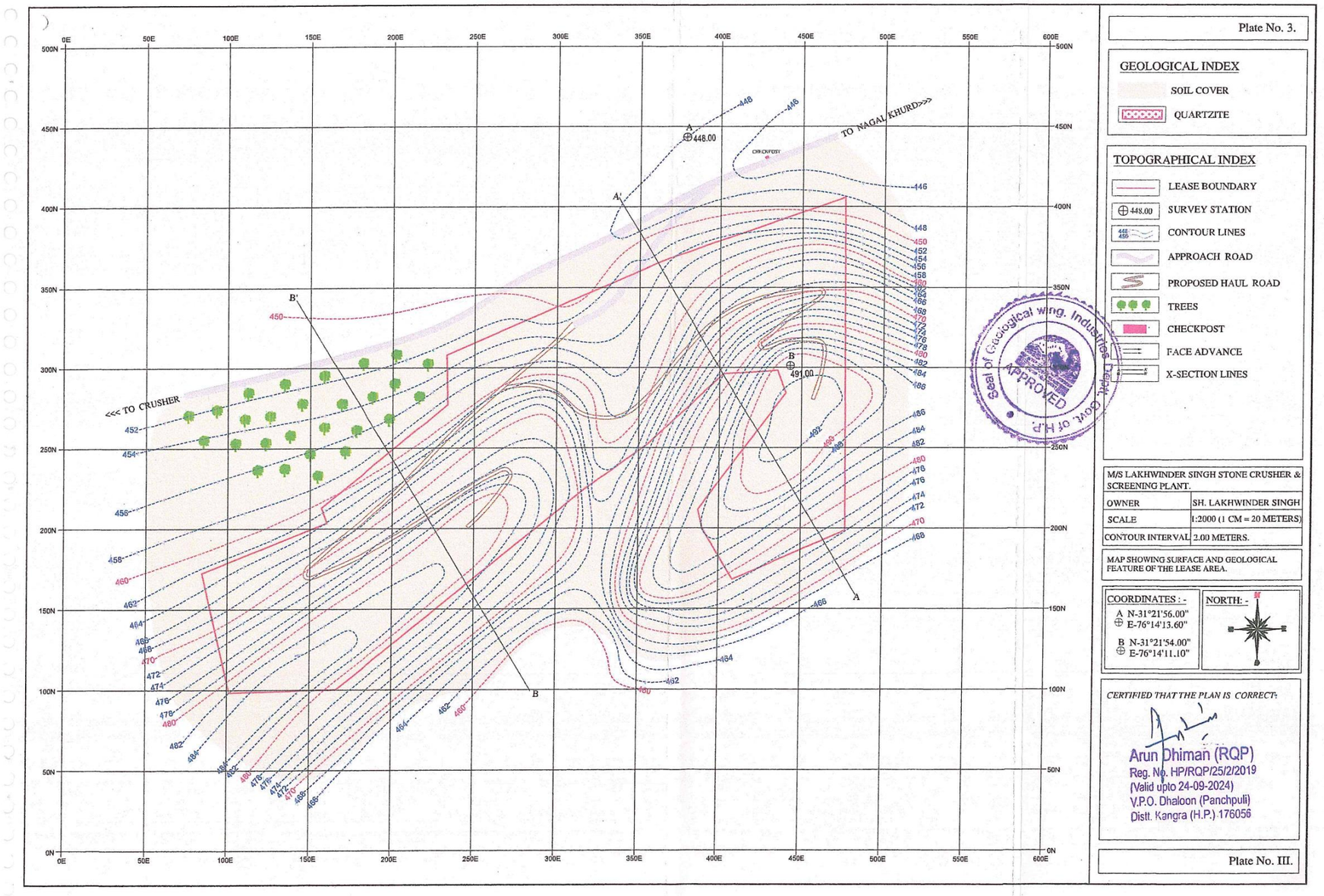


FIGURE-2.2
ULTIMATE PIT PLAN

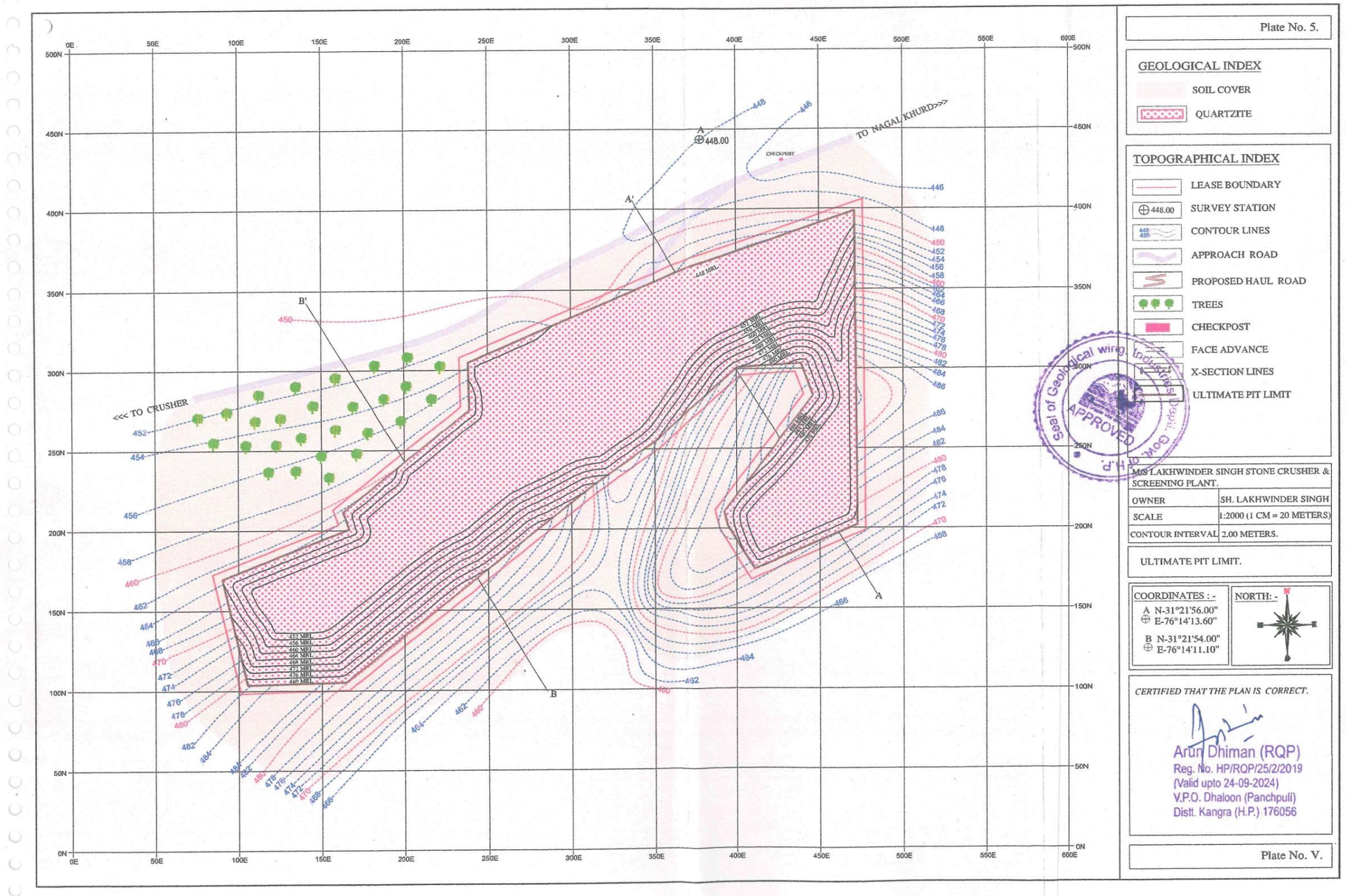


FIGURE-2.3

PIT PLAN FOR THE 1ST YEAR

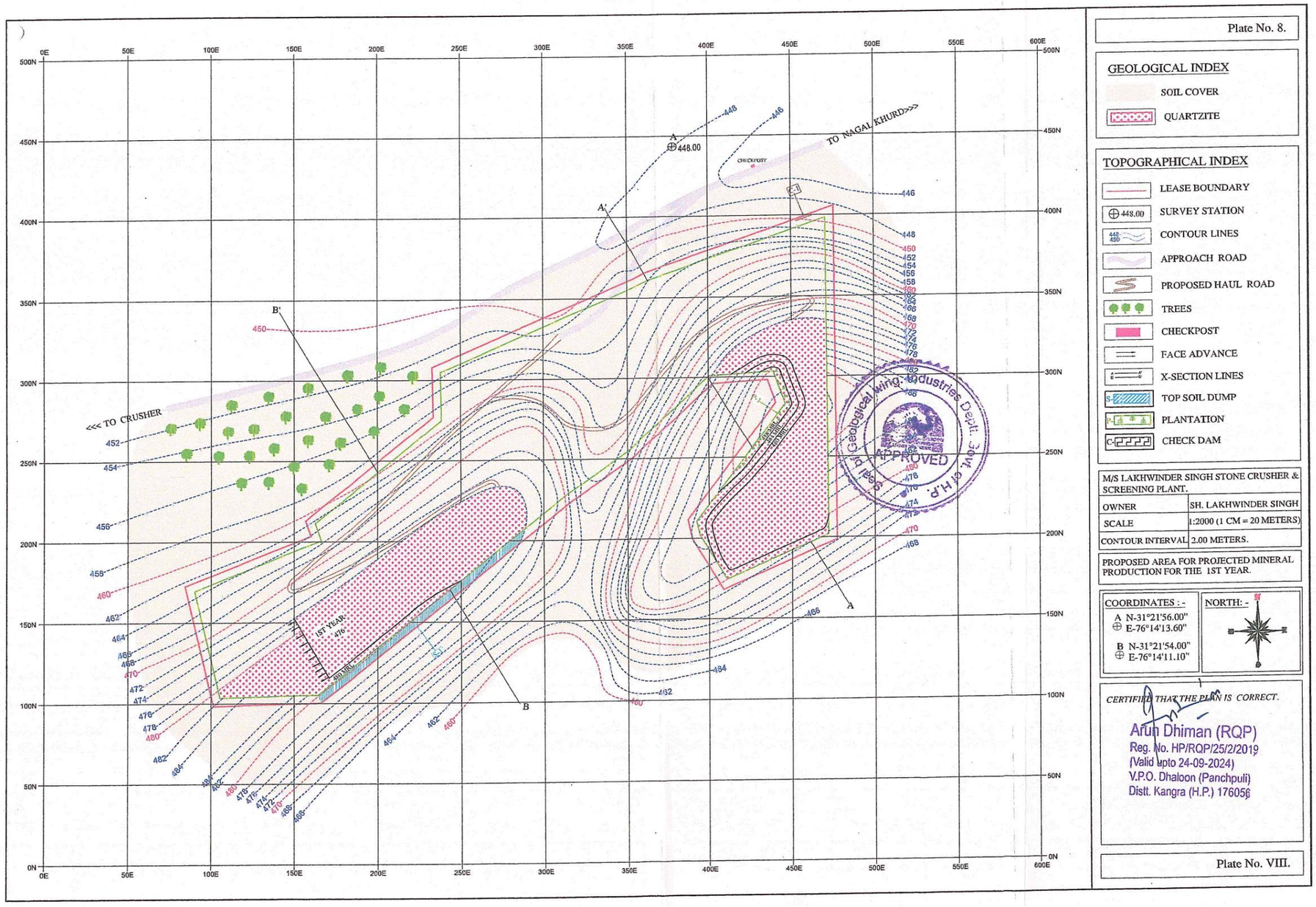


FIGURE-2.4

PIT PLAN FOR THE 2ND YEAR

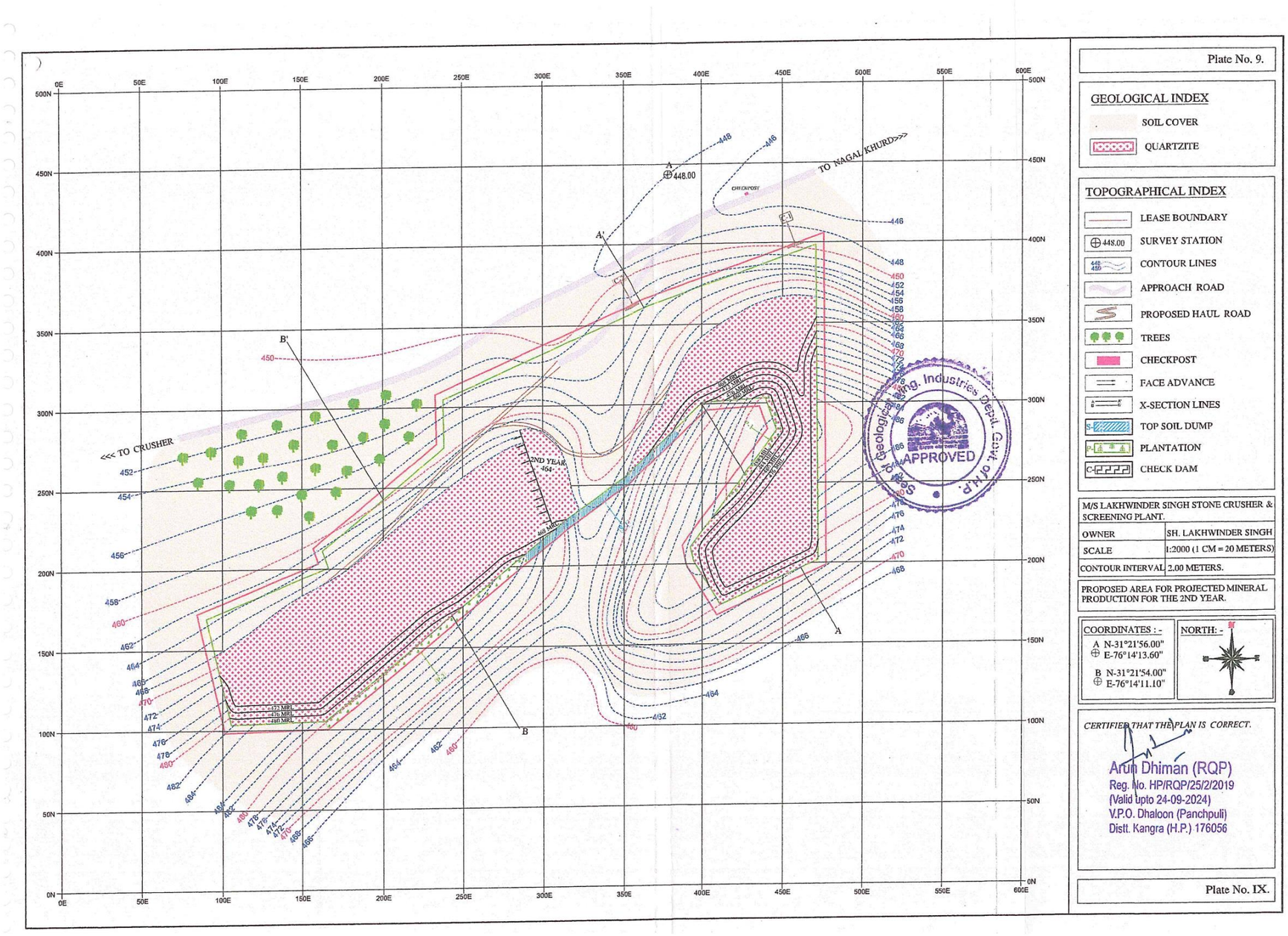


FIGURE 2.5

PIT PLAN FOR THE 3RD YEAR

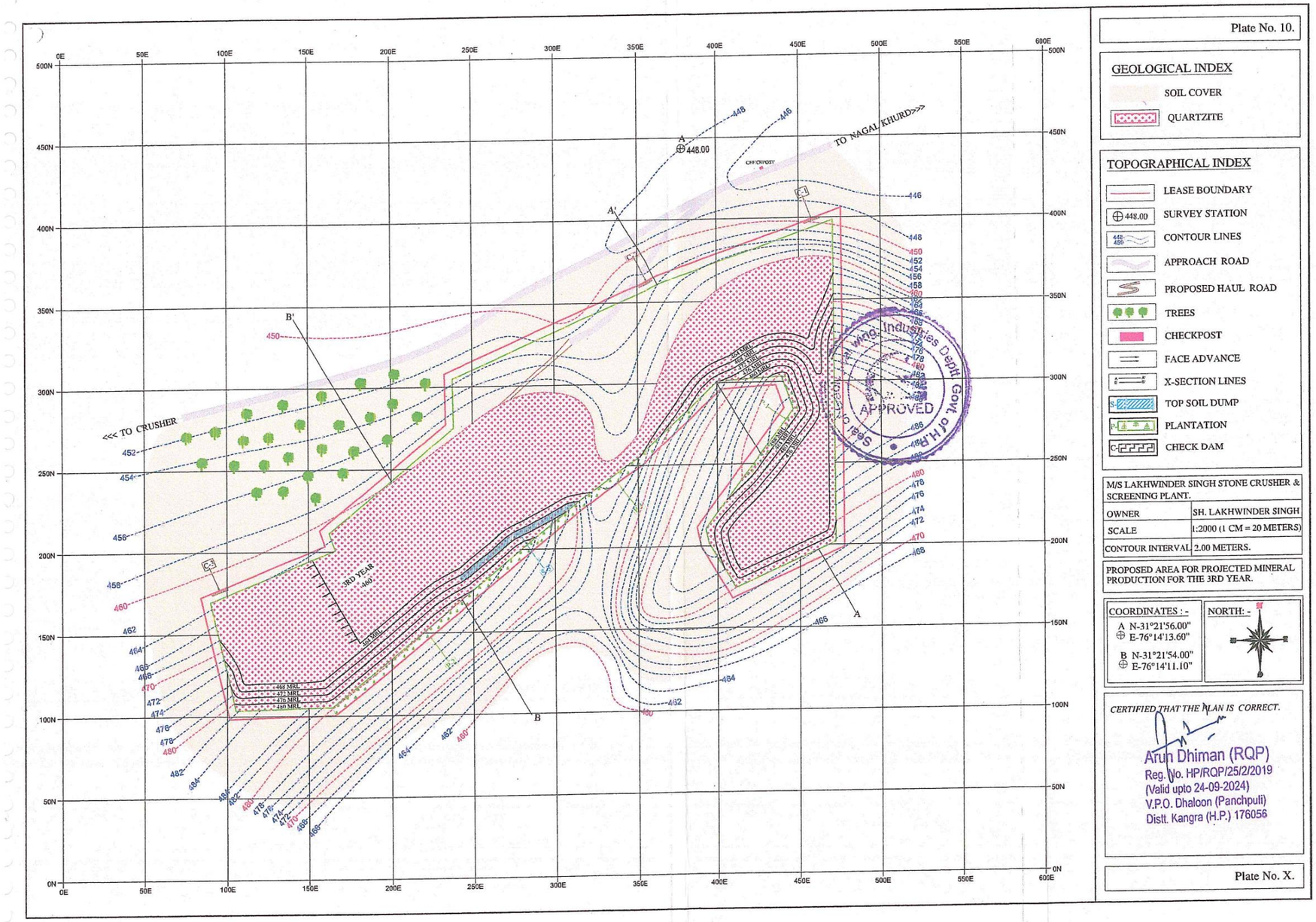


FIGURE 2.6

PIT PLAN FOR THE 4TH YEAR

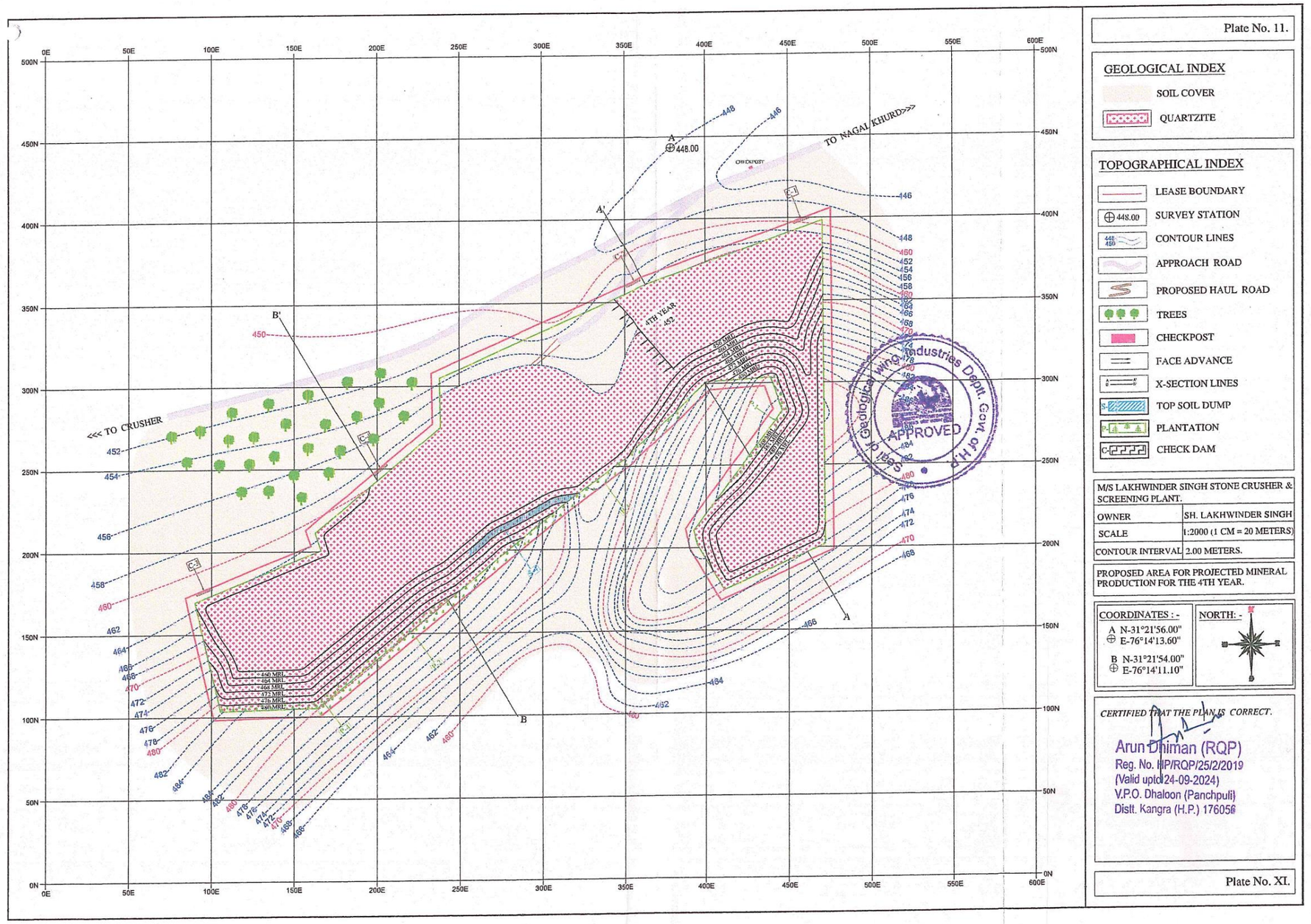


FIGURE 2.7

PIT PLAN FOR THE 5TH YEAR

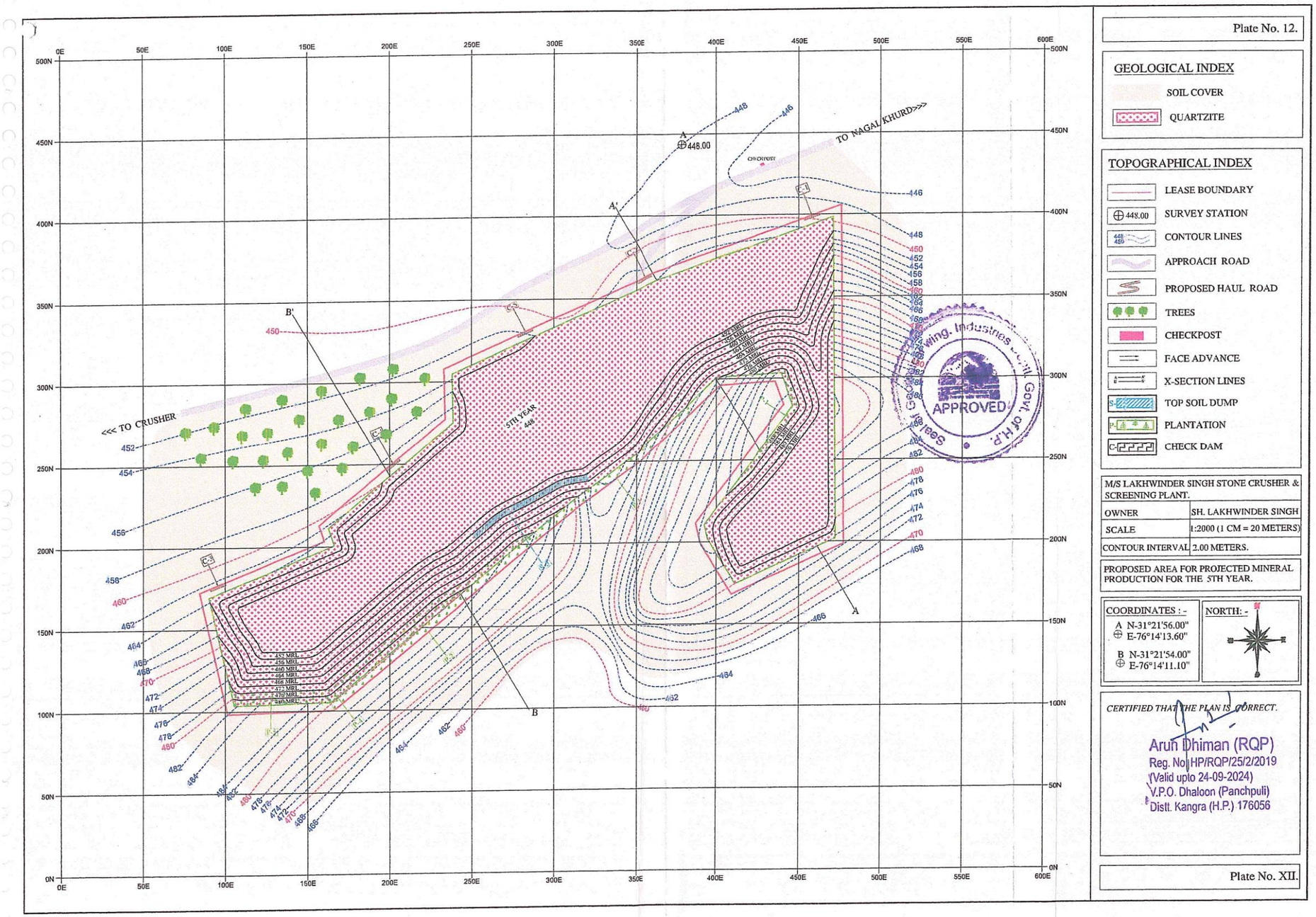


FIGURE 2.8

POST RECLAMATION PLAN

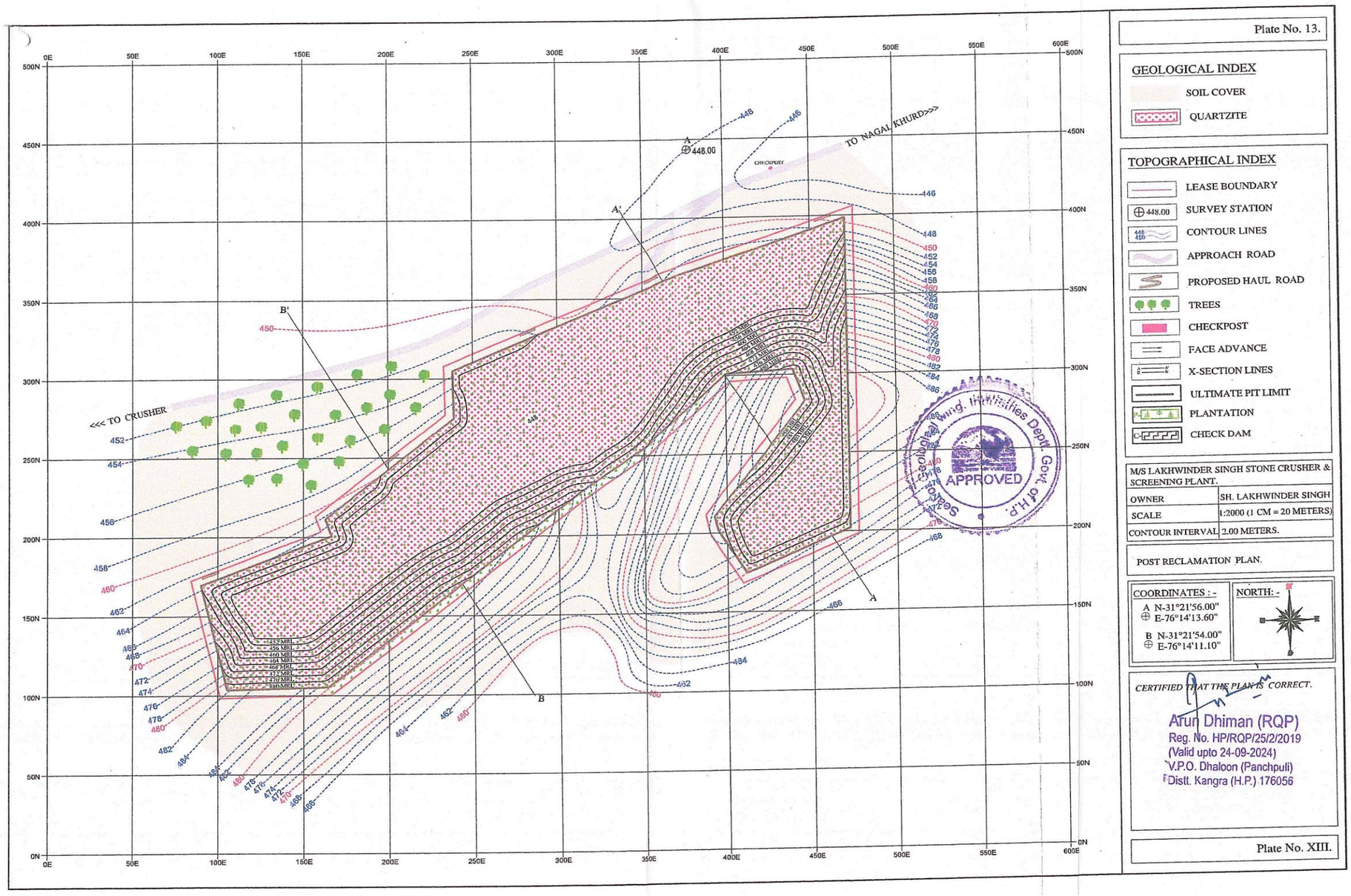
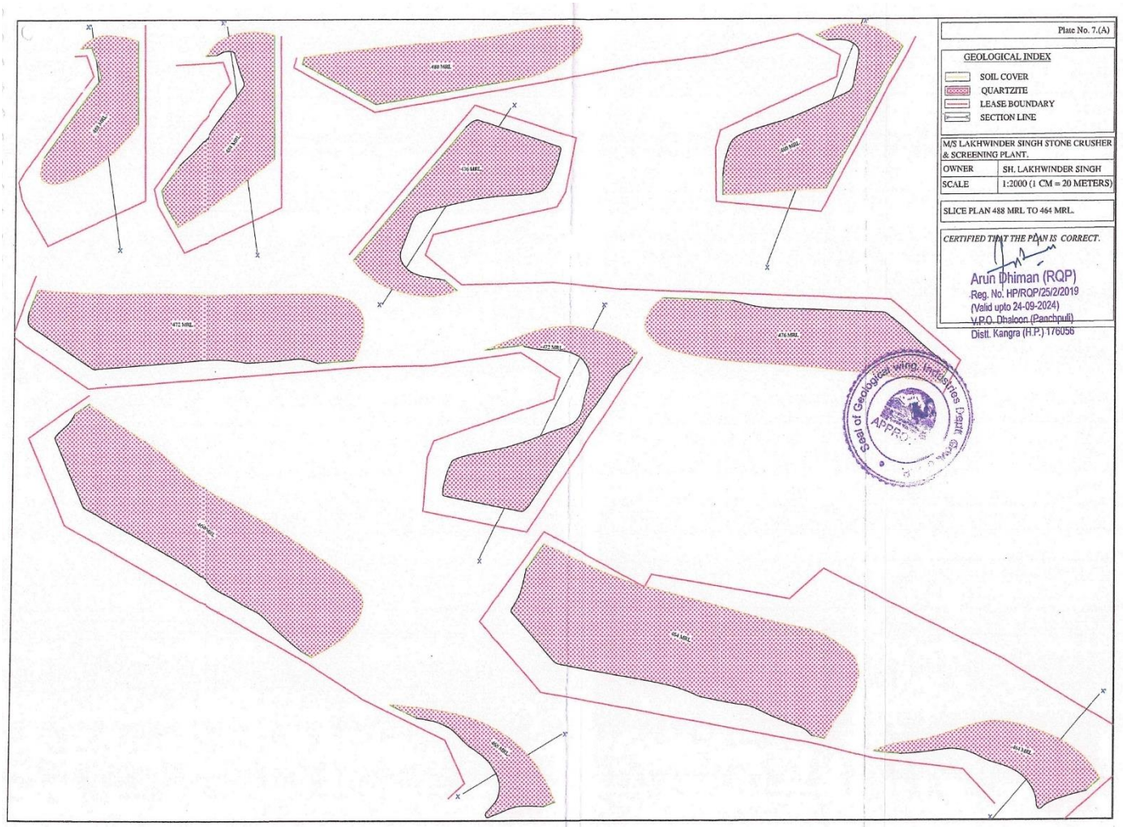


FIGURE 2.9
SLICE PLAN



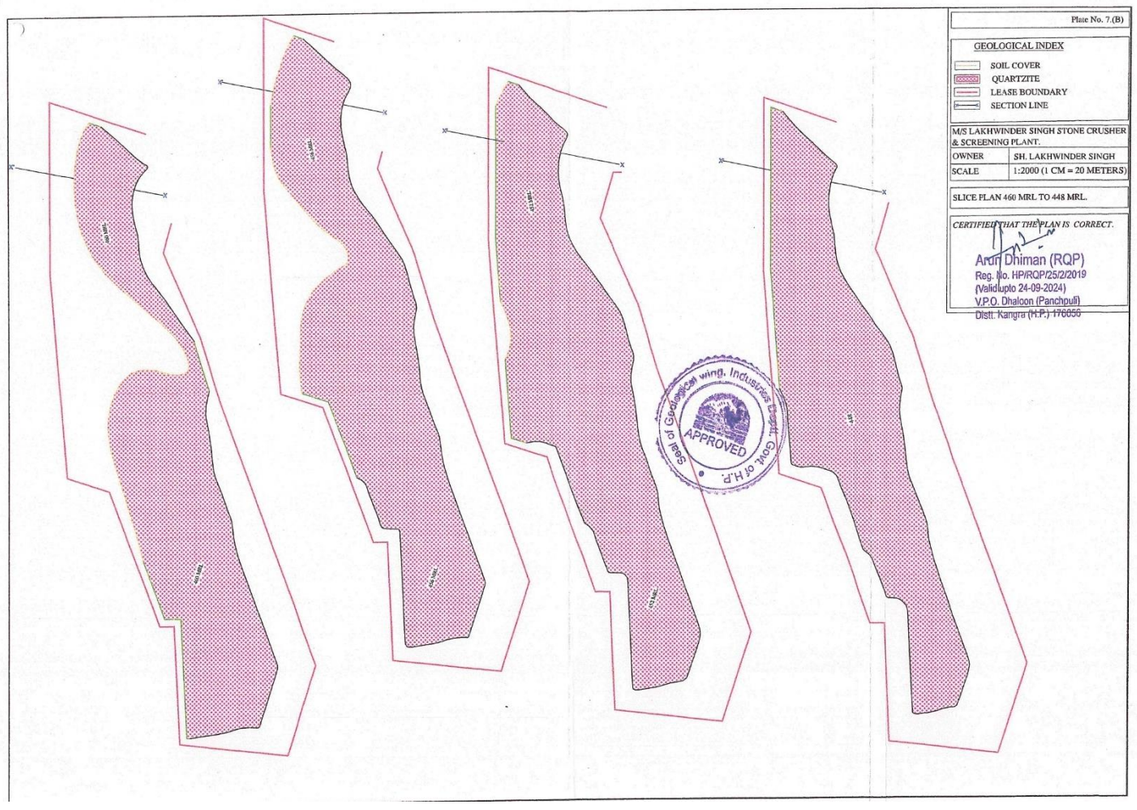


FIGURE 2.10

CROSS SECTION MAP ALONG THE MINING AREA

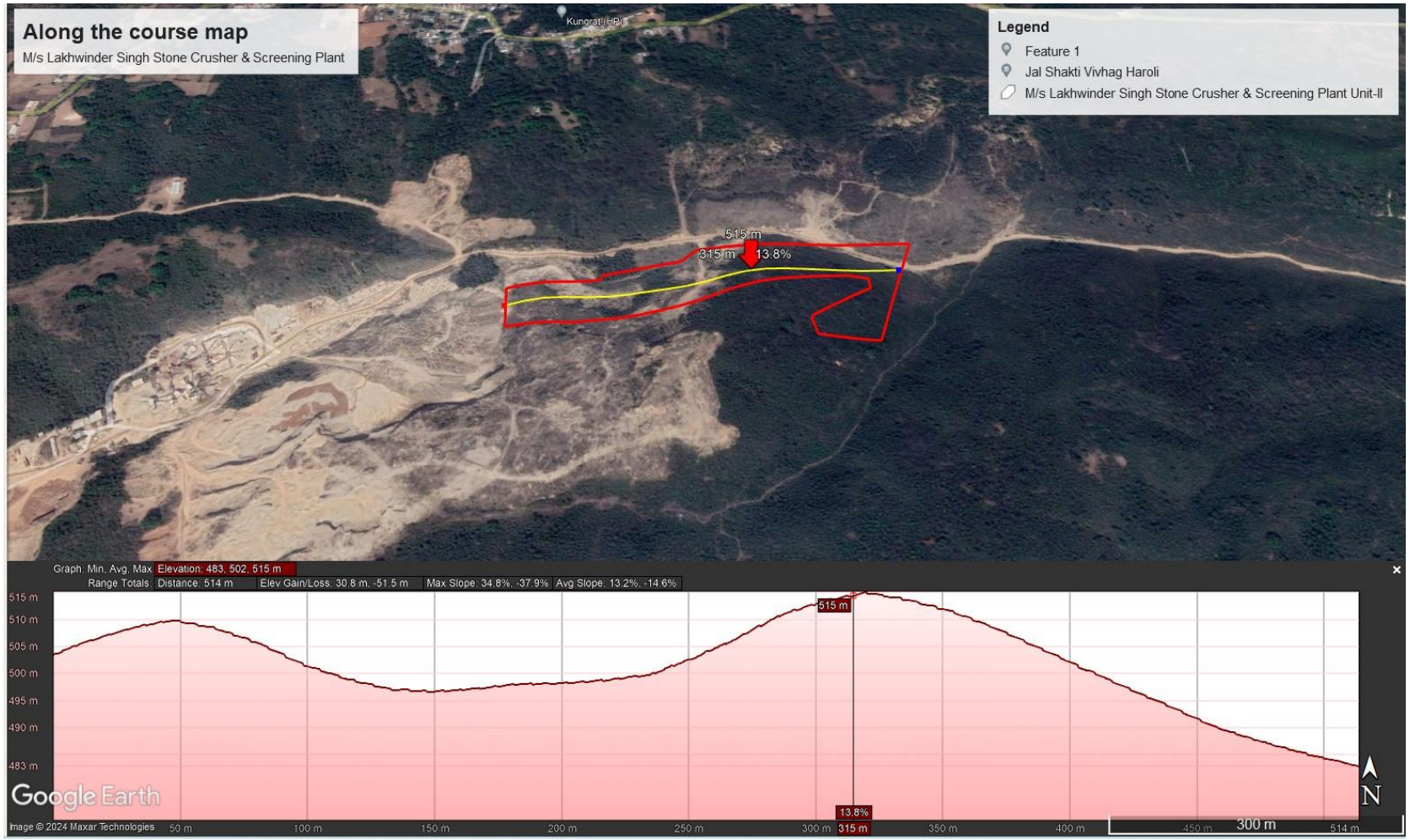
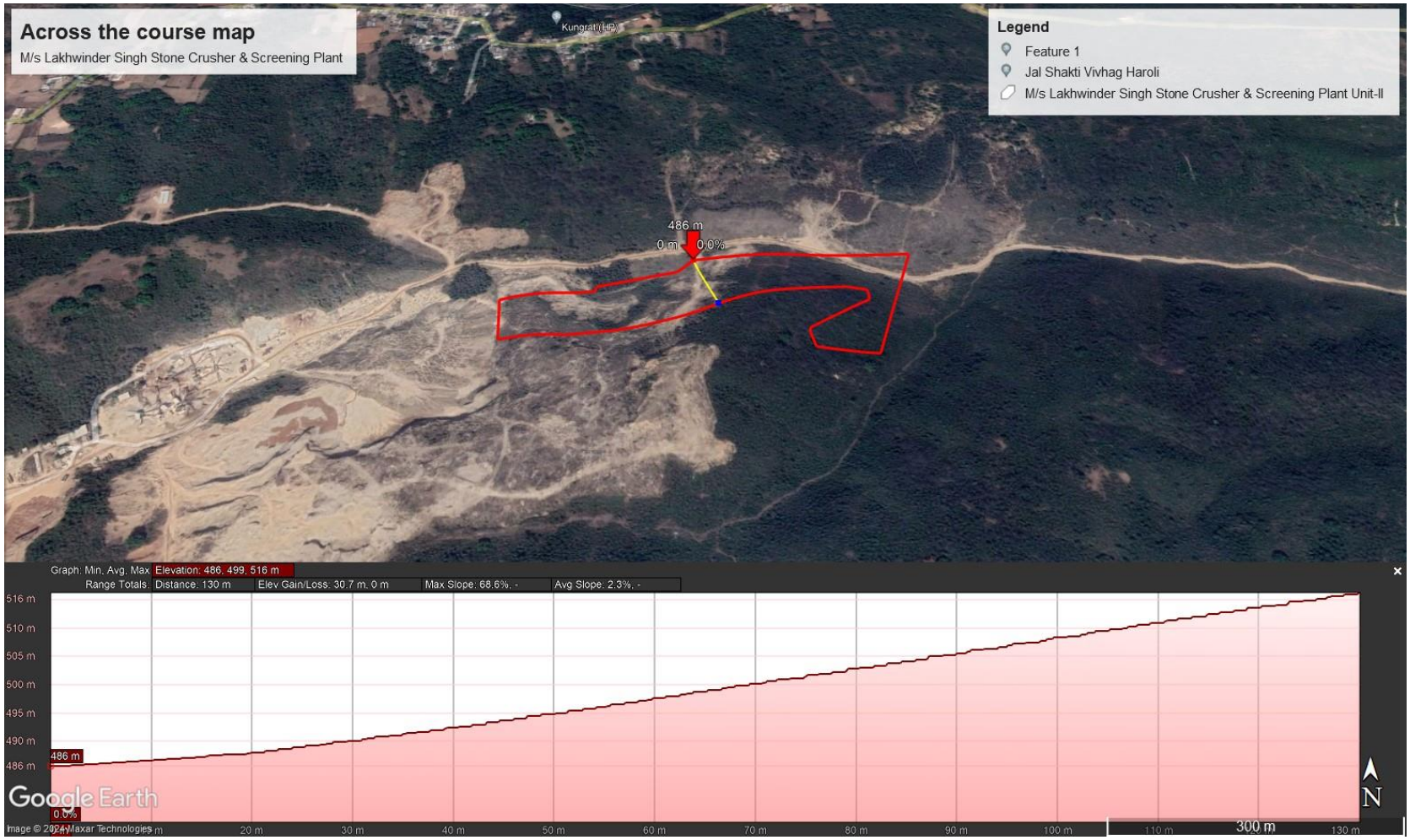


FIGURE 2.11

CROSS SECTION MAP AROSS THE MINING AREA



CHAPTER-3.0
BASELINE SETTINGS

3.1 THE STATE:

Himachal Pradesh having world's mightiest mountain ranges is one of the hilly States situated in the Northern part of India. It is blessed with some of the most spectacular and beautiful landscapes. It came into being in November, 1966 after the re-organization of States. Earlier, it was part of the combined State of Punjab. The various hill towns in the State not only provide visitors reprieve from the heat of the planes, but offer beautiful scenic sites which are real treat to the eyes. Kullu and Kangra valleys offer natural beauty which is no less than Kashmir Valley. Valleys and streams, snow clad mountains and temperate forests offer tourists and sportsmen all they want.

Earlier the economy of the State mostly depended on tourism and a large number of tourist siteshad been developed by the State. However, after the re-organization, the State has made big strides in the field of industrialization also. The State has good deposits of minerals like gypsum, lime stone and slate etc. It has big reserve of minerals which can be used in various types of industries. Mining of minor minerals is also, therefore, an extensive Industry in the State. Industries like Cement, Electronics, Fertilizers, Pharmaceuticals and Liquor can be found in good number at different places in the State. Hydel Power in the State has given a big boost tothe industries. A number of Industrial areas have been developed in the State, where all facilities are provided to the entrepreneurs. Parwanoo, Barotiwala, Baddi, Paonta Sahib and Raja Ka Bag are some of the important industrial areas developed by the State in the last two decades.

3.2 UNA DISTRICT:

Una district is one of the twelve districts of the state of Himachal Pradesh, India. Una district is well-developed in the industrial sector due to its close proximity to Punjab. Mehtapur, Gagret, Tahliwal & Amb are the main industrial centres of Una. The state has been provided with a railway line by laying a 14 Kms broad gauge track from Nangal (Punjab) to Una.

The configuration of district is a hilly district and falls in the Himalayan foothill zone

popularly known as the Siwalik foothills. There are many important hill ranges/Dhars in the district. The area adjoining the Punjab border is also hilly. The Eastern part of this district is relatively higher than that of the western part. The elevation of this district varies between 332 meters and 1162 meters above the mean sea level. The Soan river is the main river in the district which flows from the northeast to the southwest direction. It is seasonal river and Lunkhar Khad is another Khad that flows in the south-easterly direction and merges with the Satluj river. It also forms a narrow valley that is relatively flat and fertile.

3.3 PROJECT SITE:

The mining lease area is located in the form of a Hill Slope near the village Kungrat of Tehsil Haroli, District Una. The mining lease area lies at a distance of 18 Kms from Una and 10 Kms from Haroli. The site is approachable through Palakwah- Lalahri- Tahliwal Road diverting RHS from the Nangal Khurd Road.

Features within 10 km radius are given in Table-3.1. Location Map showing 10 km radius is given in Figure 3.1. Pillar coordinates of the Mining land area showing in Fig. 3.2.and 5-meter radius map given in figure 3.3.

TABLE 3.1

SALIENT FEATURES OF THE PROJECT

<table>
<tr><th>S. No.</th><th>Particulars</th><th colspan="3">Details</th></tr>
<tr><td>1.</td><td>Location</td><td colspan="3"></td></tr>
<tr><td>a)</td><td>Mauza/ Mohal</td><td colspan="3">Kungrat</td></tr>
<tr><td>b)</td><td>Tehsil</td><td colspan="3">Haroli</td></tr>
<tr><td>c)</td><td>District</td><td colspan="3">Una</td></tr>
<tr><td>d)</td><td>State</td><td colspan="3">Himachal Pradesh</td></tr>
<tr><td>e)</td><td>Lease Area Co-ordinates</td><td>Pillar No.</td><td>Latitude</td><td>Longitude</td></tr>
<tr><td rowspan="4"></td><td rowspan="4"></td><td>P1</td><td>31°21'50.96"N</td><td>76°14'02.35"E</td></tr>
<tr><td>P2</td><td>31°21'54.28"N</td><td>76°14'21.79"E</td></tr>
<tr><td>P3</td><td>31°21'48.48"N</td><td>76°14'19.62"E</td></tr>
<tr><td>P4</td><td>31°21'48.39"N</td><td>76°14'02.71"E</td></tr>
<tr><td>2.</td><td>Elevation</td><td colspan="3">Highest 490 meters above MSL.
Lowest 450 meters below MSL.</td></tr>
<tr><td>3.</td><td>Climatic Conditions</td><td colspan="3"></td></tr>
<tr><td>i.</td><td>Temperature Min/Max</td><td colspan="3"><table><tr><td colspan="2">Winter C°</td><td>Summer C°</td><td>Rainy C°</td></tr><tr><td>Min</td><td>3.5</td><td>8.0</td><td>14.0</td></tr><tr><td>Max.</td><td>33.0</td><td>45.5</td><td>35.0</td></tr></table></td></tr>
<tr><td>ii.</td><td>Rainfall: Average,</td><td colspan="3">Approx. 1400 mm</td></tr>
<tr><td>iii.</td><td>Relative Humidity, % (average annually)</td><td colspan="3">Summer 55%, Monsoon 98%.</td></tr>
<tr><td>iv.</td><td>Wind speed</td><td colspan="3">Maximum: 1.62 m/s
Average: 0.39 m/s</td></tr>
<tr><td>4.</td><td>Nearest highway</td><td colspan="3">2.00 Kms (SH-39)</td></tr>
<tr><td>5.</td><td>Nearest railhead/Railway station</td><td colspan="3">12 kms (Naya Nangal towards E)</td></tr>
<tr><td>6.</td><td>Nearest airport</td><td colspan="3">Chandigarh Airport (91.42 kms)</td></tr>
<tr><td>7.</td><td>Nearest Major City</td><td colspan="3">Una (18 Km)</td></tr>
</table>

8.	**Nearest Major Settlement.**	Haroli (10 km)
Features within 5 kms		
i.	**Archaeological important places.**	Nil
ii.	**Wild life/ Elephant & Tiger pl sanctuaries**	Nil
iii.	**Industries**	There are around 3 industries within the 5 kms of the project site.
iv.	**State boundary**	Nil
v.	**Mining type**	Hill Slope

FIGURE- 3.1

LOCATION MAP ON 10 KM TOPOSHEET

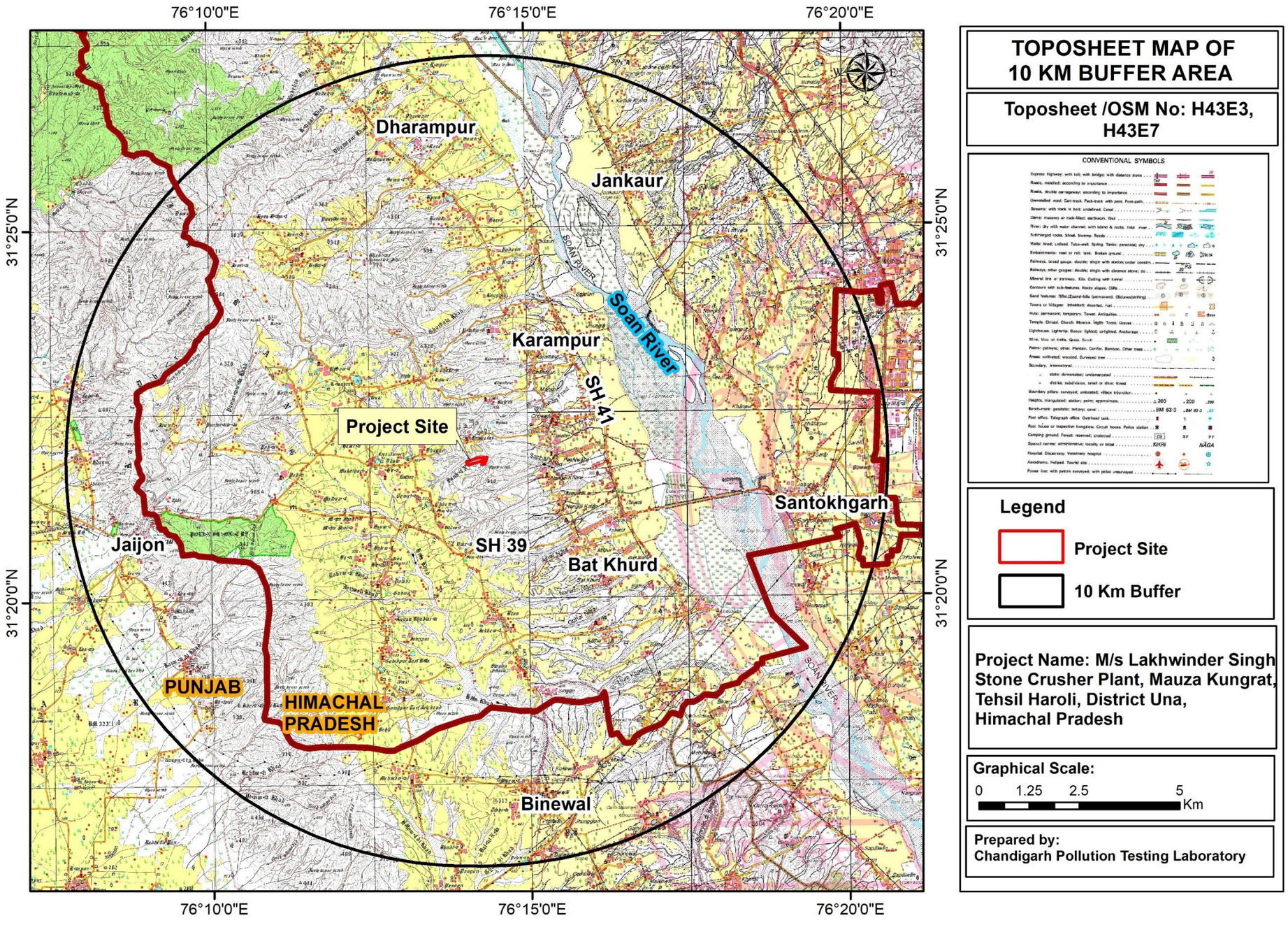


FIGURE- 3.2

PILLAR CO-ORDINATES MAP

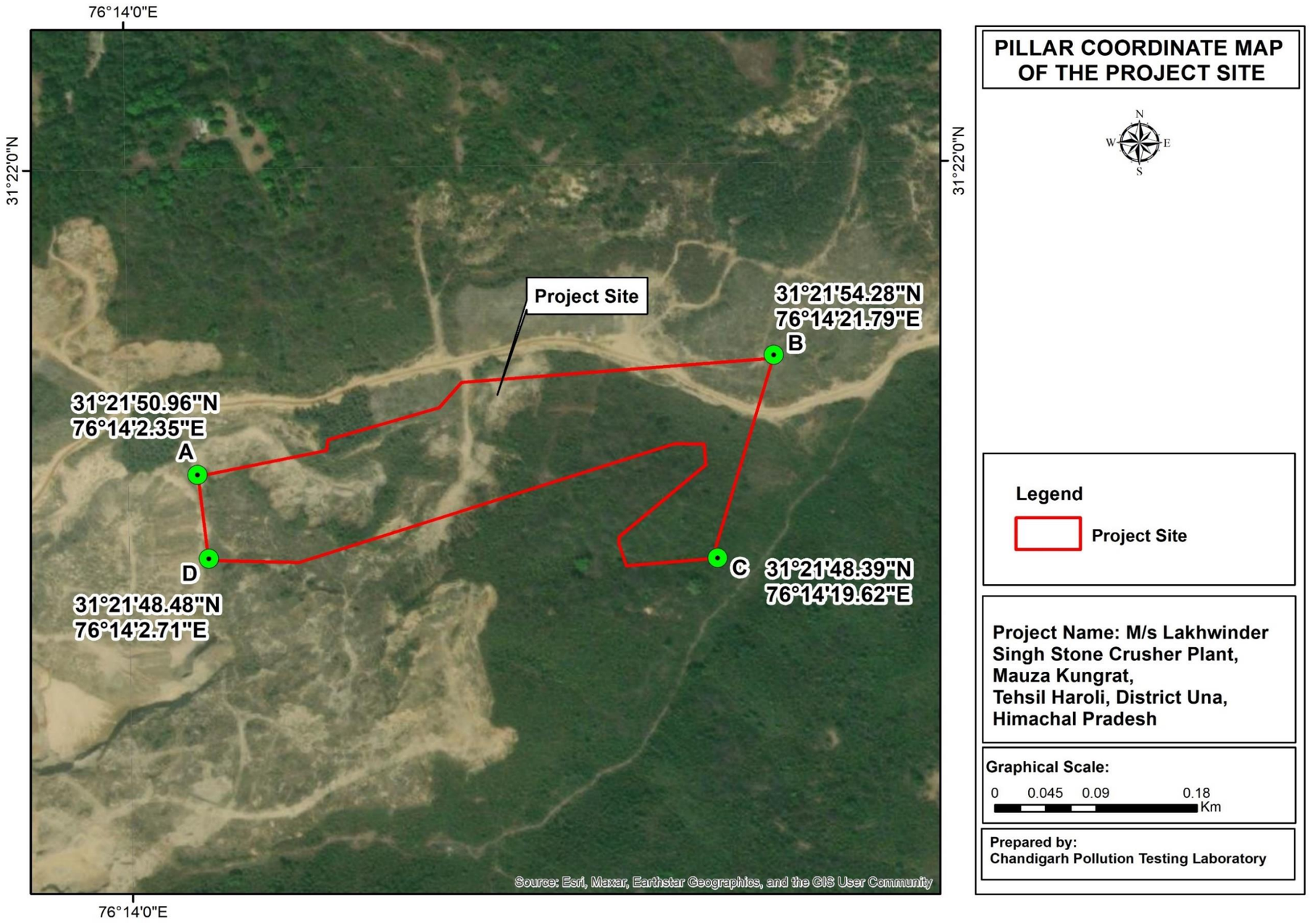
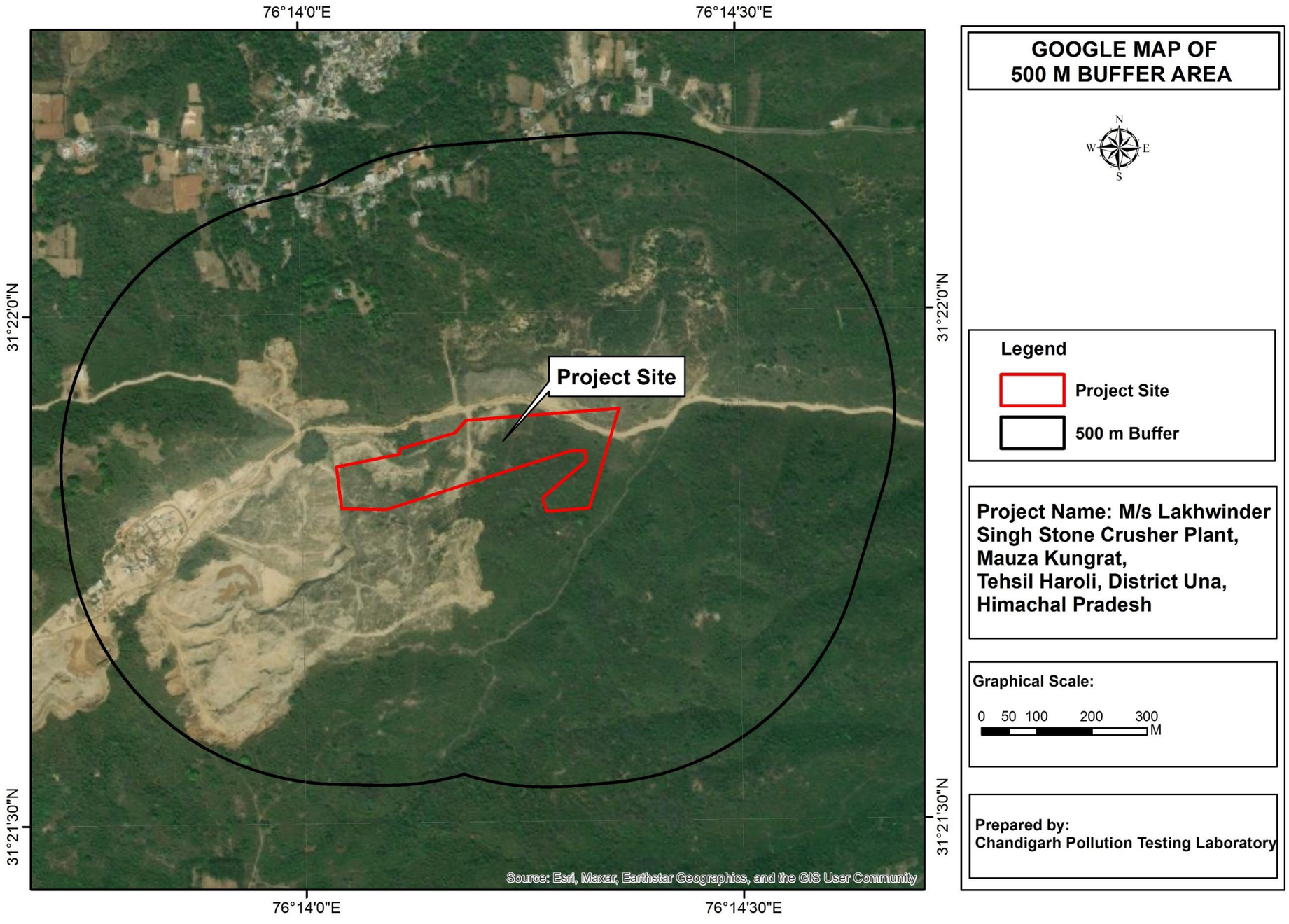


FIGURE- 3.3

500M RADIUS MAP



3.3.1 STUDY PERIOD:

The environmental monitoring for the EIA study, for the project has been conducted for the winter season. Initially, a reconnaissance survey of the study area was carried out and then field monitoring for measuring meteorological parameters, ambient air quality, water quality, soil quality and noise levels was carried out following CPTLE/QSPM-06/01–CPTLE/QSPM-06/09 as per the QMS of the organization from ***November 2023 – January 2024***. In addition, certain aspects like land area, socio-economic status, past meteorological conditions, etc., have been analyzed based on secondary information available from sources like district census reports, district gazetteers, Indian meteorological department, etc. The baseline status of various environmental components is described in the succeeding sections.

3.3.2 COMPONENTS OF STUDY:

This chapter contains information on existing environmental scenario for the following parameters.

1. Land Environment
2. Meteorology
3. Air Environment
4. Noise Environment
5. Water Environment
6. Soil Environment
7. Biological Environment
8. Socio-economic Environment

3.3.3 METHODOLOGY:

For the present study, all the sampling locations are marked with the help of Google maps and site visits. The land use/ land cover map has been generated on 1:50,000 scale using Satellite imagery and ground truth information. The baseline environmental quality has been assessed during the

period from ***November 2023 – January 2024***. Samples of Air, Water, Noise and Soil from the site and nearby areas has been collected and analyzed for the study of existing condition. Primary and secondary data collection has been done by the Ecology and Biodiversity team for the study of flora and fauna in the study area. The baseline data is generated through field study within the impact zone for various components of the environment viz. Air, Noise, Water, Land, Ecology and Socioeconomic. While generating the baseline status of physical and

biological environment of the study area, the concept of impact zone has been considered. The impact zone selection is based on preliminary screening and modeling studies. The methodologies for various environmental facets is as follow:

I. Ambient Air Quality

The ambient air quality monitoring was done to assess the ambient air quality in one season. Monitoring was carried out from ***November 2023 – January 2024***.The guidelines for selections of ambient air monitoring stations given in IS – 5182 part 14, 2000 and 'Guidelines for Ambient Air Quality Monitoring' by CPCB were followed.

II. Water Quality

To assess the water quality of the proposed area, sampling was done as per the standard practice. Grab sampling was done for ground and surface water. Water samples were taken as per the standard methods (IS 10500: 2012 & APHA, 23rd Edition). Necessary precautions were taken for preservation of samples. The physical parameters viz. pH, temperature and conductivity were measured at site.

III. Ambient Noise Quality

At each station noise levels were monitored for day and night time once in a season.

IV. Soil Quality

For soil, augur method was used and samples were collected at 15-25 cm depth after removing the upper crust.

V. Land Use

The land use/ land cover map has been generated on 1:50,000 scale using Satellite imagery and ground truth information.

VI. Biological Environment

Primary and secondary data collection has been done by the Ecology and Biodiversity team for the study of flora and fauna in the core and Buffer Zone.

VII. Socio Economic Environment

For demography and socioeconomics, block wise data has been collected and used for the assessment of impacts.

VIII. Micro-Meteorological Data

Meteorology is the key to understand the air quality. The essential relationship between meteorological condition and atmospheric dispersion involves the wind speed and direction in the broad sense. Other factors such as variation in temperature, humidity, cloud amount, atmospheric stability classes etc. also plays a direct role in dispersion and dilution of pollutants. Wind fluctuations over a wide range of time, accomplish dispersion and strongly influence other processes associated with them.

3.4 ENVIRONMENTAL BASELINE DATA COLLECTION:

Baseline data for the proposed plant was collected immediately after the monsoon season**.** Primary data has been collected by monitoring & surveying various environmental components/ parameters in the core zone during the study period, details of which are given here.

PRIMARY DATA

S. No.	PARAMETERS	DESCRIPTION
1	Meteorology	Meteorological parameters on hourly basis at project site. Parameters: Temperature, Relative humidity, Wind Speed & Wind Direction.
2	Air	Ambient air quality monitoring (24 hourly), twice a week. Parameters are PM_{10}, $PM_{2.5}$, SO_2, NO_2 & CO. No. of Locations: 8 locations in core and buffer zone.
3	Noise	Noise level monitoring (Day & Night time), once in a season. No. of Locations: 8 locations in core and buffer zone.

4	Water	Ground water sampling, once in a season. No. of Locations: 8 locations in core and buffer zone. Tested for physical and chemical parameters.
5	Soil	Soil sampling, once in a season. No. of Locations: 8 locations in core and buffer zone.
6	Biological Factors	Biodiversity survey, once in a season. Location: Core and buffer zone.
7	Socio-economic Environment	Socio-economic survey, once in a season. Location: Core and buffer zone.

3.5 METEOROLOGY:

Meteorology plays a vital role in affecting the dispersion of pollutants. Since meteorological factors show wide fluctuations with time, meaningful interpretations can be drawn only from long term reliable data. The source of such data is the Indian meteorological Department (IMD),which maintains a network of meteorological stations at several important locations. The nearest stations of the study are Una.

Table: 3.2 Climate of Una District, Himachal Pradesh

Climate of Una District, Himachal Pradesh				
Climate		***Winter***	***Summer***	***Rainy***
Period		**Oct.-Mid March**	**Mid. March-June**	**July-September**
Weather		Cool	Hot	Humid
Humidity		84%	55%	98%
Temperature	**Max.**	33.0 ℃	45.5℃	35.0℃
	Min.	-3.5 ℃	8.0℃	14.0℃

Rainfall	**Max.**	82.0 mm	69.0 mm	175.0 mm
	Min.	1.0 mm	1.0 mm	1.0 mm

3.6 CLIMATE:

The region has four distinct seasons. The area experience severe winter from December to March followed by severe summers seasons lasting from April to June. The area receives rain fall under the influence of south west monsoon from July to mid- September followed by post monsoon season lasting up to November.

3.6.1 TEMPERATURE:

The area is hilly with steep slopes and has Semi-arid climate. December and January are the coldest months whereas in May and June the heat is quite intense. The wettest months of the seasons are July, August and September. The temperature varies from about -3.5^{o} C minimum to about 45.5^{o} C maximum during the year.

3.6.2 RAINFALL:

Rainfall varies significantly with altitude of area. The catchment area receives rainfall due to western disturbances that pass over the north- western part of the country during winter months. Rainy season Generally start from mid-July and extend up to mid-September.

The Una district can be divided into three rainfall zones as:

- High above 1400 mm
- Medium between 1400 and 1200 mm
- Low less than 1200 mm

3.6.3 HUMIDITY:

In summer months of April, May and June, which is the driest part of the year, the afternoon humidity comes down to around 19 % to 22 % while the relative humidity during monsoon months goes up to 55 % to 98 %.

3.6.4 CLOUDINESS:

During monsoon season skies are over cast with moderate to heavy clouds. During rest of the year, the sky is mostly clear. It is lightly clouded occasionally during winter season.

3.6.5 WINDS:

The Wind direction in the area is mostly from North -West to South-East. During January to March the winds are quite strong while July to October is calm months. The general trends of various meteorological data from meteorological observatory are used to draw Wind RoseDiagram which is the diagrammatic representation of wind speed and frequency in a specified direction with its arms representing sixteen directions. Each arm gives a clear frequency distribution of wind speed in a particular direction for a given period of time. The diagram is given in figure 3.4.

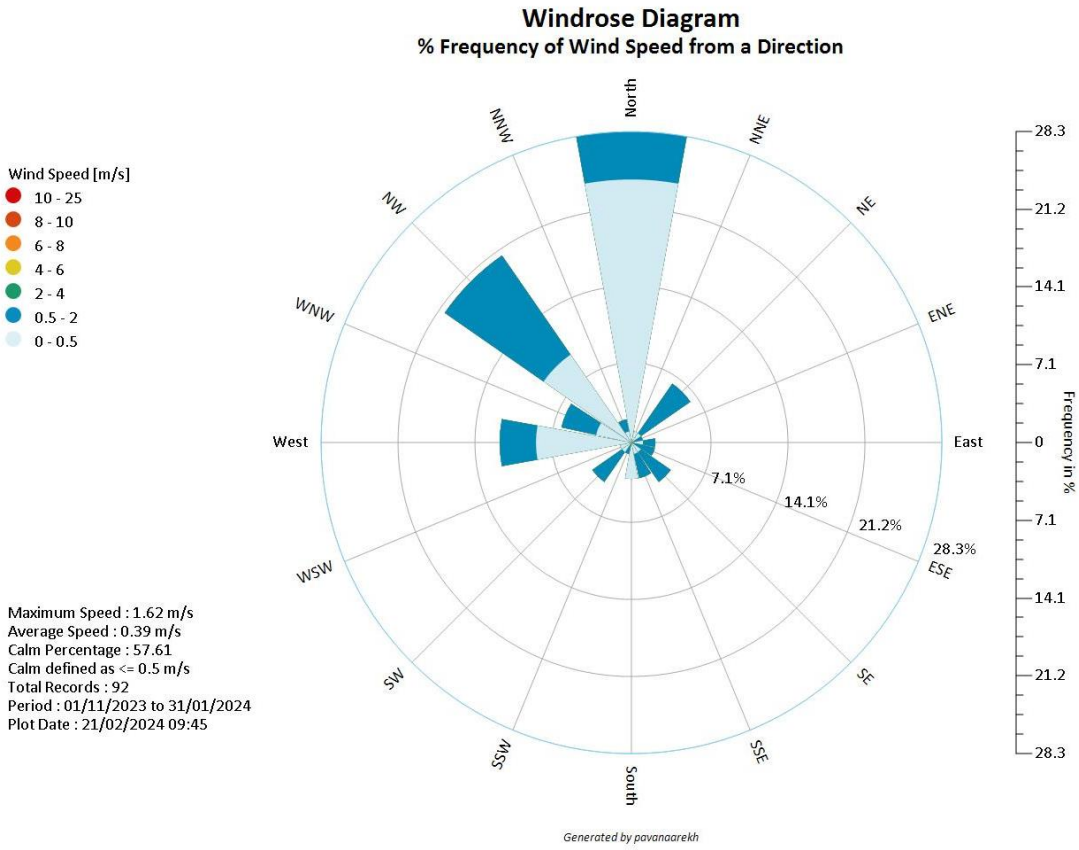
3.7 MICRO METEOROLOGY AT SITE:

Meteorological station was set-up at site to record surface meteorological parameter during the study period. Summary of the micro-meteorology at site is given below**:**

Month	Temperature(ºC)		Relative Humidity (%)
	Max.	Min.	(Average)
November, 2023	22.6	12.0	42.7
December, 2023	17.12	7.0	37.38
January, 2024	20	3.0	41

FIGURE- 3.4

WIND ROSE DIAGRAM



3.8 AMBIENT AIR QUALITY:

The ambient air quality monitoring was done to assess the ambient air quality. Monitoring was carried out at eight stations for the month of ***November 2023 to January 2024***. The guidelines for selections of ambient air monitoring stations given in IS – 5182 part 14, 2000 and CPCB guidelines were followed. These guidelines state that, "when the objective of air sampling is to identify the contribution from specific sources of pollution, the sampling locations should be located in upwind and the downwind direction of such sources".

The location of air quality monitoring stations should satisfy the following conditions:

1. The site should be representative of the area selected;
2. Certain physical requirements should be satisfied at the site.

METHODOLOGY:

The prime objective of the baseline study with respect to ambient air quality is to establish the present air quality and its conformity to National Ambient Air Quality Standards. This data has been further used during impact assessment to predict the final air quality. This section describes the sampling locations, frequency of sampling and methodology adopted for monitoring ambient air quality.

To quantify the impact of the project on the ambient air quality, it is necessary at first to evaluate the existing ambient air quality of the area. The existing ambient air quality, in terms of Particulate Matter- 10(PM_{10}), Particulate Matter-2.5 ($PM_{2.5}$), Sulphur-dioxide (SO_2), Oxides of Nitrogen (NO_2), and Carbon Monoxide (CO), has been measured through a planned field monitoring.

SAMPLING STATIONS:

To select the air sampling locations, meteorological data with respect to temperature, relative humidity, wind speed and direction plays a vital role. Predominant wind direction plays an important role in determining location of monitoring stations. The monitoring stations were located in areas that were downwind from the source. List of Air sampling stations are given in **Table 3.3** and Location Air Sampling Stations are given in **Figure 3.2**.

Table 3.3

Ambient Air Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction (KM)	Upwind/ Downwind	Co-ordinates
1.	AAQ-1	**Project site**	**0**	--	31°21'50.96"N 76°14'02.35"E
2.	AAQ-2	**Palakwah**	3.34 (NE)	Crosswind	31°23'40.99"N 76°14'55.20"E
3.	AAQ-3	**Beeton**	2.74 (S)	Downwind	31°20'21.10"N 76°14'9.52"E
4.	AAQ-4	**Tahliwal**	3.38 (SE)	Crosswind	31°20'57.65"N 76°16'6.53"E
5.	AAQ-5	**Haroli**	6.33 (N)	Upwind	31°25'16.46"N 76°13'55.78"E
6.	AAQ-6	**Kutharbeet**	1.72 (W)	Crosswind	31°21'54.89"N 76°12'58.67"E
7.	AAQ-7	**Dhugge**	1.54 (SW)	Crosswind	31°21'21.61"N 76°13'14.45"E
8.	AAQ-8	**Bathu**	5.13 (SE)	Crosswind	31°19'30.67"N 76°16'17.83"E

MONITORING SCHEDULE:

Ambient air quality monitoring was carried out twice a week with a frequency of 24 hours for 12 weeks.

METHODS OF SAMPLING AND ANALYSIS:

Sampling was done as per guideline laid down in IS – 5182 part 14, 2000 and respective IS-methods for the analysis of various air pollutants. The instruments/ equipment's used for sampling are calibrated by NABL approved instructions. In addition, collated sampling was undertaken one each for upwind, downwind & crosswind direction to project site, the result of which reveals that the air quality is quite satisfactory both in terms of NAAQ standards and the overall AQI for that period and station.

Fine particulate Sampler APM-550 & RDS APM-460 were used for monitoring of Particulate Matter (PM2.5 and PM10); gaseous pollutants like SO2, and NO2 were collected by Gaseous attachment. The analysis was done as per methods mentioned below:

S. No.	Parameters and units of measurement	Analysis Method
1.	PM_{10} µg/m^3	IS:5182, (Part-23) 2006, By Gravimetric Method: 2006
2.	$PM_{2.5}$ µg/m^3	SP-57, Issue Date-01- 05-2019, CPCB Guideline Vol-I:2011
3.	SO_2 µg/m^3	IS 5182 (P-2):2001 1st Rev (RA: 2012): 2001
4.	NOx µg/m^3	IS:5182, (P-6), RA 2012: 2006
5.	CO mg/m^3	IS 5182 (P- 10):RA2014: 1999

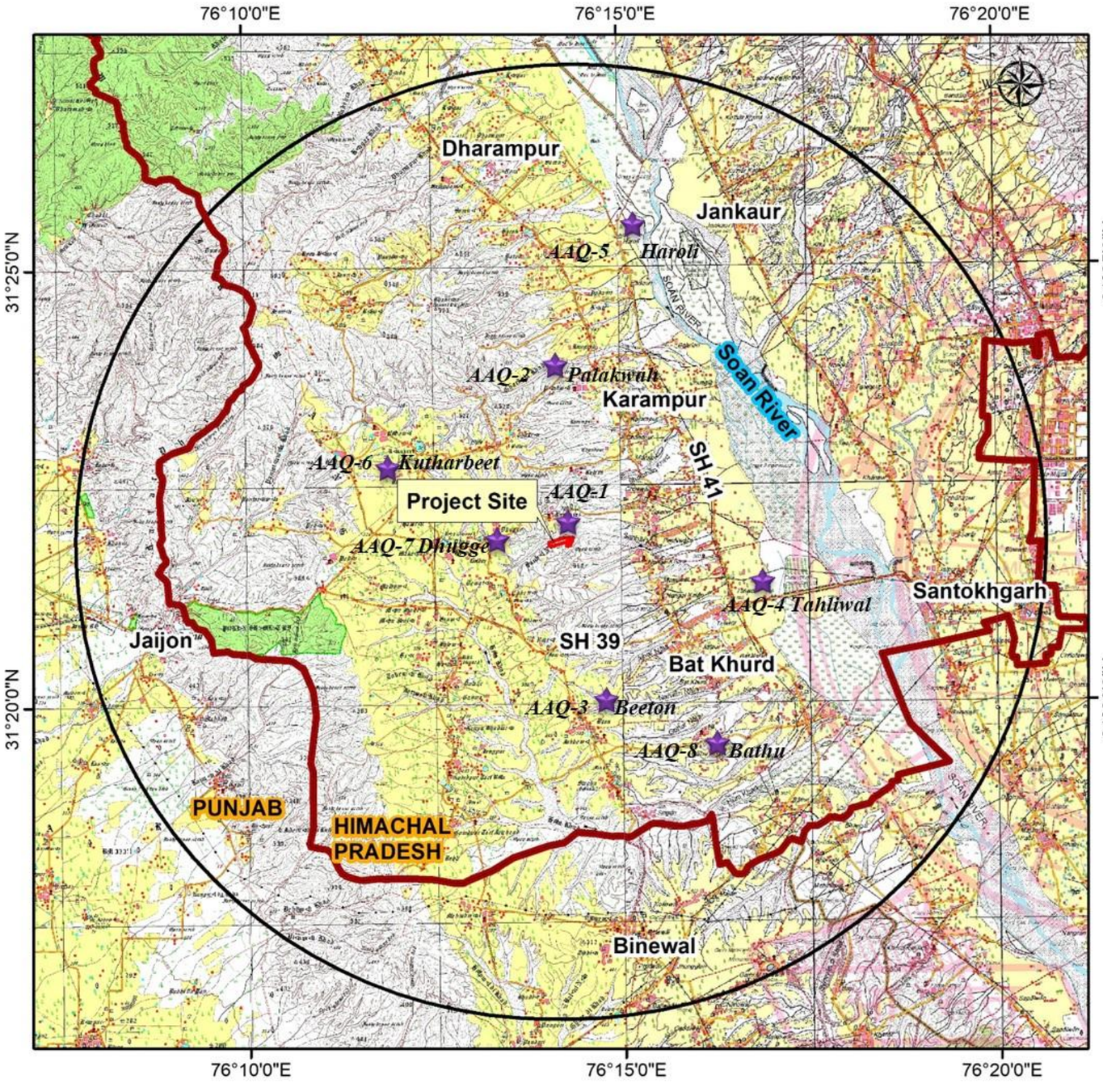
Sample Transportation and Sample Preservation: Proper preservation of samples was done after sampling. The Gaseous samples were preserved in an ice box (below 4°C) and transported to the laboratory for analysis. The filter papers were collected using forceps and stored in polythene bags and stored in dry containers during transportation

Results

The results given in **Table-3.3** when compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution Control Board (CPCB) for "Industrial, Residential, Rural and Other Areas" show that the average values of ambient air quality parameters are well within the stipulated limit.

FIGURE. 3.5

LOCATIONS OF AIR MONITORING STATIONS



TOPOSHEET MAP OF 10 KM BUFFER AREA	
Toposheet /OSM No: H43E3, H43E7	
Name of the locations (★)	
Project site (AAQ1)	--
Palakwah (AAQ2)	3.34 Km NE
Beeton (AAQ3)	2.74 Km S
Tahliwal (AAQ-4)	3.38 Km SE
Haroli (AAQ-5)	6.33 Km N
Kutharbeet (AAQ-6)	1.72 Km W
Dhugge (AAQ-7)	1.54 Km SW
Bathu (AAQ-8)	5.13 Km SE

Legend

Project Site

10 Km Buffer

Project Name: M/s Lakhwinder Singh Stone Crusher Plant, Mauza Kungrat, Tehsil Haroli, District Una, Himachal Pradesh

Graphical Scale:

0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

TABLE-3.4

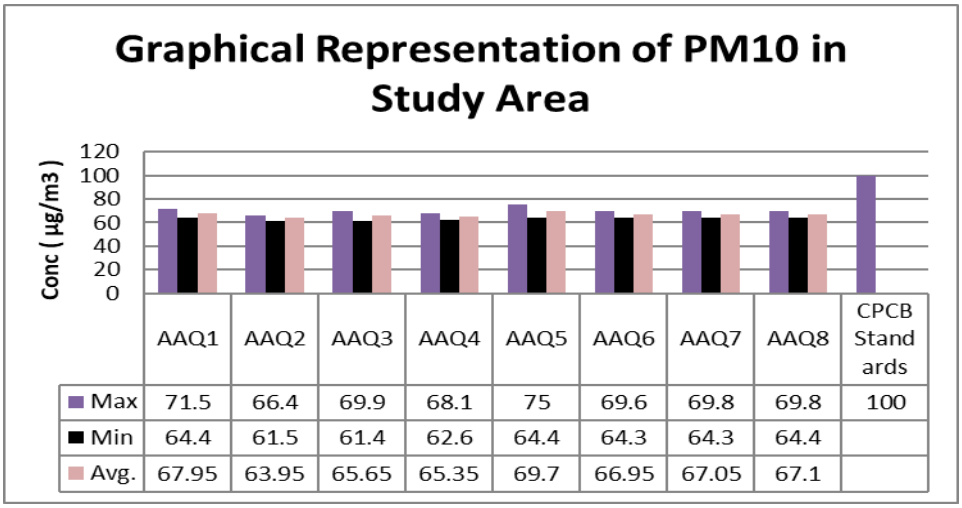
AMBIENT AIR QUALITY MONITORING RESULTS (Average value)

Locations	PM10 µg/m^3			PM2.5 µg/m^3			SO2 µg/m^3			NO2 µg/m^3			CO mg/m^3		
	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.
Project site	71.5	64.4	67.95	38.6	31.5	35.05	6.8	5.4	6.1	11.4	9.1	10.25	ND	ND	ND
Palakwah	66.4	61.5	63.95	36.5	32.2	34.35	6.8	4.8	5.8	11.6	9.2	10.4	ND	ND	ND
Beeton	69.9	61.4	65.65	38.9	34.1	36.5	6.8	4.6	5.7	10.9	9.1	10	ND	ND	ND
Tahliwal	68.1	62.6	65.35	39.8	34.4	37.1	8.4	5.4	6.9	10.9	8.3	9.6	ND	ND	ND
Haroli	75.0	64.4	69.7	39.5	34.4	36.95	6.9	4.5	5.7	11.6	9.1	10.35	ND	ND	ND
Kutharbeet	69.6	64.3	66.95	39.9	34.5	37.2	6.9	5.4	6.15	10.9	9.4	10.15	ND	ND	ND
Dhugge	69.8	64.3	67.05	39.5	34.4	36.95	6.9	4.5	5.7	11.8	9	10.4	ND	ND	ND
Bathu	69.8	64.4	67.1	39.7	34.7	37.2	7.4	4.6	6	10.8	9	9.9	ND	ND	ND
P98	**68.2**			**37.2**			**6.45**			**10.05**			ND		
CPCB Standards	**100**			**60**			**80**			**80**			**4**		

INTERPRETATION:

1. Respirable Suspended Particulate Matter (PM10)

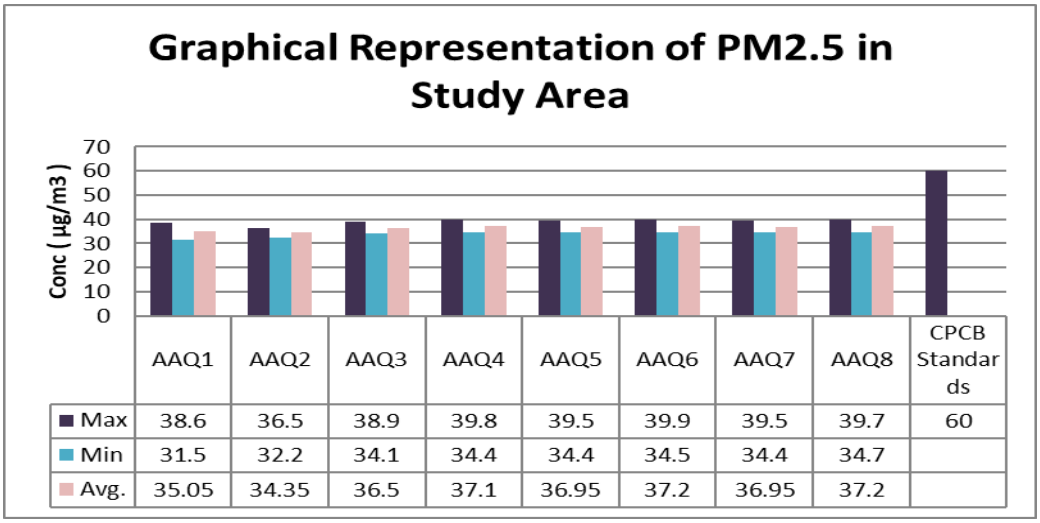
It is evident from the data, PM10 concentration observed in the study area during the study period November 2023 to January 2024. Minimum value of 61.4µg/m^3 is observed at Beeton. The maximum value of 75.0 µg/m^3 is observed at Haroli. P98 remained as 68.2 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	71.5	66.4	69.9	68.1	75	69.6	69.8	69.8	100
Min	64.4	61.5	61.4	62.6	64.4	64.3	64.3	64.4	
Avg.	67.95	63.95	65.65	65.35	69.7	66.95	67.05	67.1	

2. Respirable Suspended Particulate Matter (PM2.5)

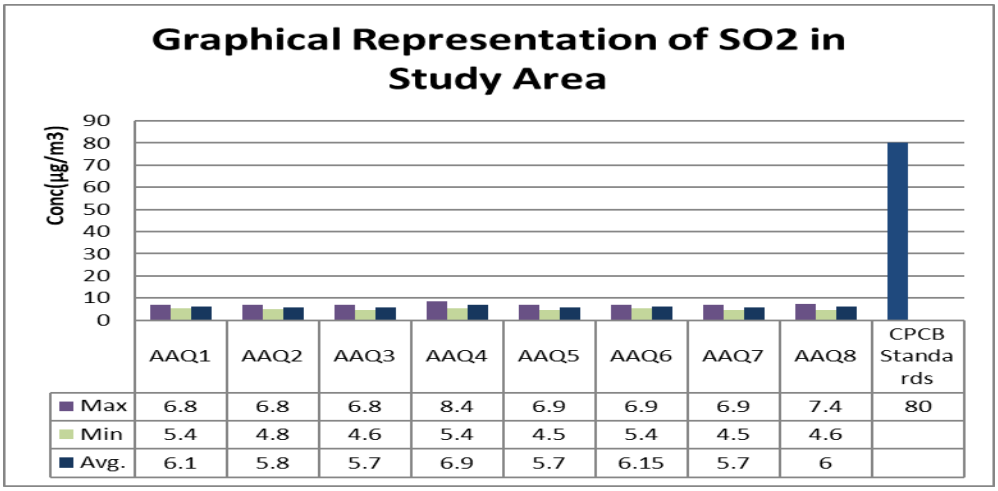
The maximum concentration of particulate matter 39.9 µg/m^3 is observed at Kutharbeet, minimum concentration of (PM 2.5) is 31.5 µg/m^3 observed at project site and P98 remained as 37.2 µg/m^3 during study period. Moreover, the graphical representation of all the locations considered for the ambient air monitoring is provided here. All the results are found satisfactory and within limit as per NAAQ standards.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	38.6	36.5	38.9	39.8	39.5	39.9	39.5	39.7	60
Min	31.5	32.2	34.1	34.4	34.4	34.5	34.4	34.7	
Avg.	35.05	34.35	36.5	37.1	36.95	37.2	36.95	37.2	

3. Sulphur Dioxide (SO2)

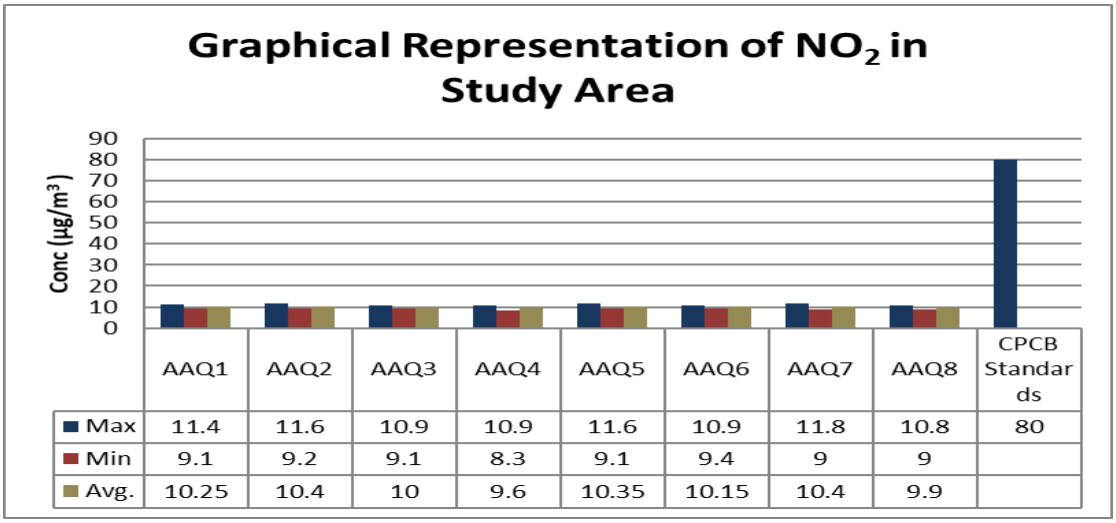
The maximum concentration of SO_2 is 7.4 µg/m^3, which observed at Bathu and minimum concentration of SO_2 4.5 µg/m3 at Haroli. The situation in the study area as far as SO_2 concentration is concerned is satisfactory. P98 remained as 6.45 µg/m^3 during study period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	6.8	6.8	6.8	8.4	6.9	6.9	6.9	7.4	80
Min	5.4	4.8	4.6	5.4	4.5	5.4	4.5	4.6	
Avg.	6.1	5.8	5.7	6.9	5.7	6.15	5.7	6	

4. Oxides of Nitrogen (NO_x)

NO_x concentration in the study area varied from minimum of 8.3 µg/m^3 to maximum of 11.8 µg/m^3. P98 remained as 10.05 µg/m^3 during this period. Analysis results of all the sampling location are found within standards, therefore it may envisage that air quality in respective of NOx pollutant is good. Furthermore,the graphical representation of sampling locations in the study area is shown here.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	11.4	11.6	10.9	10.9	11.6	10.9	11.8	10.8	80
Min	9.1	9.2	9.1	8.3	9.1	9.4	9	9	
Avg.	10.25	10.4	10	9.6	10.35	10.15	10.4	9.9	

5. Carbon Monoxide (CO)

CO concentration is not detectable.

Conclusion

On the whole the above results show that the ambient air in the mining area is environmentally quite clean and all parameters are within the permissible limits.

3.9 LAND ENVIRONMENT

The objective of assessing the land use details of the area is to know the existing land use pattern of the area and enable one to know about the land that can be used for the proposed development activities in the study area. It also enables to envisage the scenario emerging due to the increase in demand for land with increase in population and the impacts arising due to the interface with the various project activities.

a) Geographical location of the study area

The study area comprises 10km around the project site. The study area is falling under the Survey of India Topographic sheet namely H43E3, H43E7.

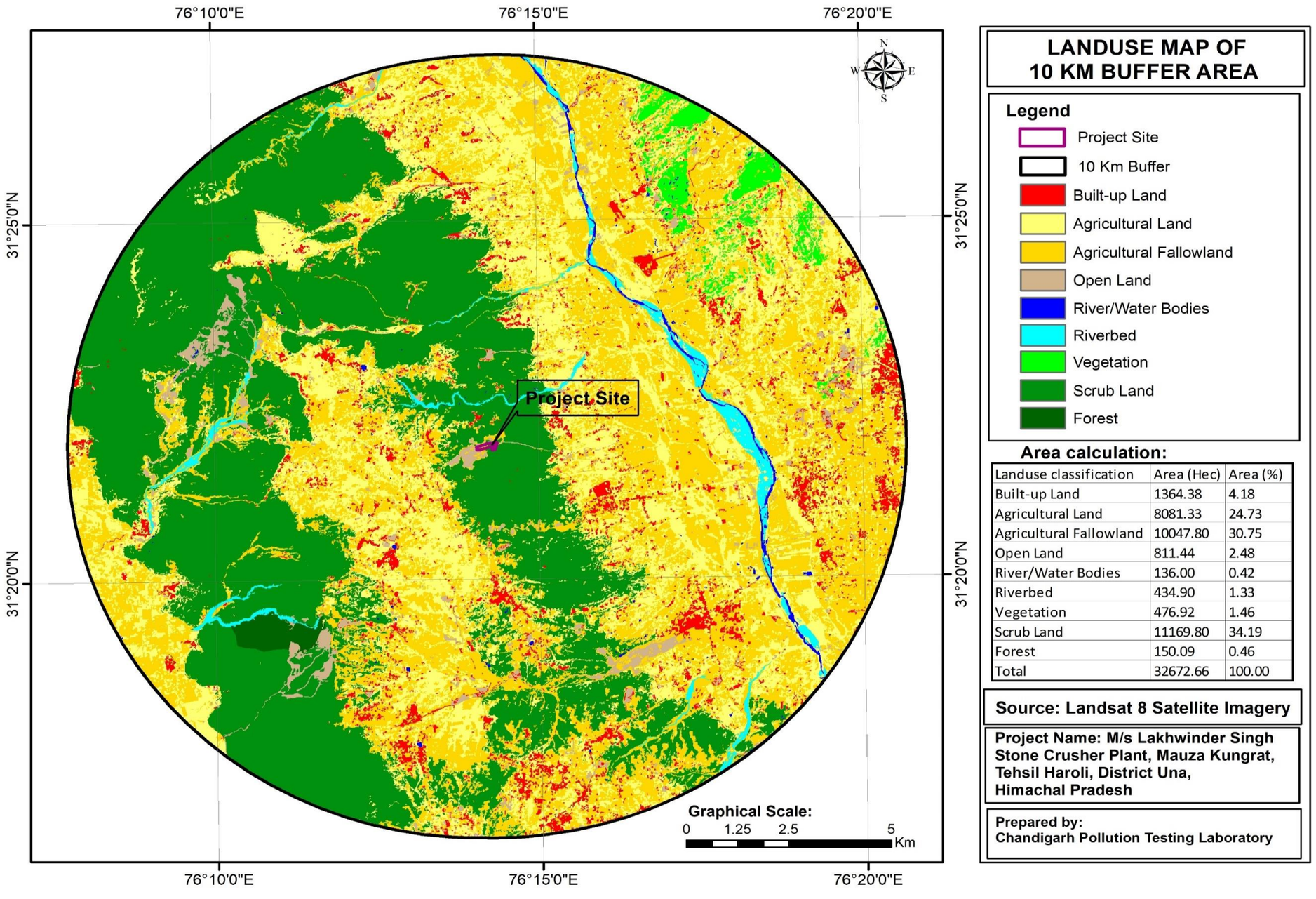
B) DATA COLLECTION AND QUALITY ASSURANCE

Satellite data

The Indian Remote Sensing satellite data (Landsat 8 satellite Imagery) is being used for the analysis of Land Use and Land Cover around 10 KM of the study area and a 10 Km radius False Color Composite satellite map surrounding the project site is provided in **figure 3.6 and figure 3.7** respectively.

FIGURE 3.6

LAND USE AND LAND COVER MAP



Area calculation:

Landuse classification	Area (Hec)	Area (%)
Built-up Land	1364.38	4.18
Agricultural Land	8081.33	24.73
Agricultural Fallowland	10047.80	30.75
Open Land	811.44	2.48
River/Water Bodies	136.00	0.42
Riverbed	434.90	1.33
Vegetation	476.92	1.46
Scrub Land	11169.80	34.19
Forest	150.09	0.46
Total	32672.66	100.00

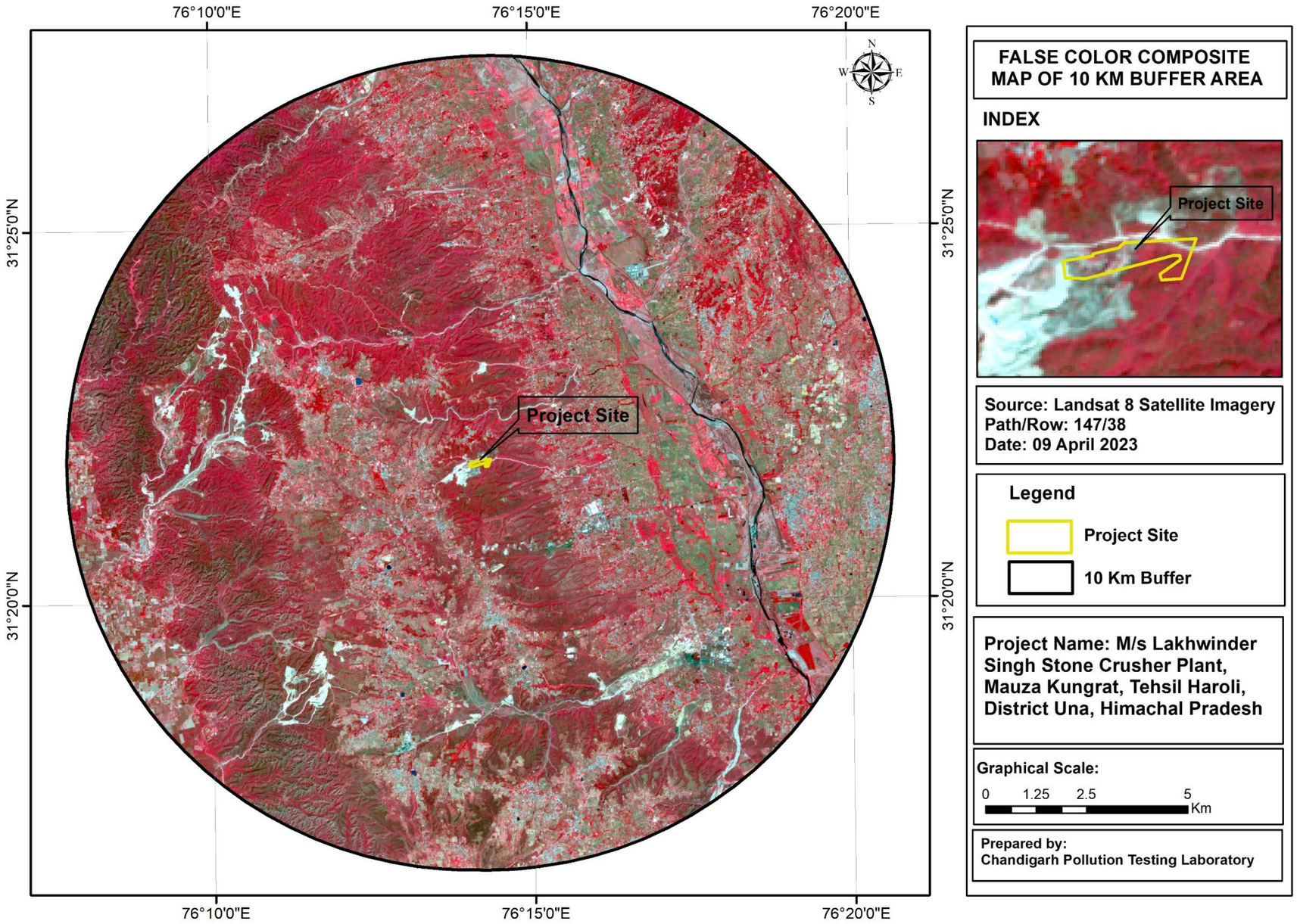
Source: Landsat 8 Satellite Imagery

Project Name: M/s Lakhwinder Singh Stone Crusher Plant, Mauza Kungrat, Tehsil Haroli, District Una, Himachal Pradesh

Prepared by:
Chandigarh Pollution Testing Laboratory

FIGURE 3.7

10 KM RADIUS FALSE COLOR COMPOSITE SATELLITE



c) METHODOLOGY

The land use / land cover map is prepared by adopting the interpretation techniques of the image in conjunction with collateral data such as Survey of India topographical maps and census records. Image classification has been done by using visual interpretation techniques and digital classification using ERDAS image processing 10.0 software and ARC/GIS 10.0 software. The various activities for preparation of LULC include preprocessing, rectification, enhancements and classifying the satellite data for assessing the change in land use land cover due to proposed developmental activities.

The imagery is interpreted and ground checked for corrections. The final map is prepared after field check. The different land use/land cover categories in the study area have been carried out based on the NRSC land use / land cover classification system.

Flowchart showing the methodology adopted for land use/land cover mapping is provided as Figure given below.

LAND USE / LAND COVER STUDY

The land use land cover study has been done through digital image processing and visual interpretation technique to generate output of Land use / Land cover map of study area on 1:50,000 scale. Land Use / Land Cover Map of Study Area (10 Km Buffer) **Table 3.5.**

Flowchart showing the methodology adopted for land use/land cover mapping

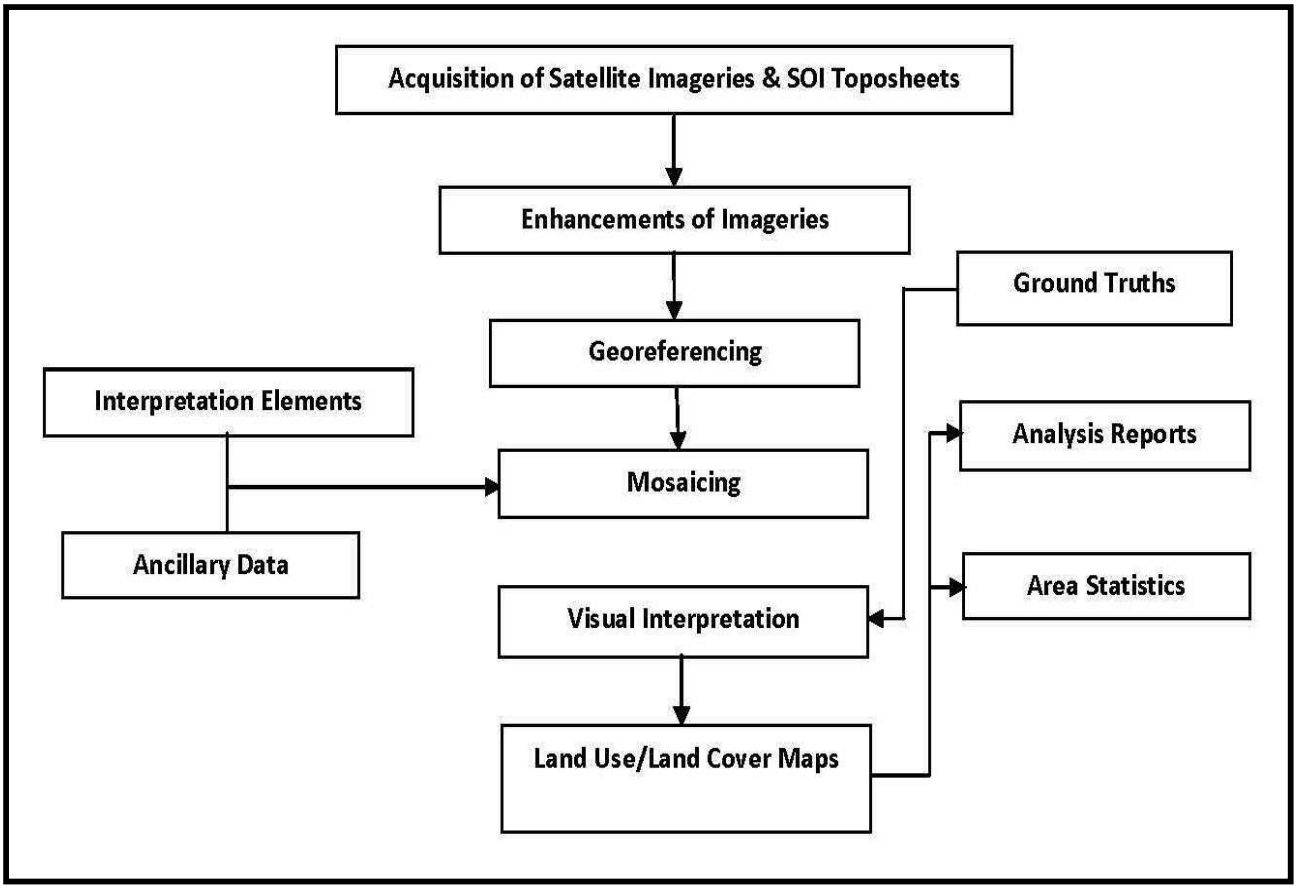


Table 3.5

Land Use/Land Cover Area Statistics

Land Use/Land Cover	Area (Hectare)	Area (%)
Built-up Land	1364.38	4.18
Agricultural land	8081.33	24.73
Agricultural Fallowland	10047.80	30.75
Open Land	811.44	2.48
River/Water Bodies	136.00	0.42
Riverbed	434.90	1.33
Vegetation	476.92	1.46
Scrub Land	11169.80	34.19
Forest	150.09	0.46
Total	32672.66	100.00

Source: LULC map

Conclusion & Discussion

Based on the perusal of field visit and interaction with framers, it is seen that over the period of time variants of fruits, vegetable and fodder have been successfully grown in the study area are indicator of healthy & conducive land environment.

3.10 SOIL QUALITY:

PHYSICAL CHARACTERISTICS:

Soil is generally considered as the upper layer of the earth that is dug or ploughed, especially the loose material in which plants grow. It is generally unconsolidated material composed of soil particles produced by disintegration of rocks. The void spaces between the particles may contain Air, Water or both.

Physical characteristics of soil influence its use and behavior towards plants growth. The plant

support, root penetration, drainage, aeration, retention of moisture & plant nutrients is linked with the physical condition of soils. Normally following physical parameters are important for determining the quality of soil: -

(i) Texture

(ii) Porosity

(iii) (iii)Bulk density

(i) Texture

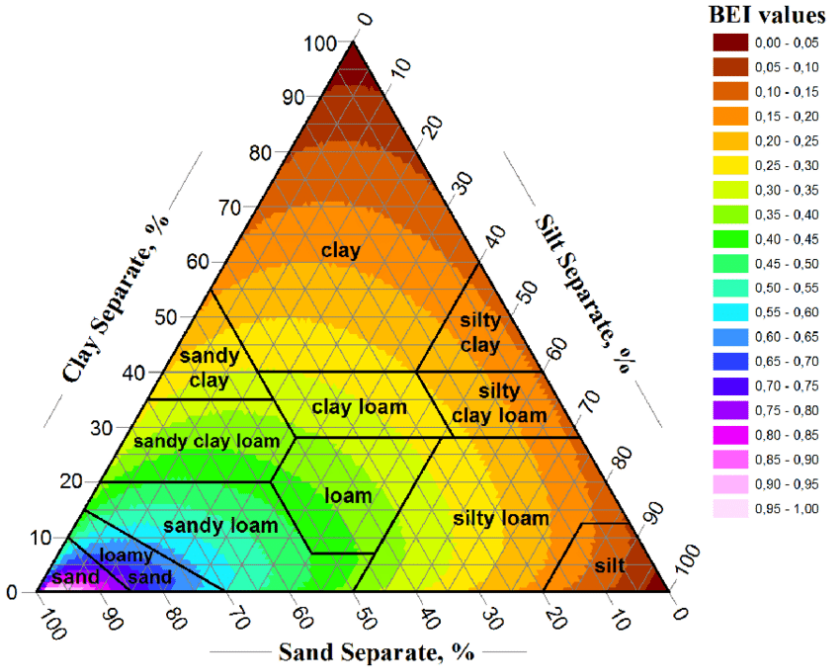
On the basis of texture, the study area may be classified as loamy sand, sandy loam and silty loam.

(ii) Porosity

Volume of soil mass that is not occupied by soil particles and usually occupied by air & water are known as pore space. The plant roots grow & exist in the pore spaces. Porosity, therefore, refers to that percentage of soil volume which is occupied by pore spaces.

(iii) Bulk Density

The bulk density weight of a unit of volume of soil inclusive of pore spaces is called bulk density. Generally, the soil with low bulk density has favorable physical conditions.



CHEMICAL CHARACTERISTICS:

Locations of soil monitoring stations are given in **Figure 3.5.** List of soil monitoring station are given **in Table 3.6.** Chemical characteristics of soil observed in the study area are given in **Table 3.7.**

Table 3.6

Detail List of Soil Quality Monitoring Stations

S. No.	Sample Code	Name of Village/Location	Distance & Direction (KM)	Upwind/ Downwind	Co-ordinates
1.	SQ-1	**Project site**	**0**	--	31°21'50.96"N 76°14'02.35"E
2.	SQ-2	**Palakwah**	3.34 (NE)	Crosswind	31°23'40.99"N 76°14'55.20"E
3.	SQ-3	**Beeton**	2.74 (S)	Downwind	31°20'21.10"N 76°14'9.52"E
4.	SQ-4	**Tahliwal**	3.38 (SE)	Crosswind	31°20'57.65"N 76°16'6.53"E
5.	SQ-5	**Haroli**	6.33 (N)	Upwind	31°25'16.46"N 76°13'55.78"E
6.	SQ-6	**Kutharbeet**	1.72 (W)	Crosswind	31°21'54.89"N 76°12'58.67"E
7.	SQ-7	**Dhugge**	1.54 (SW)	Crosswind	31°21'21.61"N 76°13'14.45"E
8.	SQ-8	**Bathu**	5.13 (SE)	Crosswind	31°19'30.67"N 76°16'17.83"E

FIGURE -3.8

LOCATION OF SOIL MONITORING STATIONS

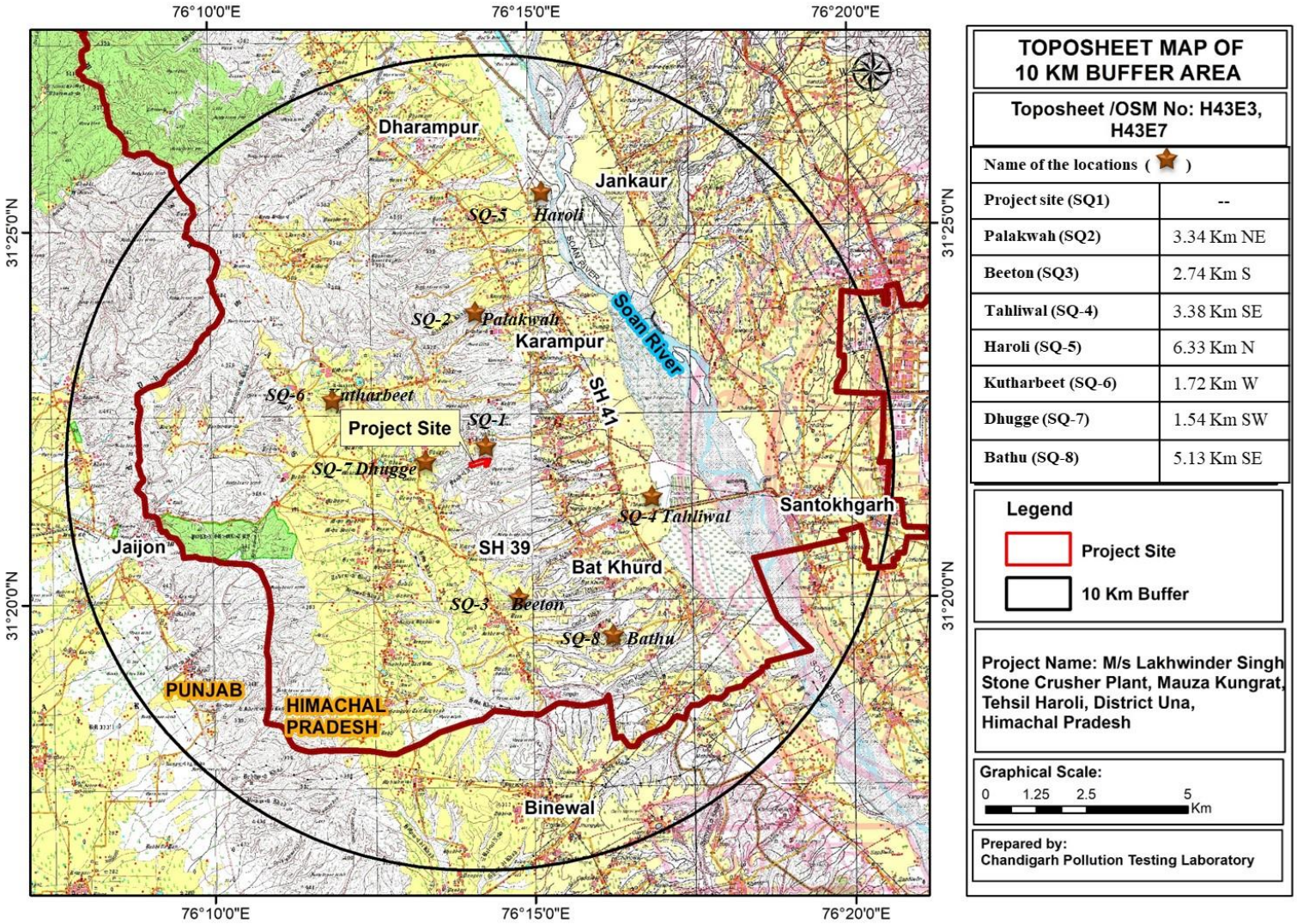


Table –3.7

Result of Soil Samples (% W/W except pH)

S.No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods
1.	pH (1:2.5)	--	7.48	7.58	7.72	7.56	7.78	7.58	7.44	7.38	IS:2720(P-26),1987
2.	Electrical Conductivity (1:2)	µmhos/cm	365	325	348	333	358	336	321	318	IS:14767,2000
3.	Texture	--	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	Sandy loam	CPTL, Lab SOP No. 58
4.	Bulk Density	(gm/cm^3)	1.45	1.38	1.15	1.58	1.32	1.28	1.46	1.33	IS 2720(P-3),1983
5.	Soil Moisture Content	%	10.6	8.8	6.6	4.5	8.8	9.9	10.2	8.8	IS 2720(P-2,1973
6.	Color	--	Brown	Brown	Light Brown	Brown	Brown	Brown	Light Brown	Brown	Handbook of Agriculture, ICAR
7.	Available Calcium(as Ca)	(mg/kg)	52.6	44.4	42.6	36.8	63.4	52.5	46.6	50.8	Handbook of Agriculture, ICAR
8.	Available Magnesium (as Mg)	(mg/kg)	18.8	16.8	22.2	18.8	28.8	26.6	22.6	24.8	Handbook of Agriculture, ICAR
9.	Available Sodium(as Na)	Kg/hac	150	132	128	142	164	152	148	138	Lab SOP No. 49: 2019
10.	Available Potassium	Kg/hac	38.8	28.2	36.4	30.6	34.4	40.4	36.6	38.4	Lab SOP No. 49:

	(as K)										2019
11.	Available Nitrogen	(%)	1.36	1.42	1.18	1.26	1.54	1.52	1.36	1.84	Lab SOP No. SP 53: 2010
12.	Organic Matter	(%)	0.41	0.38	0.42	0.38	0.52	0.44	0.39	0.46	IS 2720(P-22),2001
13.	Available Phosphorus (as P)	Kg/hac	8.8	6.6	6.8	5.6	8.9	10.4	8.6	5.6	Lab SOP No. SP 51 : 2019
14.	Cation Exchange Capacity	(meq/100gm)	0.55	0.84	0.39	0.45	0.58	0.84	0.66	0.52	CPTL, Lab SOP No. 58
15.	Iron (as Fe)	(mg/kg)	1.38	1.42	1.24	1.39	1.38	1.36	1.44	1.58	USEPA-3050-B-1996: 1996
16.	Zinc (as Zn)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
17.	Lead (as Pb)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
18.	Manganese (as Mn)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
19.	Chromium (as Cr)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
20.	Cadmium (as Cd)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-1996: 1996
21.	Copper (as Cu)	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	USEPA-3050-B-

											1996: 1996

3.10.5 CONCLUSION:

The analytical results of the soil samples collected during the study period are summarized below.

The pH of the soil is an important property; vegetation cannot grow in low and high pH value soils. The normal range of pH in the soils in the study area are varying from 7.38-7.78 indicating that the soils are falling in slightly alkaline to moderately alkaline. Based on the electrical conductivity, the soils are classified into four groups (Normal, Critical for germination, Critical for growth of the sensitive crops, Injurious to most crops). The electrical conductivity in the study area is varying from 338 to 368 µmhos/cm. This is good forgermination.

The other important parameters for characterization of soil for irrigation are the primary nutrients

- Nitrogen, Phosphorus and Potassium (N, P, K) and the secondary nutrients—Calcium, Magnesium and Sulphur (Ca, Mg, S). The primary and secondary nutrient elements are known asmajor elements. This classification is based on their relative abundance, and not on their relative importance.

- Nitrogen encourages the vegetative development of plants by imparting a healthy green color to the leaves. The available Nitrogen as N in the study area is varying from 1.18 to 1.84 %. Phosphorus influences the vigor of plants and improves the quality of crops. In the study area available, Phosphorus was found in varying quantities of 5.6 to 10.4 kg/ha.

- Potassium enhances the ability of the plants to resist diseases, insect attacks, cold and other adverse conditions. The available potassium in the study area varies between 28.2 to 40.4 Kg/ hac. This is deficient for crops.

- Organic Matter in the study area ranges from 0.38% to 0.52 %. This is average to sufficient for the crops.

As per physical data, the soils in the study area are coarse to modularity fine texture, having modulated build density and impressively modulate water holding capacity. As per physical characteristics, the soils are rated as moderately to good for agriculture. Based on the observation during field visit of 10km buffer zone from the boundary of cement plant, the soils are sandy loam predominantly. These soils can be classified as modularity good soil with traces or gentle slopes

and is modulate land for sustained agriculture as per USDA.

3.11 WATER ENVIRONMENT

3.16.1 WATER QUALITY

Water quality assessment is one of the essential components of EIA study. Such assessment helps in evaluating the existing health of water body and suggesting appropriate mitigation measures to minimize the potential impact from development projects. Water quality of ground resources in the crusher site area has been studied for assessing the water environment and to evaluate the impact of the project. To assess the water quality of the proposed area, sampling was done as per the standard practice. Grab sampling was done for ground and surface water. Water samples weretaken as per the Standard Methods (IS & APHA, 23rd Edition 2012). Necessary precautions were taken for preservation of samples. The physical parameters viz. pH, temperature and conductivitywere measured at site.

SAMPLING FREQUENCY AND TECHNIQUE

Parameters for analysis of water quality were selected based on the utility of the particular source of water as per MoEF&CC guidance. Hence quality of ground water was compared with IS: 10500: 2012 for drinking purposes. As per the standard practice, one sample was taken in the study period. Sampling was done by standard sampling technique and analyzed as per the Standard Methods. Necessary precautions were taken for the preservation of samples. Sampling location of surface water & ground water are given in Figure 3.6 and list of surface & ground water sample is given in Table 3.8 & 3.11 respectively. The results surface water & ground water are given in Table 3.9 & 3.12 respectively.

Table 3.8

Surface Water Sampling Stations

Station	Sampling Location
SW-1	Soan River

Table – 3.9

Results of surface water

S. No.	Parameters	Results	Test Method
1.	pH	7.33	IS:3025 (P-11): 1983
2.	Color, HU	<5	IS:3025:P-4:1983
3.	Odour	Agreeable	IS:3025:P-5:1983
4.	Turbidity, NTU	<1	IS:3025 (P-10): 1984
5.	Total Dissolved Solids, mg/l	168	IS:3025 (P-16): 1984
6.	Total Suspended Solids, mg/l	6.8	IS:3025 (P-17): 1984
7.	Total Hardness (as $CaCO_3$), mg/l	118	IS:3025 (P-21): 2009
8.	Total Alkalinity (as $CaCO_3$), mg/l	74.0	IS:3025 (P-23): 1986
9.	Chemical Oxygen Demand,mg/l	8.8	IS:3025 (P-58): 2006
10.	BOD(at 27°C) for 3 days,mg/l	2.6	IS:3025(P-44)1993
11.	Dissolved Oxygen,mg/l	6.6	IS:3025 (P-38): 1989
12.	Calcium(as Ca^{++}),mg/l	32.8	IS:3025:P-40:1991:RA:2003
13.	Magnesium (as Mg^{++}), mg/l	10.4	IS:3025:P-46: 1994
14.	Sodium (as Na^{+}), mg/l	16.2	IS:3025:P-45:1983:RA:2003
15.	Potassium (as K), mg/l	7.8	IS:3025:P-45:1983
16.	Nitrate (as NO_3),mg/l	2.2	IS:3025 (P-34) : 1988
17.	Chloride (as Cl), mg/l	4.4	IS:3025 (P-32): 1988
18.	Sulphate (as SO_4), mg/l	6.4	IS:3025 P-24 : 1986
19.	Iron (as Fe), mg/l	1.2	IS:3025(Part-53), 2003 & C/1, 10 Phenanthroline Method.
20.	Total Chromium (as Cr), mg/l	ND	IS:3025 (P-52): 2003
21.	Zinc (as Zn), mg/l	1.12	IS:3025 (P-49) : 1994
22.	Fluoride (as F) mg/l	1.2	IS:3025 (P-60) : 2008
23.	Mercury (as Hg) mg/l	ND	IS:3025:P-48):1994:RA-2003
24.	Boron (as B),mg/l	ND	IS:3025 (P-57): 2005
25.	Aluminum (as Al) mg/l	ND	IS:3025:(P-55):2003
26.	Cadmium (as Cd), mg/l	ND	IS:3025 (P-41): 1992
27.	Fecal Coliform, MPN/100 ml	30.0	IS:1622-1981-(RA2009)
28.	Total Coliform, MPN/100 ml	70	IS:1622-1981-

			(RA2009)

Table – 3.10

CPCB water Quality Criteria for Surface water as per use

S. No.	Parameters	Class A	Class B	Class C	Class D	Class E
1.	pH	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
2.	Dissolved Oxygen	6	5	4	4	-
3.	BOD, 3days at 27^0C, max	2	3	3	-	-
4.	Total coliform organism, MPN/100ML, max	50	500	5000	-	-
5.	Free Ammonia (as N), mg/l, max	-	-	-	1.2	-
6.	Electrical Conductivity, µmhos/cm, max	-	-	-	-	2250
7.	Sodium absorption ratio, max	-	-	-	-	26
8.	Boron (as B), mg/l, max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection.

Class B: Outdoor bathing (organized).

Class C: Drinking water source after conventional treatment and after disinfection.

Class D: Propagation of wild life fisheries.

Class E: Irrigation, Industrial cooling, controlled waste disposal.

Below E: Not meeting A, B, C, D & E Criteria

Surface water quality results are summarized below:

1. pH of the surface water is 7.33

2. TDS was found to be 168 mg/l. The tolerance limit is 1,500 mg/l as per IS:2296

3. Total hardness was found to be 118 mg/l.

4. Total Coliform in water was 70 MPN/100ml. The likely source of bacteriological contamination may be due to the proximity to residential area

5. All the heavy metals were not detectable.

Conclusion: -

The surface water results of Soan River when compared with water quality criteria as lay down by CPCB, falls in class 'E' and can be used for irrigation and industrial cooling.

B) GROUND WATER

Groundwater has been found as an important source for the local needs of water consumption for various purposes, mainly domestic and agriculture. Keeping in view the importance of groundwater to the local population, samples of ground water were collected from the study area for the monitoring and assessment of groundwater quality.

The Quality of ground water was studied by collecting 8 water samples from representative hand pumps, tube wells. Sampling points were decided using Google imagery and field survey.Standard procedures were followed for the sampling and analysis of physio–chemical parametersof water. **Table 3.11** shows the details of location of water sampling stations and results of different parameters are given in **Table 3.12.**

Table-3.11

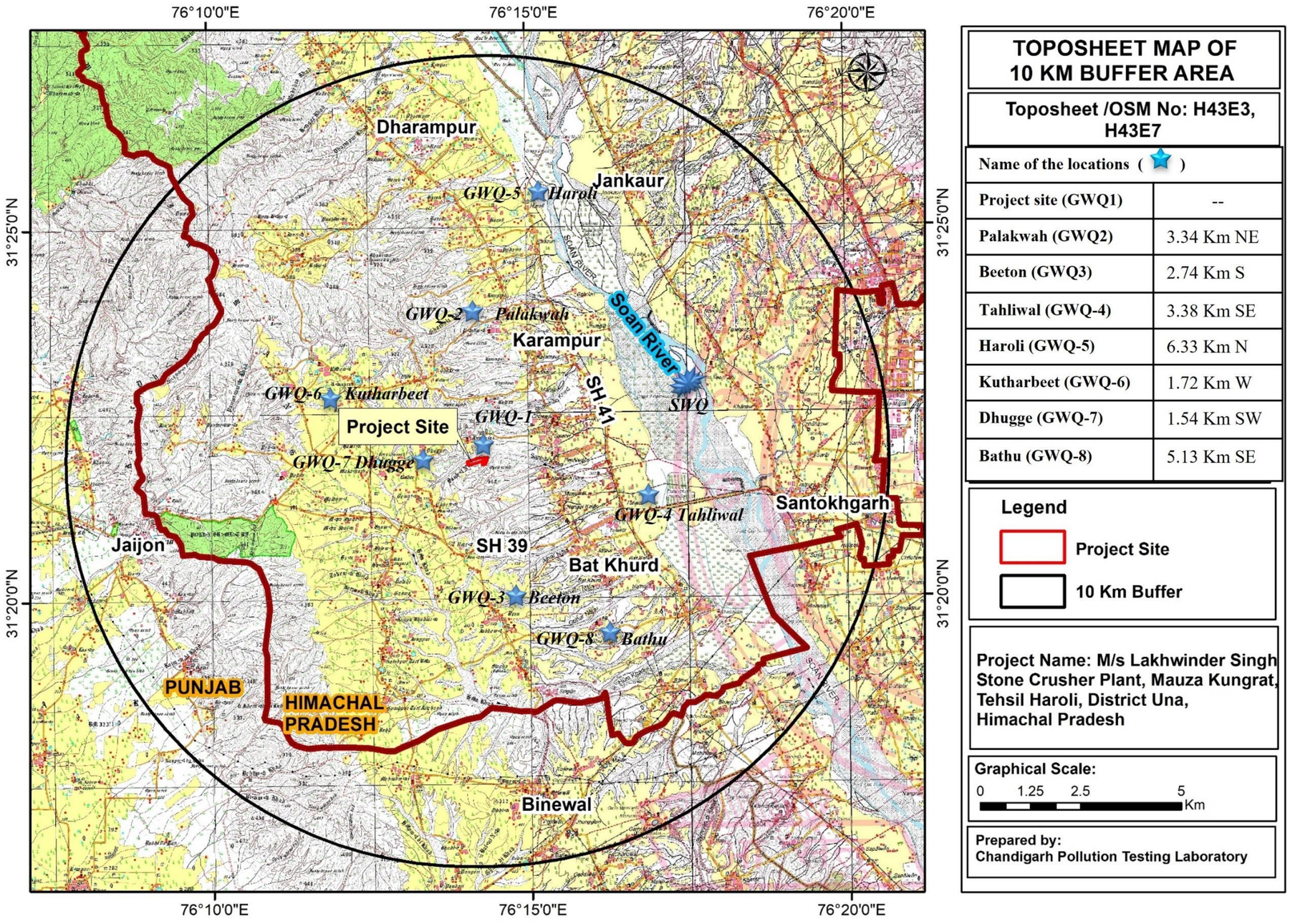
Details of Ground Water Monitoring Stations

S. No.	Sample Code	Name of Village/Location	Distance & Direction on (KM)	Observation	Co-ordinates
1.	GW-1	**Project site**	**0**	Borewell	31°21'50.96"N 76°14'02.35"E
2.	GW-2	**Palakwah**	3.34 (NE)	Sample was collected from a house in the village	31°23'40.99"N 76°14'55.20"E
3.	GW-3	**Beeton**	2.74 (S)	Sample was collected from Govt. College	31°20'21.10"N 76°14'9.52"E
4.	GW-4	**Tahliwal**	3.38 (SE)	Sample was collected from a house in the village	31°20'57.65"N 76°16'6.53"E
5.	GW-5	**Haroli**	6.33 (N)	Sample was collected from a house in the village	31°25'16.46"N 76°13'55.78"E
6.	GW-6	**Kutharbeet**	1.72 (W)	Sample was collected from a house in the village	31°21'54.89"N 76°12'58.67"E

7.	GW-7	**Dhugge**	1.54 (SW)	Sample was collected from a house in the village	31°21'21.61"N 76°13'14.45"E
8.	GW-8	**Bathu**	5.13 (SE)	Sample was collected from a house in the village	31°19'30.67"N 76°16'17.83"E

FIGURE -3.9

LOCATIONS OF SURFACE WATER & GROUND WATER



TOPOSHEET MAP OF 10 KM BUFFER AREA	
Toposheet /OSM No: H43E3, H43E7	
Name of the locations (★)	
Project site (GWQ1)	--
Palakwah (GWQ2)	3.34 Km NE
Beeton (GWQ3)	2.74 Km S
Tahliwal (GWQ-4)	3.38 Km SE
Haroli (GWQ-5)	6.33 Km N
Kutharbeet (GWQ-6)	1.72 Km W
Dhugge (GWQ-7)	1.54 Km SW
Bathu (GWQ-8)	5.13 Km SE

Legend

Project Site

10 Km Buffer

Project Name: M/s Lakhwinder Singh Stone Crusher Plant, Mauza Kungrat, Tehsil Haroli, District Una, Himachal Pradesh

Graphical Scale:

0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

TABLE – 3.12

RESULTS OF GROUND WATER SAMPLES

Parameters	GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8	Acceptable Limit	Permissible Limit
pH	7.84	7.55	7.34	7.69	7.77	7.89	7.58	7.43	6.5-8.5	No relaxation
Color, HU	<5	<5	<5	<5	<5	<5	<5	<5	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity, NTU	<1	<1	<1	<1	<1	<1	<1	<1	1 Max.	5
Total Dissolved Solids, mg/l	274	282	280	268	284	270	288	260	500 Max.	2000
Total Hardness (as CaCO3), mg/l	250	245	240	250	260	260	270	240	200 Max.	600
Calcium (as Ca++), mg/l	38.2	32.4	30.2	40.4	36.6	38.8	40.4	38.8	75 Max.	200
Magnesium (as Mg++), mg/l	12.4	16.8	18.2	14.6	10.2	14.4	12.4	10.2	30 Max.	100
Total Alkalinity (as CaCO3), mg/l	240	250	230	240	250	240	220	230	200 Max.	600
Chloride (as Cl), mg/l	14.4	12.6	14.4	12.2	14.6	10.6	16.4	18.2	250 Max.	1000

Sulphate (as SO4), mg/l	18.2	16.4	10.4	18.8	22.2	24.6	28.4	22.2	200 Max.	400
Iron (as Fe), mg/l	0.11	0.10	0.11	0.11	0.13	0.12	0.12	0.10	1.0 Max.	No relaxation
Zinc (as Zn), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	5 Max.	15
Nitrate (as NO3), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	45 Max.	No relaxation
Chromium (as Cr), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.05 Max.	No relaxation
Manganese (as Mn), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.1 Max.	0.3
Mercury (as Hg), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.001 Max.	No relaxation
Cadmium (as Cd), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.003 Max.	No relaxation
Fluoride (as F), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	1.0 Max.	1.5
Residual Chlorine (as Cl2), mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
E.coli/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Total Coliform, MPN/100ml	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

3.11.2 CONCLUSION

All the above parameters at the various locations in the study area are within permissible and tolerable limits for drinking purpose. The underground water in the area is thus potable.

In the study area since the samples have been collected from different sites at isolated places, the level of concentration of different elements vary quite considerably which may be due to small aquifers. However, the levels of the various components are within permissible norms fordrinking water.

3.12 NOISE ENVIRONMENT

Noise is one of the most undesirable and unwanted by-products of our modern life style. It may not seem as insidious or harmful as air and water pollutants but it affects human health and wellbeing and can contribute to deterioration of human well-being in general and cause neurological disturbances and physiological damage to the hearing mechanism in particular. It is therefore, necessary to measure both the quality as well as the quantity of noise in and around the site.

METHODOLOGY

The intensity of sound energy in the environment is measured in a logarithmic scale and is expressed in a decibel, dB (A) scale. In a sophisticated type of sound level meter, an additional circuit (filters) is provided, which modifies the received signal in such a way that it replicates the sound signal as received by the human ear and the magnitude of sound level in this scale is denoted as dB (A). The sound levels are expressed in dB (A) scale for the purpose of comparisonof noise levels, which is universally accepted by the international community.

The day noise levels have been monitored during 6.00 am to 10.00 pm and night noise levels, during 10.00 pm to 6.00 am at all the 8 locations, which covers residential areas, commercial area, industrial area and silence zone within 10 km radius of the study area.

SAMPLING LOCATIONS

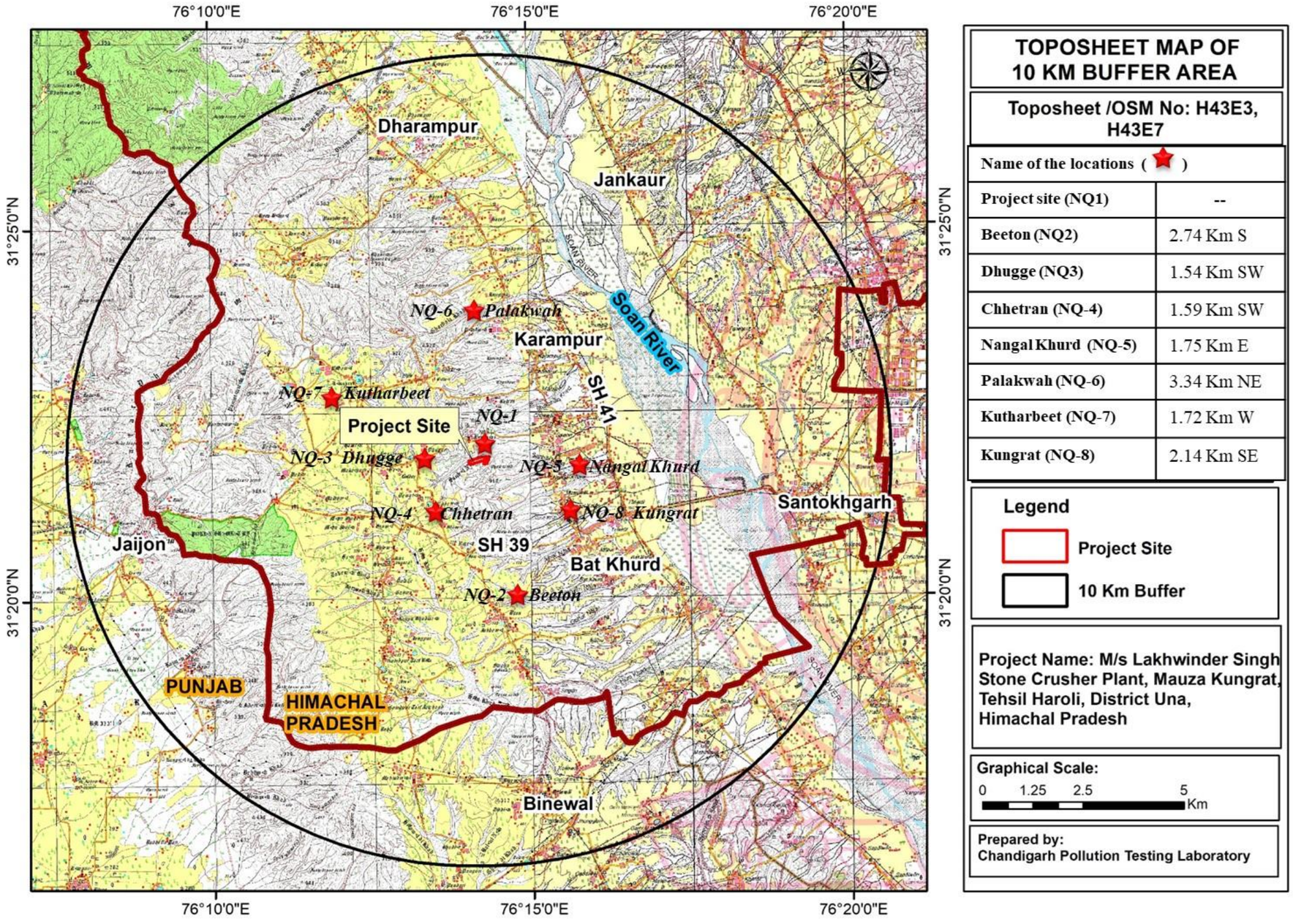
A preliminary survey was undertaken to identify the major noise generating sources in the area.

The noise survey was conducted to assess the background noise levels in different zones.Gazettes Notification {S.O. 123(E)} of MoEFCC dated February 14, 2000 on ambient air qualitystandards has different noise levels for different zones viz industrial, commercial, and residential and silence zones. Eight sampling locations were selected for the sampling of noise levels.

Noise levels recorded at each station are computed for equivalent noise levels. Equivalent noise level is a single number descriptor for describing time varying noise levels. Location of noise monitoring station in Topo sheet is given in **Figure 3.10.** Details list of noise monitoring stations are shown in **Table 3.13.**

FIGURE -3.10

LOCATIONS OF NOISE MONITORING STATIONS



TOPOSHEET MAP OF 10 KM BUFFER AREA	
Toposheet /OSM No: H43E3, H43E7	
Name of the locations (★)	
Project site (NQ1)	--
Beeton (NQ2)	2.74 Km S
Dhugge (NQ3)	1.54 Km SW
Chhetran (NQ-4)	1.59 Km SW
Nangal Khurd (NQ-5)	1.75 Km E
Palakwah (NQ-6)	3.34 Km NE
Kutharbeet (NQ-7)	1.72 Km W
Kungrat (NQ-8)	2.14 Km SE

Legend

Project Site

10 Km Buffer

Project Name: M/s Lakhwinder Singh Stone Crusher Plant, Mauza Kungrat, Tehsil Haroli, District Una, Himachal Pradesh

Graphical Scale:

0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

Table 3.13

Details of Noise Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction (KM)	Observation	Co-ordinates
1.	NQ-1	Project Site	**0**	--	31°21'50.96"N 76°14'02.35"E
2.	NQ-2	Beeton	2.74 (S)	Govt. College	31°20'21.10"N 76°14'9.52"E
3.	NQ-3	Dhugge	1.54(SW)	Residential	31°21'21.61"N 76°13'14.45"E
4.	NQ-4	Chhetran	1.59 (SW)	Govt. Sen. Sec. School	31°21'28.16"N 76°13'19.00"E
5.	NQ-5	Nangal Khurd	1.75 (E)	Residential	31°21'59.60"N 76°15'27.97"E
6.	NQ-6	Palakwah	3.34 (NE)	Residential	31°23'40.99"N 76°14'55.20"E
7.	NQ-7	Kutharbeet	1.72 (W)	Residential	31°21'54.89"N 76°12'58.67"E
8.	NQ-8	Kungrat	2.14 (SE)	Residential	31°21'10.01"N 76°15'28.76"E

Detailed results of noise levels are shown in **Table 3.14.** Ambient air standards in respect of noise are given in **Table 3.15.**

Table 3.14

Noise Level Results Leq dB (A) in and Around Project Area

S. No.	Locations	Value in dB(A) (Average)		Test Method
		Day Time (1Hour)	Night Time (1 Hour)	
01.	Project Site	48.4	35.4	IS 9989:1981(Rev.2001)
02.	Beeton	46.5	33.5	IS 9989:1981(Rev.2001)
03.	Dhugge	45.7	31.6	IS 9989:1981(Rev.2001)
04.	Chhetran	44.8	34.2	IS 9989:1981(Rev.2001)
05.	Nangal Khurd	45.9	32.3	IS 9989:1981(Rev.2001)
06.	Palakwah	46.9	33.6	IS 9989:1981(Rev.2001)
07.	Kutharbeet	43.6	32.5	IS 9989:1981(Rev.2001)
08.	Kungrat	44.6	31.7	IS 9989:1981(Rev.2001)

Day time is reckoned as 6.00 A.M. to 10.00 pm and night time is reckoned as 10.00 pm to 6.00 A.M.

Table 3.15

Noise Standards

Area Code	Category of Area	Noise dB(A) Leq	
		Day Time (6.0am-10pm)	Night Time (10.0pm-6.0am)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

CONCLUSION

Ambient noise levels were measured at 08 locations in the study area. Equivalent noise level varies from 43.6 to 48.4 dB (A) during day time and 35.4 to 31.6 dB (A) during night time. Thus,noise levels at all locations were within the prescribed limits.

From the above study and discussions, it can be concluded that noise levels in the study area are well within the prescribed limits as prescribed by the CPCB. Since, there will be no noise generating machinery, the impact on noise level after unit operation shall be insignificant.

3.13 BIOLOGICAL ENVIRONMENT

A natural ecosystem is a structural and functional unit of nature. It has different biological and physical components, which are interrelated to each other and survive by interdependence. An ecosystem has self-sustaining ability and controls the number of organisms at any level by cybernetic rules. The basic purpose to explore the biological environment under Environmental Impact Assessment (EIA) is to assist the decision-making process and to ensure that the project options under consideration are environmental-friendly. An ecological survey of the study area was conducted, particularly with reference to listing of species and assessment of the existing baseline ecological conditions in the study area. The main objectives of the ecological survey were aimed at assessing the existing flora and fauna components in the study area, to understand the possible impacts on the biological environment caused by the proposed project activities, andto formulate, if necessary, the appropriate mitigation/preventive measures for such impacts. Data has been collected through secondary sources and by site visits.

The present study was carried out in two separate headings for floral and faunal community. The aspects to be covered in the study for the project are given in **Table 3.16.**

Table-3.16

Aspect to be covered in the study Area

Aspect of Environment	Impacts
A. Terrestrial Ecology	Impacts on terrestrial flora and fauna
	Impacts on Rare-Endangered-Threatened (RET) wildlife
	Impacts on socially/ economically/ genetically/ biologically important species
B. Aquatic Ecology	Impacts on aquatic fauna/flora
	Impacts on spawning and breeding grounds for aquatic species

The information presented in this chapter has been collected through field studies, consultation with various government departments and collation of available literature with various institutions and organizations. The summary of data collected from these sources as a part of the EIA study is outlined in **Table 3.17.**

Table-3.17

Summary of Data Collected from various sources

Aspect	Mode of data collection	Parameters Monitored	Frequency	Source(s)
Terrestrial Ecology	Primary field survey and secondary literature survey	Floral and Faunal Diversity and Their Importance	One Season (Winter)	Field studies, Forest & wild life Department and literature review
Aquatic Ecology	Primary field survey and secondary literature survey	Diversity of Species and Their Importance	One Season (Winter)	Field studies, Forest/ wild life Department and literature review

With the change in environmental conditions, the vegetation cover as well as animals reflects several changes in its structure, density and composition. The present study was carried out separately for floral and faunal community respectively.

Sampling

For field assessment, i.e., primary data collection, a standard statistical sampling method was followed. The sampling design followed random sampling method. The sampling area was decided based on prior land-use map of the project influence zone (within the 10 km radius around the project area), outlining forest areas and other types of habitats, topographic features and build-up area.

Flora

Methodology for floral study

1. Secondary literature survey: Published literature, including those from relevant organizations like the Botanical Survey of India (BSI), the Wildlife Institute of India (WII- Dehradun), the respective Forest Department of the State concerned etc., research papers, articles, books and reliable websites, available within and adjacent to the study area were compiled and inventoried as "Secondary Floral Diversity Database".

2. Primary field survey – herbs: Herbaceous plants were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for herb survey was 1m x 1m. Field identification of the species and later identification through photographs were followed. Unidentified herbs were collected following proper procedure and prepared into herbarium sheets for later identification. For mosses, lichens and other plants the plot size was taken as 0.1m x 0.1m.

3. Primary field survey – shrubs: Shrubs were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for shrub survey was 5m x 5m for shrubs of 3m height. Field identification of the species and later identification through photographs were followed. Unidentified shrubs were collected following proper procedureand prepared

into herbarium sheets for later identification.

4. Primary field survey – trees: Trees were studied using the quadrat method as followed during vegetation survey. The size of each quadrat for tree survey was 20m x 20m. Field identification of the species and later identification through photographs were followed. Samples of unidentified trees were collected following proper procedure and prepared into herbarium sheets for later identification.

5. Primary database: Data generated from the field survey within and adjacent to the study area were meticulously compiled and inventoried as "Primary Floral Diversity Database".

6. Field instruments/materials for floral study: Measuring tape/s, herbarium sheets, newspaper, herbarium press, polythene bags (incl. zip-locked pouches), 78 clinometers, andmagnifying glass, camera, and GPS unit.

B) FAUNA

Majority of Una district consists of chill forest. Under the second category of the forest, the Khair is Predominant species. The third category consists of broad leaves species but have lot of bushy growth as well.

The forest in the district, have been divided in to three categories.

1. Lower Shivalik Chil Pine Forest

2. Northern dry mixed deciduous scrub forest.

3. Broad Leaved Forest

TABLE-3.18

RESULTS OF FLORAL STUDY AND FAUNA STUDY

Majority of Una district consists of Chil forest. Under the second category of the forest, the Khair is Predominant species. The third category consists of broad leaves species but have lot of bushy growth as well.
The forest in the district, have been divided in to three categories.
1. Lower Shivalik Chil Pine Forest
2. Northern Dry Mixed Deciduous Scrub Forest
3. Broad Leaved Forest

FLORA IN THE STUDY AREA:

Sr. No.	Local Name	English Name	Botanical Name
1.	Am	Mango	*Mangifera indica*
2.	Amaltas	Golden Shower Tree	*Cassia Fisula*
3.	Amala	Indian Gooseberry	*Emblica officinalic*
4.	Arjun	Arjuna Myrobalan	*Terminalia arjuna*
5.	Ban Basuti	Blue-Beard	*Caryopteris Odorata (Syn. C.Bicolor,C.Wallichiana*
6.	Bana	Five-Leabed chaste Tree	*Vitex Negundo*
7.	Bans Bainj, Sotha	Male Bamboo	*Dendrocalomus Strictus*
8.	Basuti	Malabar Nut	*Adhatoda Vasica*
9.	Behra	Belleric Myrobalan	*Terminalia Belerica*
10.	Ber	Jujube	*Zizyphus Mauritiana*
11.	Bial, Dhaman		*Grewia Oppositifolia*
12.	chil	Chir-Pine	*Pinus Rexburghii*
13.	Chila	Downy-Leaved false kamela	*Casearia Elliptica*
14.	Dargarhi	Himalayan Mimosa	*Mimosa Himalayan*
15.	Drek, Dek, Beakin	Persian Cedar, White lilac	*Melia Azederach*
16.	Flah, Dhak	Flame of the Forest, Bastard Teak, Parrot tree	*Butea monosperma*
17.	Gandla	Curry leaf tree	*Murraya koenigii*
18.	Harar	Black myrobalan, gallnut tree	*Terminalia chebula*
19.	Jaman	Black-plum	*Syzgium cumini*
20.	Kachnar, karal	Budhist bauhinia,Mountain Ebony, Orchid tree	*Bauhinia variegate*
21.	Kamal	Monkey face tree	*Mallotus Phillippinensis*
22.	Kangu	Batoko's plum	*Flacurtia ramontchi*
23.	Kathaman		*Eugenia jambolana var caryphyllifolia*
24.	Kehmal	Indian ash tree	*Lennea coromandelica*
25.	Khair	Cutch tree	*Acacia catchu*
26	Rajain, Pardesi	Indian elm, knju	*Holoptelea intregrifolia*
27.	Rumbal	Cluster fig	*Ficus racemesa*
28.	Simble	Silk cotton tree	*Bombax ceiba*
29.	Siris,sarin	Lebbek-tree, fry-tree, flea-tree	*Albizzia lebbek*

30.	Tatpalanga	Broken bones plant, Indian calosanthes, Indian Trumpet	*Oroxylum indicum*
31.	Tun	Indian cedar, Indian mahogany Indian toon	*Toona cilata*

FAUNA			
Sr. No.	**Local Name**	**English Name**	**Botanical Name**
1.	Langoor	Langoor common	*Preshytes entellus*
2.	Nag	The king cobra	*Naga harnoh*
3.	Nilgai	Blue bull	*Boselaphus tragocamelus*
4.	Para	Para	*Hog deer*
5.	Sambhar	The Sambar	*Cervus unicolor*
BIRDS			
1	Batair	The common quail	*Cotarnix Cotarnix*
2	Jangli Murga	The jungle fowl	*Galus gonnerathi*
3	Jangli Murghi	The red jungle fowl	*Gallus galus*
4	Kala Tital	The black partridge	*Francolinus francolinus*
5	Mor	The common pea fowl	*Paro cristetus*
MAMMALS			
1	Adjgar	The viper	*Vipera Russellii*
3	Giddar	Jackal	*Canis aurenus*
4	Gilehri	The squirral	*Funanbulus pennanti*
6	Kakkar	Barking deer	*Muntiacus-Muntjak (Vanginlis)*

3.14 SOCIO ECONOMIC

Social aspects can be defined as the consequences to people of any proposed action that changes the way they live, work, relate to one another, organize themselves and function as individuals and members of society. This includes social-psychological changes, for example to people's values, attitudes and perceptions of themselves and their community and environment.

Broadly social aspects could be classified as under: -

i) Lifestyle aspects- These are the way people behave and relate to family, friends and cohorts on a day-to-day basis.

ii) Cultural aspects - These are shared customs, obligations, values, language, and religious belief another element, which make a social or ethnic group distinct.

iii) Community aspects - These are infrastructure, services, voluntary organizations, activity networks and cohesion.

iv) Health aspects - These includes mental, physical and social wellbeing.

v) Rehabilitation and Resettlement- These include displacement of families beyond defined thresholds and the impact on public and community properties, assets. Accordingly, ameliorative measures for addressing the said impact are also required to be taken.

The above aspects have been considered while assessing the social impact of the project.

3.14.1 FOREST/ WILD LIFE SANCTUARIES

There are no Notified Wild Life Sanctuaries/National Park/ Biosphere Reserve and Protected/Reserve Forest exist within 10 Km distance of the mining site.

3.14.2 Demography and Socio-Economic Scenario:

Demography is one of the important pointers of environmental health of an area. It includes description of demography, occupational pattern, available basic amenities like housing, medical care, services, transportation, education, water supply, roads, transport, etc.

Amenities prevalent in the study area have been extracted from the Census of 2011 and site visits and it has been found that:

Almost every village situated within the study area are having Education facility, medical facility, Drinking water and Electricity.

About 90-95% houses are pucca.

Most of the villages are approachable with metalled road.

As per census 2011, the significant demographic and socio-economic statistics of the district are summarized and given in **Table 3.21**

Table: 3.20 Demography of the surrounding villages

Name of villages	No. of Households	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Rora Baliwal	310	1502	783	719	164	84.18	75.35	326	0	777	416	361
Haroli	307	1537	773	764	174	95.21	81.60	433	15	778	515	263
Bhadauri	264	1264	668	596	143	87.96	70.36	300	0	408	139	269
Palakwah	401	1854	914	940	235	93.27	81.01	483	2	545	471	74
Pubowal	457	2154	1126	1028	224	92.10	74.19	827	0	700	262	438
Kutharbeet	294	1420	708	712	168	91.65	79.01	474	0	676	333	343
Polianbeet	259	1295	662	633	150	88.30	74.65	490	151	397	195	202
Kungrat	182	808	401	407	90	98.04	80.00	508	0	218	147	71

(Source: Census of India, 2011)

3.15 Traffic Study

Traffic & transportation is considered as an inevitable function of land use planning. Urban transport is an integral part of urban planning because apart from defining the form of a town, the smooth functioning and productivity of any urban center clearly hinges on the efficacy of traffic & transportation system. Since roads and streets or transport network are equated with arteries/veins of human body whereas traffic on roads/streets is comparable to blood flowing, so any blockage/ obstruction in this system acts like clot in the blood invariably leading to numerous complications**.**

The applied mining lease area is located in the form of a Hill Slope near the village Kungrat of Tehsil Haroli, District Una. The mining lease area lies at a distance of 18 Kms from Una and 10 Kms Haroli. The site is approachable through Palakwah- Lalahri- Tahliwal Road diverting RHS from the Nangal Khurd Road.

Total Production for 5 years	10,41,395 MT
Total Production for 1 year	2,08,279 MT
Total production for 1 one day	694 MT
Capacity of tipper	15 Ton
No. of tipper/trucks	46-50

An estimated 46-50 trucks will be required each day for transportation of 2,08,279 MTPA of material in 300 working days/year. The daily material transport shall be 649 MT requiring approximately 50 @ 15 ton/tipper.

3.16 Drainage Pattern

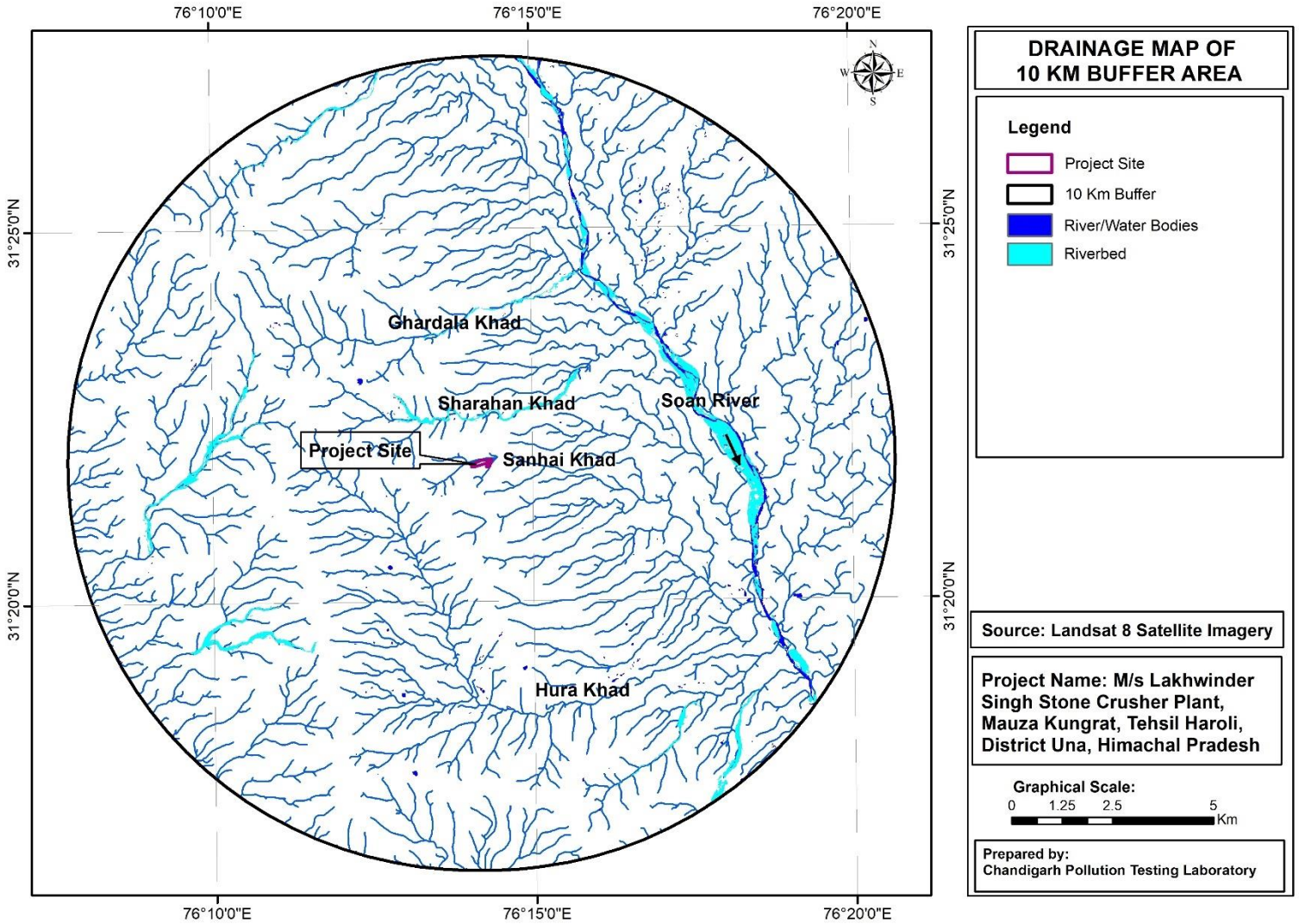
The adjoining area shows a dendritic type of drainage with the formation of gullies. Only small gullies pass beside the mining lease area. These small gullies drain into local Nalla and further drain into Swan River which is perennial stream of the area. It forms a part of the Satluj drainage system.

Altitude at the Mining Lease Area.

The highest point of mining lease area is 490m above mean sea level and lowest point is 450 mtrs above mean sea level.

FIGURE 3.11

DRAINAGE MAP OF THE PROPOSED MINING AREA



CHAPTER 4.0

ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

4.0 GENERAL

Prediction of impacts is the most important component in the Environmental Impact Assessment studies. Several scientific techniques and methodologies are available to predict impacts of developmental activities on physical, ecological and socio-economic environments. Such predictions are superimposed over the baseline (pre-project) status of environmental quality to derive the ultimate (post-project) scenario of environmental conditions. The prediction of impacts helps to minimize the adverse impacts on environmental quality during pre and post project execution. Generally, the environmental impacts can be categorized as either primary or secondary. Primary impacts are those, which are attributed directly by the project and secondary impacts are those, which are indirectly induced and typically include the associated investment and changed patterns of social and economic activities by the proposed actions.

The primary function of an environmental impact assessment is to ascertain the potential impacts of project on environmental components such as air, water, noise, soil, flora, fauna, land and Socio-economic and their magnitude during construction and operation for adoption of possible mitigation measure.

The Impacts of project are divided into two categories i.e., impacts during construction phase and impacts during operation phase. Major project impacts will occur during operation phase as no construction stage is envisaged in this project.

Environmental parameters considered for impact analysis during operation phase are: -

1. Air Environment
2. Water Environment
3. Noise Environment
4. Landform and Topography
5. Soil Environment
6. Biological Environment
7. Socioeconomic Environment

8. Solid Waste.
9. Risk and Hazards.

4.1 AMBIENTAIR QUALITY

Impacts:

Opencast mining operations are generally prone to generation of high levels of PM_{10} and to a limited extent SO_2, NO_x due to fossil fuel-based vehicles, machines. Air pollution mainly due to PM_{10}, SO_2 and NOx may result in irritation and inflammation of eyes and congestion of throat and infection in lungs. The respirable dust has serious impact on the health of the workers. Lung functions are impaired due to the both respirable and non-respirable dust particles. Chronic exposure leads to respiratory illness like asthma, emphysema, severe dyspnoea (shortness of breath) and bronchitis in extreme cases pneumoconiosis or the black lung disease of miners. The effect of dust may be harmful to the human health. The major contribution of air pollution is by opencast mining, such as excavation, loading and transportation etc. which will lead to short-term rise in the respirable particulate matter (PM_{10}).

Mitigation measures

- Emissions inventory for SPM, RSPM, SO2, NOx shall be undertaken to satisfy the statuary requirements.
- Dust suppressions shall be done by water sprayers, avoiding overloads of transported vehicles, water spray on access routes.
- Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried out in day time only.
- Mining shall be done in a controlled manner.
- Plantation will be carried out on approach roads and in Lease boundary.
- The speed of dumpers plying on the haul road should limited to avoid generation of dust.
- Haul road shall be covered with gravels.
- Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of

ambient air.

Air Pollution Impact Prediction through Modeling:

- **Aermod Cloud** is an air dispersion-modeling package, which seamlessly incorporates the popular USEPA Models, ISCST3, ISC-PRIME and AERMOD into one interface without any modifications to the models. These models are used extensively to assess pollution concentration and deposition from a wide variety of sources.
- **Aermod Model:** The AMS/EPA REGULATORY MODEL (AERMOD) was specially designed to support the Environmental Regulatory Modeling Programs. AERMOD is a regulatory steady – state modeling system with three separate components;

•AERMOD (AERMIC Dispersion Model);

•AERMAP (AERMOD Terrain Preprocessor); and

•AERMET (AERMOD) Meteorological Preprocessor.

The AERMOD model includes a wide range of options for modeling air quality impacts of pollution sources, making it popular choice among the modeling community for a variety of applications.

AERMOD requires two types of meteorological data files, a file containing surface scalar parameters and a file containing vertical profiles. These two files are provided by AERMET meteorological preprocessor program.

PRIME building downwash algorithms based on the ISC – PRIME model have been added to the AERMOD model;

Use of arrays for data storage;

Incorporation of EVENT processing for analyzing short-term source culpability;

Explicit treatment of multiple – year meteorological data files and the annual average; and Options to specify emissions that vary by season, hour-of-day and day-of-week.

Deposition algorithms have been implemented in the AERMOD model – results can be output for concentration, total deposition flux, dry deposition flux, and / or wet deposition flux. The

model contains algorithms for modeling the effects of settling and removal of large articulates and for modeling the effects of precipitation scavenging for gases or particulates.

• ***Aermet***

In order to conduct a refined air dispersion modeling project using the AERMOD short term air quality dispersion model, it is necessary to process the meteorological data representative of the study area being modelled. The collected meteorological data is not always in the format supported by the model; therefore, the meteorological data needs to be pre-processed using AERMET program. The AERMET program is a meteorological preprocessor, which prepares hourly surface data and upper air data for use in the AERMOD air quality dispersion model. AERMET is designed to allow future enhancements to process other types of data and to compute boundary layer parameters with different algorithms. AERMET processes meteorological data in three stages and from this process two files are generated for use with the AERMOD model. A surface file of hourly boundary layer parameters estimates a profile file of multiple-level observations of wind speed, wind direction, temperature and standard deviation of the fluctuating wind components.

• ***Application of AERMOD:***

The AERMOD model with the following assumptions has been used to predict the cumulative GLC due to emissions from the proposed activity:

- ➢ The stack tip down wash is not considered.
- ➢ Plume rise is estimated by Brigg's formula but the final rise is limited to that of mixing layer.
- ➢ Buoyancy induced dispersion is used to describe the increase in plume dispersion.
- ➢ Calm processing route is used by default.
- ➢ Complex terrain is used in computation.
- ➢ It is assumed that the pollutants don't undergo any physio-chemical transformation and there is no pollutant removal by dry deposition.
- ➢ Wash out due to rain is not considered.
- ➢ Receptors on that terrain with no flag pole have been considered.

Atmospheric Stability: The stability class has been estimated using the hourly monitored wind velocity along with the other computed data.

Mixing Heights: Due to non-availability of site-specific missing heights "Hourly Mixing Heights & Dissimilative Capacity of Atmosphere in India" published by Environment Monitoring & Research Centre, IMD, New Delhi has been referred for hourly mixing heights.

Meteorological Data : The hourly meteorological data recorded at site is converted to the mean hourly meteorological data as specified by CPCB and the same has been used in the model. Hourly mixing heights are taken from the "Atlas of Hourly Mixing Height and Assimilative Capacity of Atmosphere in India" published by India meteorological department, 2008, New Delhi. The meteorological data recorded during study period continuously on wind speed, wind direction, temperature etc., have been processed to extract the data required for simulation by AERMOD using AERMET.

Dispersion Modeling Results: The 24-hourly average ground level concentration (GLC) values from proposed project have been computed for PM considering topographical featured around the proposed project and applicable stability classes. The predicted 24-hourly short terms Maximum Incremental Concentration values for PM10 from the proposed project are given in Table- 4.1. Corresponding plotted are shown in Figure 4.1.

Table-4.1

Predicted 24 hourly short terms Maximum Incremental Concentrations

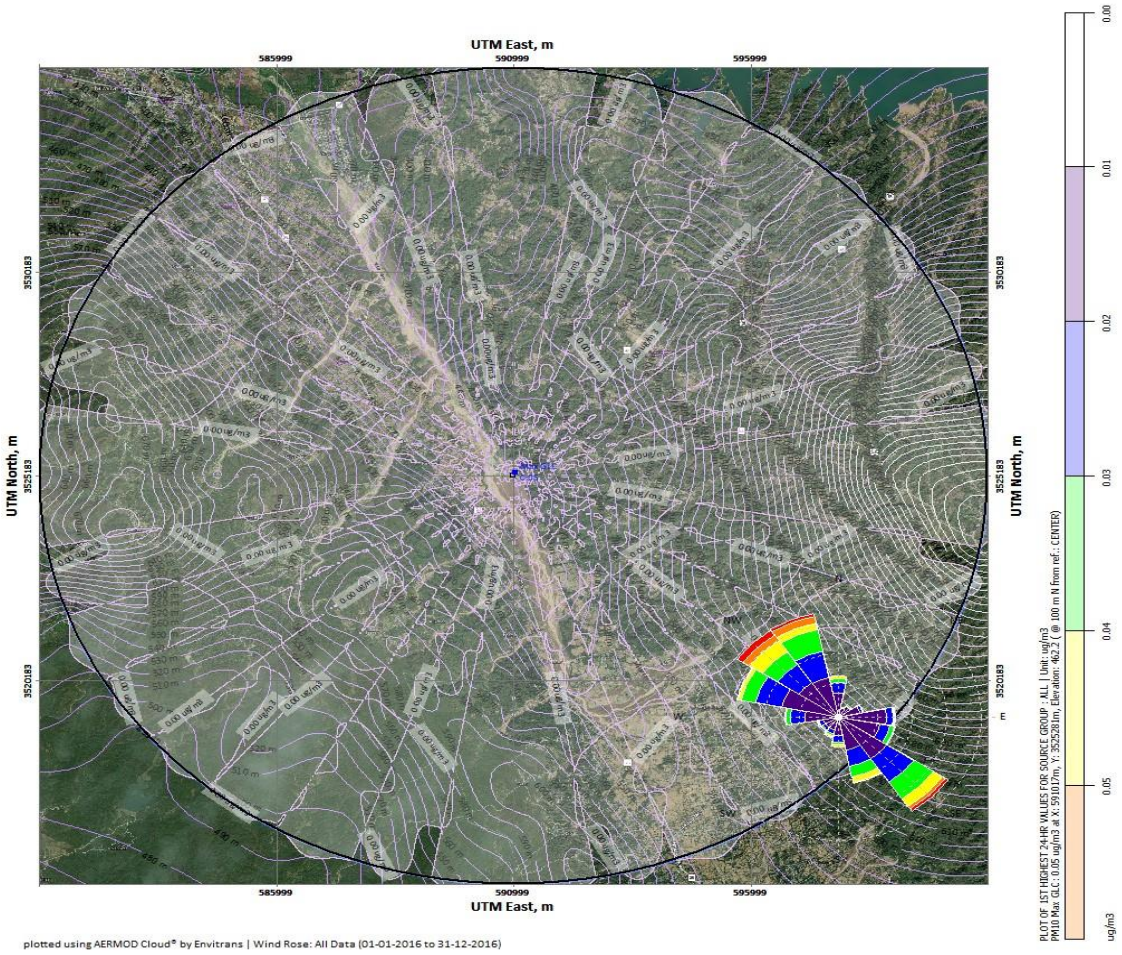
Pollutants	Maximum GLC in µg/m3	Baseline concentration in µg/m3	Baseline Concentration after project implementation in µg/m3
PM10	0.05	68.2	68.25

Predicted GLC's of the proposed project:

It is predicted that the maximum contribution in GLC's, with unit's operation will be 68.25 µg/m3 for PM10 at particular elevation from North direction. Since the mining is manual and semi-mechanized and no blasting is involved, therfore impact of the fugitive emission from the unit will be negligible. SPM level due to movement of vehicles will also be checked. The existing Traffic on the road is of the order of about 46 vehicles per day both ways. The present max PM10 is 68.2 µg/m3 and PM2.5 is 37.2 µg/m3 . There will be marginal increase in existing level of ambient air quality (PM10, which will be well within the permissible, limits i.e. 100ug/m^3 .

Figure 4.1

Isopleths showing Air Quality Modeling



Conclusion:

From the figures available and the studies made, it is concluded that with the mining activity, theambient air quality in the area is well within the prescribed limits and is not likely to be changed appreciably. With the adoption of the mitigation measures and their strict implementation, the Ambient Air quality is likely to be improved.

4.2 WATER QUALITY

Mining operation shall be undertaken as per approved mining plan; hence, there shall not be noticeable effect on surrounding ground water resources due to mining. Damage in the water body, depends on its assimilative capacity. Since no water will be used in the mining operations,

therefore, no waste water will be generated, thereby no impact on groundwater and surface water quality. Small amount of domestic waste water shall be treated in septic tanks and soak pits at crusher site before to putuse for plantation.

However, the following safeguards shall be adapted: -

- No overburden or loose sediments will be kept in the working benches particularly during monsoon season.
- Check dams and gully checks will be raised to reduce the velocity of runoffs, thereby minimizing the flooding & carryover of deposits to the receiving waters.
- Mine waste dumps will be stabilized during the course of their retention.
- There would not be any adverse effect on the ground water quality. The proposed mining shall be much above the water table. However, regular monitoring of quality in the existing hand pumps/tube wells in the vicinity would be carried out.

4.3 NOISE LEVEL

The proposed mining activity is done manually as well as semi mechanized. Hence the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals. The area is away from the habitation and the noise shall be caused only by use of mechanical device which shall be below the permissible limit prescribed. There is no blasting involve. The noise level will not exceed the required level.

Mitigation Measures

- Well maintained vehicles will be used in order to reduce the noise during movement of vehicles. Regular and proper maintenance of vehicles will be ensured.
- No vehicular movement during night time.
- Only trained drivers will be allowed to operate vehicles during mining to reduce any chance of accidents.
- Plantation of trees along the mining area will be done to dampen the noise.

4.4 LAND ENVIRONMENT

The project area does not consist of any forest land. It does not consist of any human habitations. Land use plan of the mining lease area during pre-operational, operational and post operational is incorporated in the Chapter 2. During the course of mining, the land environment is likely to be impacted as under: -

- Change in the Topography of the Land / Land Degradation.
- Solid waste generation
- Soil erosion
- Impact on the Agricultural Practice at nearby area due to dust generation.

Mitigation measures

- The proposed mining activity is carried out in Hill- Slope, therefore the broken area will be reclaimed by systematic backfilling and rehabilitated by afforestation so that landscape of the area is improved
- The waste will backfilled in the mined out areas on which plantation will be raised.
- Soil erosion shall be prevented by constructing gully checks, check dams, etc.
- Agriculture activities are practiced nearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.

4.5 SOIL AND AGRICULTURE

The soil in the study area contains medium level of primary and secondary nutrients. Since no waste is thrown on any agricultural land, agricultural operations will not be affected with the mining. The major crops in the study area are Paddy, Wheat, Maize, Gram, Mustard, Sugarcane, Potato and Vegetables etc. The fugitive emissions from the unit having insignificant pollution load will not be of any threat to thevegetation & soil in this area.

4.6 ECOLOGY & BIODIVERSITY

Anticipated impact and mitigation measures for biological environment

Impact Predicted	Suggestive measure
Disturbance to free movement / living of wild fauna viz. Birds, Reptiles etc.	• Noise produced due to vehicular movement for carrying sand materials will be within permissible noise limit. Higher noise level in the area may lead to restlessness and failure in detection of calls of mates and young ones. • If wild animals/birds are noticed crossing the core zone, they will not be disturbed at all. • Noise level will be maintained within permissible limit (silent zone-50dB (A) during day time or residential zone 55dB (A) as per Noise Pollution (Regulation and Control) Rules 2000, CPCB norms.
Impact on Agriculture	• There will be no impact on the agriculture. Dust generated will be suppressed during mining operation at mining site as well as during transportation will be suppressed by sprinkling
Impact on land use and vegetation	• No tree cutting will be allowed

Summary of Overall Impacts

The mining activity doesn't involve any blasting & drilling activity; therefore, the project will not disturb habitat of any flora & fauna. Since there is no liquid waste, so the aquatic life in the area is not likely to be affected in any manner. Thus, theexisting ecology & biodiversity of the area shall be maintained & will not be affected.

The main impacts will be during the mining activities with respect to Air, Noise, Land, Biological and socio-economic. Following is the summary of overall significant impacts related to environmental components.

Environmental Attributes	Major Impacts
Air Environment	Fugitive emission due to excavation & screening vehicular emission due to transportation and operation of machineries, marginal damage of vegetation, health effects
Noise Environment	Increase in Noise levels due to, excavator and dumpers
Water Environment	Sewage generation, sedimentation, no waste water generation due to mining activities, however rainwater will be harvested in the mine excavated ponds and will be used for sprinkling & plantation.
Land Environment	Acquisition of land, loss of land use / land cover area, change in soil quality, generation of overburden, however positive impact due to plantation in the mine lease area and green belt around the mine lease area.
Biological Environment	Cutting of trees, loss of vegetation, migration of schedule fauna, disturbance to fauna due to noise generation and trenching positive impact due to plantation in and round mine lease area and along the road side.
Socio- economic	Disturbance to the habitations due to mining

Environment	activities, No R & R, influx of people, However positive impacts due to enhancement of economic benefits through allied industries, improvement in quality of life and employment etc.

- Major impacts area described above, there will not be any irreversible damage due to the project. However, assessment of impacts with respect to all the environmental components is made and measures are suggested. **CSR/CER scheme** as per project specific requirement according to the project economic benefit will be implemented and sufficient budgetary provision will be made available and implemented.

4.7 DEMOGRAPHIC AND SOCIO-ECONOMIC GROWTH

Villages around the mining have been considered which are mostly with very small population. The project does not intrude on any residential area nor influx of any large population expected. The project does not involve any uprooting of population resulting in rehabilitation. The strength of workers and staff in the unit is about 170- 175 persons. All workers are drawn mostly from the local population. Thus, there is not any appreciable change in population in the nearby villages/towns. Inview of the above individual community, life or health of the person in the area is not affected. However, additional employment potential will be generated not only within the unit but in ancillary activities also which are helpful to the local area. **Ultimately this has some positive effect**.

4.8 HAZARDOUS MATERIALS

No hazardous materials are used in the process nor do the finished goods fall in this category. There is no impact on the environment on this score.

4.9 WASTE DISPOSAL

No liquid waste will be there on the mining site. And solid waste (i.e., silt, clay etc.) will be used in

road making, embankment and the balance stabilized for extended use. There will be no effect of waste disposal on the environment in general.

4.10 OCCUPATIONAL HEALTH AND SAFETY

To control and minimize the risks at workplace, lessee will implement Health, Safety and Environment Policy with the following objectives:

- To prevent hazards.
- To provide safe and healthy environment to all the employees.To comply with the prevailing regulations and standards.
- The lessee, therefore, will adopt occupational, safety and health policy for the safe and healthy environment. There are some health and safety hazards, which may affect the persons employed inthe mine. The people may suffer from occupational diseases or may get injured while working inthe mine, if proper measures will not be taken to protect the persons from these hazards.

Occupational health surveillance programme: Occupational health surveillance programme will include the following facilities:

A. They will have Occupational Health Centre with emergency handling facilities.

B. The occupational health surveillance of the employee shall be done on a regular basis and records of the same will be maintained as per the Mining Act.

CHAPTER – 5.0
ANALYSIS OF ALTERNATIVES

5.0 General

It is a Hill-Slope mining project, where the material will be lifted manually and semi-mechanically where: -

- No new technology is involved.
- No forest land is involved.
- The site has easy access through approach road.
- Water Requirement only for drinking purpose.
- Manpower availability from nearby areas.
- No resettlement and rehabilitation issues.
- Absence of areas of archeological and historical importance within 10 km radius.

Based on the above criterion, proposed mining land is conducive to undertake for mining of sand stone and Bajri.

CHAPTER – 6.0

ENVIRONMENTAL MONITORING PROGRAM

6.0 PRELUDE

Assessment of environmental and social impacts arising due to implementation of the proposed project activities is at the technical heart of EIA process. An equally essential element of this process is to develop measures to eliminate, offset or reduce impacts to acceptable levels during implementation and operation of projects. The integration of such measures into project implementation and operation is supported by clearly defining the environmental requirements within an Environmental Management Plan (EMP).

6.1 ENVIRONMENT MONITORING PROGRAM

An environmental monitoring program is required for sustenance of the project and maintaining the environment quality of the area. Resultant information shall be used in environmentally responsible management. Such management can be aided by specific data on various environmental parameters such as water, soil and air. Current monitoring consideration is focused on the implementation of mitigation measure.

6.2 OBJECTIVE OF MONITORING PLAN

The basic objective of implementing a monitoring plan on a regular basis is as follows:

- Know the pollution status within the plant and its vicinity. Generate data for corrective action in respect of pollution
- Examine the adequacy of pollution control system
- Assess the Environmental impacts

6.3 SCHEDULES FOR ENVIRONMENT MONITORING

As no project can succeed unless it is monitored at regular intervals & results analyzed. Keeping this requirement in view an elaborate Monitoring programme has been developed for this project. Regular monitoring of all significant environmental parameters will be carried out to check the

compliance status vis-à-vis the environmental laws and regulations.

The objectives of the monitoring will be as follows:

- To verify the results of the Impact Assessment Study with respect to the proposed projects.
- To study the trend of concentrated values of the parameters, which have been identified as critical and then planning the mitigating measures.
- To check and assess the efficacy of pollution control equipment.
- To ensure that any additional parameters, other than those identified in the impact, do not turn critical after the commissioning of proposed project.

Table: - 6.1 Environmental Monitoring Program

S. No	Item	Parameters to be checked	Frequency
1	Ambient Air	RSPM, SPM, NO_X Silica & SO_2	Every six months
2	Vehicles	PUC	Every six months
3	Noise Level	dB (A)	Once in a year
4	Ground water	As per IS 10500	Once in a year

All the above observations will be compiled and documented to serve the following purposes.

- Identification of any environmental problems that are occurring in the area.
- Initiating or providing solution to those problems through designated channels and verification of the implementation status.
- Controlling activities inside the project, until the environmental problem has been corrected.
- Suitably responding to emergency situations.

6.4 Environment Management Cell

The Environment Management Cell shall include:

- Representative of Management (Head of Environment Cell)
- In charge Maintenance Department
- A representative of Environmental Consultants

The cell shall be constituted immediately at the start of the project so that appropriate actions to protect the Environment are taken from the very beginning. All actions taken by the cell shallbe documented.

CHAPTER–7.0

ADDITIONAL STUDIES: DISASTER MANAGEMENT

7.1 PUBLIC CONSULTATION:

Present report is for the purpose of public consultation only. The details and proceeding of public hearing will be incorporated in the final report, which will include the following:

- Public hearing proceedings.
- Public Hearing Notice Published in prominent newspapers.
- Photographs of Public hearing.
- Action plan for the issue raised during public hearing.

7.2 IDENTIFICATION OF RISK & HAZARDS:

The mining of sand, stone and bajri will be done manually so, there will not be any major risk hazard associated with the process. The possible scenarios selected for this project are as below:

- Inundation / Flooding/ Erosion
- Accident during sand loading, transporting and dumping.
- Accident due to vehicular movement.

INUNDATION/FLOODING/EROSION:

The consequences of flooding/ inundation/ erosion are catastrophic or fatal. The likelihood of occurrenceof flooding is occasionally possible. As per mining plan the mining work will not be carried out during monsoon season. The likelihood of occurrence of drowning is rare due to dry season mining.

ACCIDENT DURING SAND LOADING, TRANSPORTING AND DUMPING:

The consequences of this scenario are minor which may be taken care with first aid care. This will not lead to any day loss. The likelihood of occurrence can be regular due to carelessness of the

worker.

ACCIDENT DUE TO VEHICULAR MOVEMENT:

The consequences of this scenario are moderate and may result in hospitalization and day loss. The likelihood of occurrence is occasionally possible

7.3 RECOMMENDATION FOR RISK REDUCTION:

Measures to prevent Inundation/Flooding

Inundation of flooding is expected and beneficial for these mines as during this time only the mineral reserve gets replenished.

1. During monsoon months and heavy rains, the mining operations are ceased.

2. There should be mechanism/warning system of heavy rains and discharges from the upstream dams.

Measures to Prevent Accidents during Loading

- The truck should be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
- The loading should be done from one side of the trucker trolley only.
- The workers should be provided with gloves and safety shoes during loading.
- Operations during daylight (9a.m. to 6p.m.) only.
- Stockpiling of harvested material on the river bank will be avoided.
- Necessary first aid kit will be always kept in the mine site.

Measures to Prevent Accidents during Transportation

- Vehicles will be periodically checked and maintained in good condition and must not be overloaded

- Overloading will not be permitted;
- To avoid danger of accident, roads and ramp near embankment will be properly maintained.
- The truck will be covered and maintained to prevent any spillage;
- The maximum permissible speed limit will be ensured;
- The truck drivers will have proper driving license.

7.4 SOCIAL IMPACT ASSESSMENT:

7.4.1 INTRODUCTION

Socio-Economic Impact Assessment (SEIA) refers to systematic analysis of various social and economic characteristics of human being living in a given geographical area during a given period. The study area consists of core area where the project is located and a buffer area encircling the project area with a radius of 10 kilometers from the periphery of the core area. TheSocio-economic Impact Assessment focuses the effect of the project on social and economic well-being of the community. The impact may be direct or indirect. Further, the impact may be positive or negative.

7.4.2 OBJECTIVES OF SEIA:

The prime objective of the current study is to assess the impact of the proposed Mining Project on socio-economic characteristics of people living in the neighborhoods. Further, it is to be established whether the impending impact would be direct or indirect. Furthermore, it is to be examined whether the said impact would be positive or negative.

7.4.3 SCOPE:

The Scope of the study is as follows:

a) To collect baseline data of the study area.

b) To comprehend socio-economic status of the people living in the study area.

c) To assess probable impact of the project on social and economic aspects in the study area.

d) To measure the impact of the project on Quality of life of the people living in the study area.

e) To ensure sustainability of positive impact.

f) To suggest mitigation measures and agency responsible for taking action in case of adverse impact.

7.4.4 SOCIO-ECONOMIC IMPACT OF THE PROJECT

Impact on Demographic Composition

There will not be hardly make any difference in the demographic composition of the study area as the additional employment it envisages to create will be met locally to the maximum extent. Hence, the chances of in-migration of people from outside the study area are remote. Accordingly, there will be no variation in the total population of the study area including that of sex ratio, when the mine starts operating.

Employment Opportunities

The proposed Project will provide employment to the local people. The number of workers to be deployed in the mining project will depend upon the quantity of minerals to be extracted from the mine by the lease holder. Both the skilled and the unskilled workers will be recruited locally. It has estimated that around 170-175 people will get direct employment for this mining project. It is a positive impact of the project since it is providing employment opportunities to the local people. The project will not affect the vulnerable groups of people.

Increased Supply of minerals in the market

Both Government departments and private developers have taken up construction of roads, bridges and buildings in a big way. Hence, the demand for sand, stone & Bajri is ever increasing with the growth of the infrastructure development in our country. The requirement for the building materials is always high, there is already an acute shortage of sand in the market, and the construction industry is the main sufferer. It is a critical component of concrete mixture. It is also used for filtering waste. With the commencement of the proposed mining project the supply of sand, stone & bajri will increase at least in the local market.

Impact on Road Development

Movement of trucks and other vehicles to and from the mining site is expected to increase, when mining will start. The existing roads connecting the quarry with the national highways are connected by metalled and unmetalled roads. Hence, there is need for road maintenance and repairing regularly in the mining area. Further, there are risks of accidents during loading of extracted minerals into tractors-trolleys and transportation to markets for sells. However, accidents can be avoided by taking due care and precautions.

Impact on Health

There are no chances of occurring diseases, due to manual mining of sand. Sand is nontoxic However, sand-using activities such as sand blasting require precautions since it create respiratory problems among mine workers. Excessive inhalation of sand is a serious health concern. To avoid respiratory problem from sand necessary protection should be taken.

Few safety measures are outlined below:

a) It is ensured that health and safety of all the employees at work will provide. Efforts will be made to provide and maintain a safe work environment and ensure that the machinery and equipment in use is safe for employees. Further, it will be ensured that working arrangements are not hazardous to employees.

b) The first aid treatment reflects the hazards associated with the mining of sand, stone & *Bajri*. The first-aiders will be well trained in handling patients working in the above Mining Project.

c) For all mine workers regular health examination will be made compulsory. Treatment for respiratory diseases or asthma, skin diseases, lung function test (pre and post ventolin), Audiograms, Chest X- ray etc., as required will be given.

d) To meet the medical needs of the mine workers tie-up with nearest hospitals will be made. This will ensure timely medical aid to the affected persons.

7.5 CONCLUSION

The Project will provide employment to local people who are in search of the same. The granting of Environment Clearance to the project will make mining of Sand legally valid and it will generate

revenue for the state. With the implementation of the project there will be increase in the employment opportunities for the local villagers. The study area is still lacking in health and educational facilities. It is expected that same will improve to a great extent with opening of the project and associated activities. Also, Proposed CSR activity will improve the socio-economic status of the villagers of the study area.

CHAPTER – 8.0
PROJECT BENEFIT

8.1 PRELUDE:

The proposed project is mining of sand, stone and bajri from the Hill Slope, which will have no major impact on surrounding environment. The proposed activity shall provide raw material to stone crusher there by boosting production of construction material. This will bring overall improvement in infrastructure development and economic growth of the area.

8.2 EMPLOYMENT POTENTIAL:

The mining activity will provide direct and indirect employment to 170-175 local people who will be engaged in mining, transportation, trading and other allied activities, which will improve socio-economic status of the area in terms of infrastructure development and improvement in economic status.

8.3 IMPROVEMENT IN THE PHYSICAL INFRASTRUCTURE:

The proposed sand, stone and bajri mine will have numerous induced impacts on society such as growth in schools, hospitals, hotels, resorts, transport etc. It will also attract other entrepreneur to establish their venture in the region.

8.4 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE:

The social infrastructure like religious places (temple, mosque, church, gurudwara); marriage homes, bus stations, railway stations, play grounds will be improved.

8.5 OTHER TANGIBLE BENEFITS:

The other tangible benefits include metrics and improvements demonstrating process and system cost savings, compliant inspections and customer audits, faster product approvals and manufacturing throughput, less rejected material, reduced nonconformance issues, and more efficient continuous improvement and project implementation. Intangible benefits include improved staff morale, faster, more accurate transparent decision making, less employee turnover, increased staff accountability, and an enhanced culture of quality throughout the organization.

8.6 LITIGATION AND PENDING CASES:

Unit is not engaged in any litigation and no case pending in the court of law.

8.7 CORPORATE ENVIRONMENT POLICY:

The promoters of the project are well aware of issues and concerns regarding environmental matters pertaining to the project. The proponent will have well established administrative set up to deal with the environmental issues and ensuring the compliance of statutory norms and EC conditions as per following line diagram.

8.8 CORPORATE ENVIRONMENTAL RESPONSIBILITY (CER):

For fulfilling the social responsibility, Items wise detail and time bound action plan shall be chalked out based on the public consultation issues and the representations of surrounding villages. The same shall be submitted along with Final EIA report. In addition to issues which may crop up during public hearing the following social activities have been planned.

- Awareness plan on girl's education.
- Spreading legal awareness amongst people and this advantages section of society about theirrights & remedies available.
- Formation of a task force of volunteers to educate people, regarding judicious use of waterresources.
- Green belt development on village common land in association with concerned village Panchayat.
- Promotion of sports activities in nearby village.
- Development of crematorium in one village of study area.

Details of activities to be undertaken under Corporate Environmental Responsibility.

♦ CORPORATE ENVIRONMENTAL RESPONSIBILITY

Requisite amount against the CER activities will be deposited in the account of Directorate of Environment, Science & Technology (DEST), GoHP along with the Environment Clearance of

the proposal. The CER activities will be decided and executed by the DEST itself.

CHAPTER – 9.0

ENVIRONMENTAL COST BENEFIT ANALYSIS

Minor Mineral means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes, boulder, shingle, chalcedony pebbles used for ball mill purposes only, lime shell, Kankar and limestone used in kilns for manufacture of lime used as building material, Murom, brick-earth, fuller's earth bentonite, road metal, rehmatti, slate and shale when used for building material, quartzite and sand stone when used for purposes of building or for making road metal and household utensils. Minor minerals are mainly consumed by infrastructure & housing industries and development. Whereas sand and Bajri is directly used for all construction works. Boulders are consumed by stone crushers and manual crushing operations for use in roads construction etc. Virtually there is no construction or infrastructure building work is possible without these minor minerals, hence the same can be assumed as back bone of the infrastructural growth of India.

9.1 ESTIMATED PROJECT COST:

Total project cost will be Rs 50,00,000/- or Fifty Lakhs only.

9.2 PROMOTION OF SOCIAL & ECONOMIC STATUS:

The project will contribute to the economy and social development of the area. It will provide direct employment to about 170-175 persons and indirect employment to many more.

The company has shown willingness to provide medical facilities to employees, their families and also to villagers as per scope of their economical means.

9.3 CONCLUSION:

The management will recruit the semi-skilled & unskilled workers from the nearby villages. The project activity and the management will definitely support the local Panchayat and provide other form of assistance for the development of public amenities in this region. The company

management will contribute to the local schools, dispensaries for the welfare of the villagers. Green belt development / Plantation will be taken up in the vicinity of river banks, along the approach roads and around Govt. buildings schools.

CHAPTER -10

ENVIRONMENT MANAGEMENT PLAN

10.0 INTRODUCTION:

Environmental management plan (EMP) describes the administrative aspects of ensuring that mitigation measures are implemented and their effectiveness monitored, after grant of EC. It consists of various policies, control measures etc. for abatement of critical environmental impacts arising out of the proposed project. Mitigation measures are proposed on the basis of identified impacts. Further a suitable environment management plan will be introduced in the project to implement and practice measures to protect and enhance the quality of environment. The EMP is only as effective as its implementation. An appropriate environmental management strategy is developed and presented in the form of an EMS. It is the responsibility of the project proponents to control the utilization of resources and discharges of waste by adopting suitable control measures in the factory to avoid adverse effects of industrial activities on the environment and in turn to enhance the quality of the environment.

10.1 AIR ENVIRONMENT:

During mining stage, generation of dust is not expected as the area is an private land (Hill-slope) which is moist due to soil moisture. The waste material obtained after sale of sand, bajri and boulders shall be stacked in a separate place and will be utilized for plantation and the balance filled up in the excavated pit.

All vehicles for service activities at the project site shall be checked for vehicular emission. The agencies will be asked to keep them within prescribed limits. They will also be asked to maintain them properly. Speed of vehicles for transport of materials shall be kept very low and speed breakers will be provided at suitable places.

10.2. WATER ENVIRONMENT:

Since no water will be used in the mining operations, therefore, no waste water will be generated,

thereby no impact on groundwater and surface water quality. Small amount of domestic waste water shall be treated in septic tanks at crusher site before to put use for plantation.

10.3 NOISE ENVIRONMENT:

Since, the project does not involve any blasting; there will therefore be negligible impact due to noise & vibrations. However, noise shall be generated due to movement of vehicles for which the following measures shall be implied: -

- "No Horn" sign at prominent places.
- Vehicles to be properly maintained & tuned conforming to the prescribed norms.
- Noise abatement from line source.
- Replacement of old trucks or their retrofitting.

10.4 LAND ENVIRONMENT:

This unit is having mining area about 05-18-46 Hect. During the course of mining, the land environment is likely to be impacted as under: -

- Topography & drainage
- Soil quantity
- Soil erosion
- Visual impact

To overcome the above impact, the following measures shall be implied: -

A well-planned restoration/reclamation of mined out area shall be in place.

- Plantation/afforestation in buffer zone by selecting local species conducive to agro-climatic conditions of the area.
- Proper measure to control runoffs will be taken.
- Landscaping.

10.5 SOLID WASTE:

The solid waste generated from the mining activities shall be effectively recycled within the mining site by spreading over the exhausted benches. No waste material will be thrown outside premises of the unit which could create any environmental problem.

10.6 OCCUPATIONAL HEALTH AND SAFETY OF WORKERS:

The major health hazards in a mining unit are dust & noise. Accidental rolling of stones along slopes could also be a hazard in the working area. Following mitigation measures will be provided:

1. Dust

- All workers will be provided Personal Protection Equipment.
- Face masks and side covered glasses will be provided to all workers.
- Frequent check-up of the workers will be done which shall, include chest X-ray, ECG &vision testing. Necessary treatment shall be provided wherever required.
- All checkups will be documented and reviewed monthly for occupation health and safety of the workers.

2. Noise

- Since mining operations are manual & semi-mechanized. The noise in the working area is not of significant levels. However, ear plugs will be provided to all workers in the area.
- Audiometric test of the workers shall be done regularly & medical health provided wherever required.

3. Accidental Rolling Down of Stone

Since the mining is carried out by preparing 5 X 4 meters (Height X Width) benches. There is little likelihood of rolling stones coming into the mining pit. However, pits slope of 45 ℃ will be maintained.

10.7 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN:

Details of expenditure on environment given below:

Table: 10.1 EXPENDITURE ON ENVIRONMENTAL MEASURES

S. No.	Title	Capital Cost	Recurring Cost (Rs. In Lacs)	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker and trolleys.	--	1.5	Twice a day & as per requirement
2.	Plantation & its maintenance for five years.	5.0	2.0	With affect from the first monsoon after the grant of EC & completion within two years.
3.	Waste management.	2.0	0.4	As per mining plan
4.	Testing of air, water and noise parameters as per norms of HP Pollution Control Board.	----	0.25	As per SPCB
5.	Check dams/ retaining structures & its maintenance	6.0	1.2	As per mining plan
6.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	0.20	0.05	As per mining regulations.
Total		**13.2**	**5.4**	

10.8 CONCLUSION:

All possible environment aspects have been adequately assessed and necessary control measures have been formulated to meet statutory requirements. Thus, continuation this project will not have any appreciable negative impacts.

CHAPTER-11

SUMMARY AND CONCLUSION

11.1 INTRODUCTION:

Sh. Lakhwinder Singh S/o Sh. Jagmail Singh, Prop: M/s Lakhwinder Singh Stone Crusher and Screening Plant, Village & P.O. Kungrat, Tehsil Haroli, District Una, Himachal Pradesh has been issued "Letter of Intent" for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-01/2022-2654 on dated 07/06/2022 for extraction/ collection of sand stone & bajri from Hill slope over an area measuring 05-18-46 Hectares bearing Khasra no. 358, 553 & 557 (Private land) falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, State- Himachal Pradesh. Accordingly, the validity period of Letter of Intent is extended for further term of one-year w.e.f. 06.06.2023 onwards for the purpose of obtaining Environment Clearance. Based on mining plan prepared by a registered Geologist and subsequently approved by the Industries Department.

As per MoEF, New Delhi Gazette dated 14th September 2006 and amended thereof, the proposed mining project is categorized as category 'B1'

11.2 DETAILS OF MINING PROCESS & LOCATION:

Table No 11.1: Details of Mining Process & Location

1.	**Name of the project**	Extraction of Sand, Stone & Bajri by Sh. Lakhwinder Singh		
2.	**Type of project**	Mining of Minor Minerals (Sand, Stone & Bajri)		
3.	**Location**	Khasra no. 358, 553 & 557, Falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, H.P.		
4.	**Lease Area Co-ordinates**	**Pillar No.**	**Latitude**	**Longitude**
		P1	31°21'50.96"N	76°14'02.35"E
		P2	31°21'54.28"N	76°14'21.79"E
		P3	31°21'48.48"N	76°14'19.62"E
		P4	31°21'48.39"N	76°14'02.71"E

	Elevation (Altitude at origin)	Highest 490 meters above MSL. Lowest 450 meters below MSL.
5.	**Total Area**	05-18-46 Ha
6.	**Products**	Sand, Stone and Bajri
7.	**Capacity**	2,08,279 MT for first year or 10,41,395 MT over a period of five years (Excluding silt/clay)
8.	**Bench Level**	5 X 4 metres
9.	**Cost**	Rs. 50 lakhs
10.	**Source of Electricity**	Not required
11.	**Alternative source**	Nil
12.	**Power Requirement at mining area**	No required
13.	**Water consumption**	4 KLD
14.	**Source of water supply**	From Borewell
15.	**Air pollution control at mining site**	Water sprinklers & tree plantations
16.	**Hazardous chemical**	Nil.
17.	**Hazardous waste**	Nil.
18.	**Land Type**	Private Land, Hill Slope
19.	**Manpower requirement**	173 persons
20.	**Validity of Lease**	As per grant order
21.	**Method of mining**	Manual and semi-mechanical
22.	**Working Days**	300
23.	**Waste (silt/clay)**	36,755 MT for one year or 183776 over a period of five years.

11.3 PROPOSED PRODUCTION:

Total production for five years will be 10,51,395 MT, and 2,08,279 MT for first year.

11.4 METHOD OF MINING:

- The mining will be manual as well as semi-mechanical. The mining operations shall be carried out in the mining lease area after leaving 05 meters buffer/safety zone. The mining method adopted is of open cast mining.
- The mineral excavation starts from RL 434 onwards by preparing 5 X 4 meters (Height X Width) benches.
- 11 number of benches are proposed to be developed while excavating the mineral from the mining lease area.
- No blasting is required /undertaken.
- For safety wire crate/ Gabion structure shall be constructed along the lower side of the applied mining lease area to stop any rolling down of debris/rocks.
- The mining operations in the lease area are confined to day light hours, from 9: 00 A.M. to 6 P. M.

11.5 ENVIRONMENT MANAGEMENT PLAN:

1. **Land Environment:**

Mitigation measures to avoid impact on land use

i.) All the activities shall be restricted within M.L area. Hence, there will be no change in the land use pattern.

ii.) Plantation activities will be initiated at the boundary of the mining site on the commencement of the mining activity.

iii.) During the mining activity, the overburden/top soil will be dumped at the demarcated area within the lease which will be used for refilling the excavated pits.

iv.) Plantation on the backfilled area will be done.

v.) The mined-out pit will be backfilled and stabilized by plantation which will provide land

for agricultural purposes.

2. Air Environment:

Mitigation measures to minimize impact on health due to fugitive dust emissions

i.) Water sprinkling on the internal/ unpaved roads/haul roads will be carried out in order to suppress dust emission.

ii.) Adhering to strict maintenance schedules for all equipment and transport vehicle to minimize gaseous emissions like CO and NOx.

iii.) The dumper and other vehicle operators/maintenance department will be responsible for periodically inspecting the vehicles engaged in the project for oil and grease leaks, spills and seeps from any of its parts etc. Thus, the practice of attending to breakdown maintenance along roadside will be prohibited.

iv.) Provision of dust mask to workers working at highly dust prone and affected areas.

v.) The dumpers/tippers will be covered with trarpaulin to avoid dust emission during transit of mined material from mining site to its destination.

vi.) If any increase of pollutants is reported from monitoring, necessary control measures would be taken.

3. Noise Environment:

Mitigation measures to minimize impact on health due to noise emissions

The Noise Emission from excavation work, haul trucks along the mine access service road, and material handling activities and support equipment such as dumpers, tractors and water trucks will be mitigated through following measures:

i.) The operators cabin of equipment like dumpers, loaders, etc. to be made sound proof.

ii.) Use of pressure horns in urban areas will be avoided.

iii.) Use of improvised plant and machinery designs, with inbuilt mechanism to reduce

sound emissions like improved silencers, mufflers and closed noise generating parts.

iv.) Where noise level is more the workers to be provided with ear plugs.

v.) Reducing the exposure time of workers to high noise levels by arranging time bound rotation of individuals.

vi.) Green belt will be enhanced by additional plantation in and around the M.L area.

vii.) Periodic ambient noise monitoring near sensitive receptors in the vicinity of lease area.

4. Soil Environment:

Mitigation measures to avoid soil erosion/loss of fertile top soil

i.) Proper garland to be constructed around the waste dump to avoid soil erosion.

ii.) The areas where topsoil could be utilized for landscape prior to stripping of top soil will be utilized and this topsoil will be later used for reclamation of the mining site as part of mine closure.

5. Water Environment:

Mitigation measures to avoid contamination of water resources

i.) Quarterly monitoring of groundwater level and quality will be carried out.

ii.) The mining activity will not intercept the groundwater table so as to avoid contamination of the aquifers.

iii.) There will be no impact on the surface water.

6. Ecological Environment:

Mitigation measures to avoid impact on biodiversity

i.) To minimize impact on flora and fauna.

ii.) Damage to the natural topography and landscape will be minimized.

iii.) General awareness regarding wildlife will be enhanced through trainings, posters etc. among the staff and mine workers.

iv.) Traffic speed within the activity area will be regulated.

v.) To minimize impact on vegetation and green belt due to dust deposition

vi.) Extensive plantation on the statutory boundary will increase the floral diversity of the area.

vii.) Sufficient availability of water will be ensured for green belt.

viii.) Water sprinkling will be done twice during the day on haul road and connecting mine to National Highway, also water sprinkling will be done on waste dump, OB dump.

7. Health and Safety:

Mitigation measures to ensure occupational health and safety

Fugitive dust emission could have potential impact on human health. Following mitigation measures will be adopted.

i.) Persons working in dusty area to be provided with protective gears such as helmets, dust masks, ear muff etc.;

ii.) Regular water sprinkling at dust generating areas, haul roads.

iii.) Occupational health checkup of all workers working in mine, and Pulmonary function test for workers working in dusty areas.

iv.) Workers continuously exposed to higher noise levels will be provided ear muffs/ear plugs.

v.) There will be restriction on vehicle speed to avoid accidents.

vi.) Regular health checkup of all the workers working in mine will be done.

11.6 PLANTATION WORK:

Table: 11.2

The year wise plantation plan is given in the table below

Sr. No.	Year	Area in Sq. mtrs.	No of plants to be planted
1.	**1st Year**	500	50
2.	**2nd Year**	500	50
3.	**3rd Year**	500	50
4.	**4th Year**	500	50
5.	**5th Year**	500	50
Total area		**2500**	**250**

The total cost of plantation including its maintenance for five years shall be approx. 5.0 Lakhs. The cost includes cost of plants, minerable and other labour activities. The estimated ***survival rate*** proposed to be achieved shall be 80%.

11.6.1 STRATEGY FOR PROTECTION OF POINT OF PUBLIC UTILITY ETC:

There is no point of public utility or interest that need to be protected while undertaking mining operations.

11.7 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN:

Details of expenditure on environment given below.

Table 11.3

EXPENDITURE ON ENVIRONMENTAL MEASURES

S.No.	Title	Capital Cost (Rs. in Lacs)	Recurring Cost (Rs. in Lacs)	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker and trolleys.	--	1.5	Twice a day & as per requirement
2.	Plantation & its maintenance for five years.	5.0	2.0	With affect from the first monsoon after the grant of EC & completion within two years.
3.	Waste management.	2.0	0.4	As per mining plan
4.	Testing of air, water and noise parameters as per norms of HP Pollution Control Board.	----	0.25	As per SPCB
5.	Check dams/ retaining structures & its maintenance	6.0	1.2	As per mining plan
6.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	0.20	0.05	As per mining regulations.
Total		**13.2**	**5.4**	

11.8 RECLAMATION PLAN:

Best possible terracing of hill slope: The mining is suggested in a way so that there is best possible terracing of the hill slopes.

Aesthetic: Proper mining will form terraces in the hillslopes so that they are able to bear systematic cultivation of agricultural /horticultural crops, thus enhancing the aesthetic look. The proper management of the landscape will add to the aesthetic look of the area.

11.8.1 WASTE DISPOSAL ARRANGEMENT IF ANY:

The year wise generation of silty sand/ Top soil is shown in the following table:

Showing year wise generation of silty sand & Top soil

S. No.	Year	Quantity of Wastage (MT)
1.	**1st year**	36723
2.	**2nd year**	36741
3.	**3rd year**	36641
4.	**4th year**	36920
5.	**5th year**	36751
Total		**183776**

11.8.2 TOPSOIL UTILIZATION:

The top soil will be spread over the benches developed after mining for growing plantation.

11.8.3 PREVENTIVE RETAINING STRUCTURES:

Five nos. of retaining structures/gabion/crate wire structure of 8.0 meters in length and 1.5 metres in height have been proposed to be raised in five years.

Each retaining structure/gabion/crate wire structure shall cost Rs. 60,000 and the total cost for construction of these in five years shall be Rs. 3,00,000.

11.9 MANPOWER DEVELOPMENT:

Around 170-175 unskilled and skilled people shall be employed to carry on the mining and associated. Activities and preferences shall be given to employ 100% local people.

11.10 USE OF MINERAL:

The extracted material after screening will be used in the already established stone crusher unit for manufacturing grit and manufactured sand.

11.11 BENEFITS OF MINING:

The proposed activity shall provide raw material to Stone crusher there by boosting production of construction material. This will bring overall improvement in infrastructure development and economic growth of the area. Generating useful economic resource for construction. Generating employment and improvement of socio-economic conditions of the study area.

11.12 IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE:

The proposed Sand, stone and Bajri mine will have numerous induced impacts on society such as growth in schools, hospitals, hotels & resorts, transport etc. It will also attract other entrepreneur to establish their venture in the region.

11.13 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE:

The social infrastructure like religious places (temple, mosque, church, gurgwara); marriage homes, Bus stations, railway stations, play grounds will be improved.

CONCLUSION:

This Project will provide several benefits to the near villagers by a proper planning and management. This project will employ most of the worker from nearby villages. There will not be any increase in population due to the project. However, few people from other area may migrate

in this area for business opportunities. During the operation of this project no adverse impact on the surrounding environment is envisaged. It is therefore concluded that project will give a boost in the economic and social upliftment of surrounding area.

CHAPTER – 12.0

DISCLOSURE OF CONSULTANTS ENGAGED

12.1 Organizational Profile:

Chandigarh Pollution Testing Laboratory (CPTL**)** is incorporated in 1997. The Registered office of **CPTL** is at Plot no. E-126, Industrial Area, Phase-7, Mohali, Punjab. Its laboratory division has accreditation from **NABL**, recognition from **MoEF & CC** & **PPCB** (Punjab Pollution Control Board) and EIA division (i.e., **CPTL-EIA**) is accredited by **QCI/ NABET** as Category-A EIA consultancy organization. In addition, it has certification from ISO 9001: 2015, ISO 14001: 2015 and ISO 45001: 2018. **C P T L** is a venture of professionally qualified and experienced technical personnel. The main aim of the company is to provide consultancy services and analytical services to those industries which do not have complete in-house testing facilities with them.

11.2 Scope of Services

Laboratory Facilities	Consultancy Services
Surface/ Ground Water testing	Environment Impact Assessment
Drinking Water testing	Environment Audits
Construction Water testing	Environment clearance compliances
Sewage/ Effluent testing	Remote sensing
Soil testing	Sound level modeling
Ambient Air monitoring	Air quality modeling
Stack Emission monitoring	Risk Assessment
Noise level monitoring	Ecology & Biodiversity study
Micro-biological testing	Socio-economic studies
Manufacturing of ETP, STP & APCDs	Consent from Pollution Boards
Design and installation of ETP, STP & APCDs	Climate Change

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Certificate of Accreditation

Chandigarh Pollution Testing Laboratory - EIA Division (CPTL - EIA), Mohali

E - 126, Phase VII, Industrial Area, Mohali, IDSAS Nagar, Punjab, Pin – 160055

*The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –*

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals including opencast/ Underground mining	1	1 (a) (i)	A
2	River Valley projects	3	1 (c)	A
3	Metallurgical industries (ferrous only)	8	3 (a)	A
4	Cement plants	9	3 (b)	A
5	Synthetic organic chemicals industry	21	5 (f)	B
6	Distilleries	22	5 (g)	A
7	Sugar Industry	25	5 (j)	B
8	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	B
9	Bio-medical waste treatment, storage and disposal facilities	32A	7 (d a)	B
10	Common Effluent Treatment Plants (CETPs)	36	7 (h)	B
11	Building and construction projects	38	8 (a)	B
12	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators, Functional Area Experts are mentioned in RAAC minutes dated June 17 and Supplementary Minute dated Sept 23, 2022 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/22/2544 dated Sept 28, 2022. The accreditation needs to be renewed before the expiry date by Centre for Chandigarh Pollution Testing Laboratory - EIA Division (CPTL - EIA), Mohali following due process of assessment.

NABET

Sr. Director, NABET
Dated: Sept 28, 2022

Certificate No.
NABET/EIA/2225/RA 0250

Valid up to
Feb 12, 2025

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to the QCI-NABET website

LETTER OF INTENT

No. Udyog-Bhu(Khani-4)Laghu-01/2022
Government of Himachal Pradesh,
Department of Industries
Geological Wing

Dated: Shimla-171001, the 2022

LETTER OF INTENT

Sh. Lakhwinder Singh, R/o Flat No. 824, HIG Phase-2, Mohali Punjab, Prop. M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit-II, Village & P.O. Kungrat, Tehsil Haroli, Distt. Una has applied for grant of mining lease over an area measuring 5-18-46 hects., bearing khasra Nos. 358, 553 & 557 (Private land, hill slope) falling in Mohal/Mauza Kungrat of Tehsil Haroli, District Una, H.P. for the extraction of sand, stone & bajri for use in already established stone crusher under name & style of M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit-II, under the provisions of the Himachal Pradesh Minor Minerals (Concession) and Mineral (Prevention of illegal Mining, Transportation and Storage) Rules, 2015. The case was referred to the Joint Inspection Committee for inspection of the area applied for grant of mining lease and on the basis of recommendations of the Joint Inspection Committee, the matter was referred to the Government for approval. The Government vide letter No. Ind-II(F)6-28/2022 dated 28.05.2022 conveyed the approval for the issuance of Letter of Intent for the grant of mining lease for extraction of sand, stone and bajri, for use in already established stone crusher in favour of Sh. Lakhwinder Singh, R/o Flat No. 824, HIG Phase-2, Mohali (Punjab) over an area measuring 5-18-46 hects. (Private land, hill slope) bearing khasra Nos. 358 (0-80-79 hect.), 553 (02-68-51 hect.) & 557 (01-69-16 hect.), falling in Mohal/Mauza Kungrat of Tehsil Haroli, District Una, H.P. Accordingly, 'Letter of Intent' is hereby issued subject to the following conditions:-

1. The party shall get the area demarcated from the revenue authorities and shall erect permanent boundary pillars to the satisfaction of the Mining Officer, so as to clearly depict the letter of intent issued area. A copy of the demarcation report shall also be submitted to the Mining Officer.
2. The party shall have to submit the approved Mining Plan under Rule 35 of the Himachal Pradesh Minor Minerals (Concession) and Mineral (Prevention of illegal Mining, Transportation and Storage) Rules, 2015.
3. The party shall have to obtain Environment clearance under Environment Protection Act, 1986 and Environment Impact Assessment, notification, 2006 and amendment issued time to time in this regard from the competent authority.

-2-

4. The party shall submit a certificate from the revenue authority to the effect that Khasra Nos. 358, 553 & 557 falling in Mohal/Mauza Kungrat of Tehsil Haroli, District Una are free from all encumbrance and all the co-sharers of above said land have given their consents.
5. The party shall settle the dispute, if arises between him and land owners/co-sharer/right holders at his own level and shall indemnify the Govt. in this behalf.

The letter of intent is subject to any orders passed by Hon'ble Supreme Court of India/National Green Tribunal/High Court of Himachal Pradesh or other concerned Departments from time to time in this regard. This letter of intent is valid only for obtaining requisite clearance from the Competent Authority.

The grant order imposing all the conditions and stipulations relevant as per the rules shall be issued only after submission of documents as mentioned at condition No. 1 to 5 above and after completing codal formalities. This letter of intent shall be valid for a period of one year. Thereafter, extension of provisional period shall be granted only after reviewing of the progress made for fulfillment of the above said documents. The Party shall not resort to any mining activities till the execution of mining lease.

Director of Industries,
Himachal Pradesh

M/s Lakhwinder Singh Stone Crusher &
Screening Plant, Prop. Sh. Lakhwinder Singh,
R/o Flat No. 824, HIG Phase-2, Mohali (Punjab).
Endst. No. As above. 2654 Dated 7/6/22

Copy to the following for information and necessary action:

1. The Additional Chief Secretary (Inds.) to the Govt. of Himachal Pradesh w.r.t. their letter No. Ind-II(F)6-28/2022 dated 28.05.2022.
2. The Mining Officer, Una, Distt. Una, H.P.
3. Guard file.

Director of Industries
Himachal Pradesh

EXTENSION OF LOI

No. Udyog-Bhu(Khani-4)Laghu-01/2022 -12478
Government of Himachal Pradesh,
Department of Industries, Geological Wing,
Dated: Shimla-171001, the 06-02-2024

From: Director of Industries
Himachal Pradesh

To

Sh. Lakhwinder Singh,
S/o Sh. Jagmail Singh,
Prop. M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit-II,
R/o Flat No. 824, HIG, Phase -2, Mohali (Pb.)

Subject:- Extension of Letter of Intent.

Sir,

This bears reference to your letter dated 06.07.2023, on the subject cited above.

In this context, it is to inform that the Government vide letter No. Ind-II(F)-6-28/2022 dated 30.01.2024 has conveyed approval for extension of validity period of 'Letter of Intent' for further term of one year w.e.f. 06.06.2023 onwards in favour of Sh. Lakhwinder Singh S/o Sh. Jagmail Singh, Prop. M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit-II, R/o Flat No. 824, HIG, Phase-2, Mohali (Pb.), for obtaining environment clearance and completing other codal formalities.

The period of Letter of Intent for an area measuring 05-18-46 hects. (Private land, hill slope), bearing Khasra No. 358, 553 & 557, falling in Mauza & Mohal Kungrath of Tehsil Haroli, District, Una, for extraction of sand, stone & bajri to meet out the requirement of already established stone crusher issued vide this office letter of even No. 2654-57 dated 07.06.2022 is hereby extended for further term of one year w.e.f. 06.06.2023 for the purpose of obtaining environment clearance under the provisions of Environment Protection Act, 1986 from the competent authority. All the terms & conditions as laid down in the initial letter of intent dated 07.06.2022 shall remain operative. The applicant shall not resort to any mining activities till getting the final grant order in this behalf.

Yours faithfully,

Geologist Zone-II
Himachal Pradesh
Dated

Endst. No. Udyog-Bhu(Khani-4)Laghu-01/2022
Copy to:-

1. The Principal Secretary (Industries) to the Government of Himachal Pradesh with reference to their letter No. Ind-II-(F)6-28/2022 dated 30.01.2024 for kind information.
2. The Mining Officer, Una, Distt. Una, H.P. for information and necessary action.
3. Guard file.

Geologist Zone-II,
Himachal Pradesh

ANNEXURE-II

APPROVAL LETTER

No. Udyog-Bhu(Khani-4)Laghu-01/2022 -12517
Government of Himachal Pradesh
Department of Industries
"Geological Wing"

Dated; Shimla- 171001, 21-3-2023

To

Sh. Lakhwinder Singh, S/o Sh. Jagmail Singh,
HIG-824, Phase-II, Mohali (Punjab).

Subject:- **Approval of Mining Plan of area applied for the grant of mining lease for extraction of sand, stone & bajri from Khasra Nos. 358, 553 & 557, measuring 5-18-46 hects. (Pvt. land, hill slope) falling in Mohal/Mauza Kungrat of Tehsil Haroli, Distt. Una, H. P. for which Letter of Intent has been issued on 7.06.2022.**

Dear Sir,

In exercise of powers conferred by Rule 36 of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules 2015, I hereby approve the above said Mining Plan for the purpose of obtaining Environment Clearance of the area applied for grant of mining lease for which the letter of Intent has been issued on 07.06.2022. The mining plan is approved for a period of five years from the date of execution of mining lease deed. This approval is subject to the following conditions:--

1. That the Mining Plan is approved without prejudice to any other laws applicable to the mine/area from time to time whether made by the Central/State Government or any other authority.
2. That this approval of the Mining Plan does not in any way imply the approval of Government in terms of any other provisions of the H. P. Minor Minerals (Concession) Revised Rules, 1971 now repealed as Himachal Pradesh Minor Mineral (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules 2015 or any other laws including Forest (Conservation) Act, 1980, Environment Protection Act, 1986 and the rules made thereunder and other relevant statutes, orders and guidelines as may be applicable to lease area from time to time.
3. That the Mining Plan is approved without prejudice to any orders or directions from any court of competent jurisdiction.
4. That in case State Geologist, Geologist, any other inspecting officer/official of Geological Wing Department of Industries, after field inspection notices that proposals made and workings shown in the mining lease by the RQP need certain corrections/amendments due to change in conditions either natural or manmade, the inspecting officer can recommend necessary amendments in the said Mining Plan at any point of time in the interest of environment and mineral conservation.
5. That the lease holder shall procure Environment clearance from the Competent Authority as per Environmental Impact Assessment Notification, 2006 and amendments/notifications issued time to time in this regard.
6. That the approval of proposed mining operations is restricted to the mining lease area only.

7. That in case additional conditions are imposed by the Ministry of Environment & Forests Govt. of India while according clearance under EIA notification dated 14.9.2006 and any condition imposed by the State Govt. while granting mining lease the same shall have to be incorporated by making necessary amendments in the Mining Plan by the lessee through R. Q. P.
8. That in case Mining lease is not granted or is terminated or working is suspended before the expiry of the lease period due to any reason, the approval of Mining Plan shall stand automatically cancelled.
9. That the lease holder shall carry out production of mineral in accordance to the production shown in Mining Plan and Environment Clearance whichever is less.
10. That no person shall undertake mining operations in any mining lease area, except in accordance with a Mining Plan approved under sub rule (2) of Rule 39 of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules 2015.
11. That the lease holder shall carry out working in the mining lease area as per Mining Plan only after obtaining permission to work in the mining lease area from the Competent Authority.
12. That if the mining operations are not carried out in accordance with the approved Mining Plan, the State Geologist, Geologist, Assistant Geologist and the Mining Officer, made order suspension of all or any of the mining operations and permit continuation of only such operations as may be necessary to restore the conditions in the mine as envisaged under the said Mining Plan.
13. That anything is found to be concealed as required under various Rules and guidelines pertaining to mining in the context of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
14. That in case of any violation of terms and conditions of the approved Mining Plan, the financial assurance deposited by the said lessee shall be liable to forfeited.

Enclosed:- Copy of approved Mining Plan.

Yours faithfully,

Geologist Zone-II
Himachal Pradesh
Dated; 2023

Endst. No. As above.
Copy for kind information to:-
1. Mining Officer, Una, Distt. Una, H. P. alongwith a copy of Mining Plan for further necessary action.
2 Sh. Arun Dhiman, Village & P.O. Dhaloon(Panchpuli), Tehsil Nagrota Bagwan, Distt. Kangra, H.P. 176056 .

Geologist Zone-II
Himachal Pradesh

ANNEXURE- III

500M DISTANCE CERTIFICATE

No. Udyog-Bhu(Khani-4)Laghu-01/2022 -12530
Government of Himachal Pradesh
Department of Industries
"Geological Wing"
Dated, Shimla-171001, the 21-3- 2023

To

M/s Lakhwinder Singh Stone Crusher & Screening Plant,
Prop. Sh. Lakhwinder Singh,
R/o Flat No. 824, HIG Phase-2, Mohali (Punjab).

Subject: Regarding distance certificate of 500 Mtrs.

Sir,

Enclosed please find herewith the distance certificate issued by the Mining Officer, Una, regarding distance from the granted/sanctioned mining lease areas/auctioned area within 500 mtrs. from the periphery of the area applied for mining lease for which Letter of Intent has been issued in favour of Sh. Lakhwinder Singh, Prop. M/s Lakhwinder Singh Stone Crusher & Screening Plant, Village & P.O. Kungrat, Tehsil Haroli, Distt Una, duly countersigned by the undersigned for taking further necessary action.

Yours faithfully

Encl/As above.

Geologist-Zone-II,
Himachal Pradesh,
Dated

Endst. No. Udyog-Bhu(Khani-4)Laghu-01/2022
Copy to the Mining Officer, Una, with reference to letter No. Udyog(Bhu)-UNA-Lakhwinder Singh-2148 dated 14.03.2023 for information.

Geologist-Zone-II,
Himachal Pradesh,

CERTIFICATE

Certified that as per the revenue record 01 (One) mining leases exists / granted with the department, within 500 meters from the periphery of the area applied for grant of mining lease in favor of Sh Lakhwinder Singh S/o Sh Jagmail Singh Prop M/s Lakhwinder Singh Stone Crusher & Screening Plant Village & PO Kungrat Tehsil Haroli District Una H.P , measuring 05-18-46 Hectares (Private Land) falling in mauza Kungrat Tehsil Haroli District Una H.P comprising of Khasra No 358,553,& 557 .

The status of mining leases is as under:

Sr. No.	Name of Mining Lease	Khasra No.	Area in Hectares	Mohal & Mauza	Valdity Period	Status of EC/ Mining lease whether operating or not operating
1	M/s Lakhwinder Singh Stone Crusher VPO Kungrat,Tehsil Haroli District Una (H.P.) Unit-II.Prop. Sh. Lakhwinder Singh, S/o Sh. Jagmail Singh, HIG-824, Phase-II, Mohali, Punjab	546,547, 548,7 549	4-17-79	Kungrat	18-11-2011 to 17-11-2026	EC Granted /Operational

(Neeraj Kant)
Mining Officer,Una
Mobile No +91-9816519502
e.mail: miningofficeruna@gmail.com

Geologist (Zone-II)
Geological Wing
Dept. of Industries, Shimla-1

श्रीमान जी

तसदीक किया जाता है कि M/S
लखविन्दर सिंह स्टोन क्रशर एवम स्क्रीनिंग
प्लांट यूनिट II मड़ाल पत्ती मौजा कुलाउत के
द्वारा पेश किये कागजात मुताबिक मड़ाल व
मौजा कुलाउत मै नम्बर खसरा खसरा 546
547, 548, 549 किता 4 रकबा तादादी 04-11-19 है
अनुबन्ध पट्टा माईनिंग विभाग लिया हुआ है। व
नम्बर खसरा 358, 553, 557 किता 3
रकबा 05-18-46 हैक्ट का उपरोक्त अनुबन्ध
पट्टा जारी किया गया है। नम्बर मज़कूर
कागजात के अनुसार दर्ज है जनता
नम्बर खसरा 546, 547, 548, 549, व
358, 553, 557 कि आबादी कि दूरी 500
मीटर से कम है। रिपोर्ट सेवा मे प्रेषित
है।

Magt Singh
04-04-2023
[illegible]

ANNEXURE- IV

JAMABANDI

राजस्व विभाग, हिमाचल प्रदेश - नकल जमाबंदी

एस.सी.ए रसीद संख्या: 4051101727881927

जिला : ऊना
तहसील : हरोली
कानूनगोवृत : टाहलीवाल
पटवार वृत : कुंगड़त प्रथम
हदबस्त न. : 527
मोहाल : कुंगड़त

नाम : a
पिता/पति : b

नकल शुल्क : 1.00
सेवा शुल्क : 10
कुल शुल्क : 11

साल : 2017-2018 रकबा ईकाई: है-आ-सै

खेवट नं. / नाम पत्ती या तरफ मय नाम नम्बरदार / मुताबला व शरह मुआमला व हबूब	खतौनी नं. / लगान जो मुजारा अदा करता है व तफसील शरह व तदाद	नाम मालिक व एहवाल	नाम काश्तकार व एहवाल	नाम चाह व दीगर वसायल आबपाशी	नम्बर खसरा हाल	रकबा हर खेत व मिजान खाता मय किस्म अराजी	हिस्सा या पैमाना हकीयत व तरीका बाछ	कैफियत
1	2	3	4	5	6	7	8	9
196 183, 187 बशरहा खेवट न. (1) 0.00 माल 0.00 स्वाई 0.00	227 214, 219	किशन सिंह पुत्र करतार चन्द पुत्र वेली राम निवासी कुठार वीत तहसील:हरोली, जिला:ऊना	कब्जा स्वंय		358 553 557 किता 3	00-80-79 बंजर कदीम 02-68-51 खड़ैतर 01-69-16 खड़ैतर 05-18-46 अकृष्ट 05-18-46 बंजर कदीम 00-80-79 खड़ैतर 04-37-67	कब्जा व पड़ता बशरह खेवट न.(1)	न.ई. कि.ई. 515 बै 676 बै नोट- वरूये ई.न. 676 बै द्वारा खेवट/खतौनी 196/227 मिन का न. ख. 358 है का रकबा 0-80-79 है. का 1/2 भाग तकदर 0-40-39 है. मिनजानब किशन सिंह पुत्र करतार चन्द बहक रूप सिंह राजेश कुमार पुत्र कृपाल सिंह भाग बराबर वासी महाल मानपुर देवड़ा तहसील पवंटा साहिब दिनांक 03-09-2021 को स्वीकार हो चुका है।

For Digital CSC Pollan ... Prop.
Date : 20/2/2024

Certified that this copy has been generated from the database of Revenue Department at Central Server- HP as accessed by the Lok Mitra Kendra Raman Kumar on 20-February-2024

To Verify; enter the Copy No above Bar Code at https://himbhoomilmk.nic.in
For Validity Refer : Notific. No:Rev-C(F)/10-1/2009 Dated 14-Feb-2011

Jam04042341296

निकनेट : हिमाचल प्रदेश - शिमला
दिनाँक: 20-Feb-2024
पृष्ठ संख्या: 1

ANNEXURE-V

JOINT INSPECTION REPORT

PERFORMA FOR THE JOINT INSPECTION OF THE AREA APPLIED FOR FRESH MINING LEASE		
1. General		
1.1 Name of the applicant		*Sh Lakhwinder Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P*
1.2 Address of the applicant	**Father's Name**	*Sh Jagmail Singh Panag*
	Village	*R/o Flat No 824 HIG Phase-2 ,Mohali Punjab*
	P.O	
	Tehsil	
	District	
	Pin No	
1.3 Approach and location of the area	*The site applied for mining lease is located in Mauja & Mohal Kungrat Tehsil Haroli District Una H.P and is appraochable from Palakwah-Lalahri -Tahliwal Road diverting RHS from Nangal Khurd Road .*	
1.4 Purpose for which lease is applied e.g. For setting up of stone crusher, Hollow block, Screening unit, free sale etc		*For use in Stone crusher under name & Style M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P*
1.5 Date of Joint Inspection		*17-03-2022*

1.6 Members present during joint inspection

Sr. No	Name & Designation	Particulars
1.	*Shri Vikas Sharma HAS S.D.O (Civil) Haroli ,District Una .*	*Chairman*
2.	*Dr Khushboo Rana ADO ,Soil Conservation Una*	*Member*
3.	*Sh Kuldeep Singh A.E HPPWD Haroli*	*Member*
4.	*Sh Desh Raj Assistant Engineer JSV*	*Member*
5.	*Sh. Satnam Singh Surveyour Flood protection*	*Member*
6.	*Sh. Mohit Bharti JE HPSPCB Una*	*Member*
7.	*Sh. Sanjeev Kumar Range Forest Officer*	*Member*
8.	*Sh. Balram*	*Halqa Patwari*
9.	*Neeraj Kant Mining Officer Una*	*Member Secretary*

Mining Officer, Una, District Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

2. Revenue Department

2.1 Status w.r.t. Demarcation of Applied for area : *The area was demarcated on22.10.2021*

2.2 Detail of area applied

Kh. No	Area (In Hect)	Owner Govt. / private	Kism	Mohal	Mauza	Panchayat	Any other
358, *553* *557*	*0-80-79* *02-68-51* *01-69-16*	*Private*	*Banjar Keddem Kharaitar*	*Kungrat*	*Kungrat*	*Kungrat*	
	05-18-46						

Point of public utility in the area/near by (Village footpath, road, school,'' residential house, hospital, cattle shed, charitable building, water channel, cemetery/ cremation ground, place of worship etc. Nil

2.3 Consent of Gram Panchayat: ***Resolution No 08 dated 06.05.2021***

2.4 Whether marked on location plan attached with application, If not then please mark ***YES***

[Any special recommendation with respect to above points]

The applied area for mining lease does not fall in limits of No Municipal Corporation /Municipal Committee & Nagar Panchayat.

2.5 Any other observation/condition

The area was shown physically by Halqa Patwari, along with concerned staff. As per entries of Revenue Records the land applied for a mining lease is a private land Hill Slope & kism of the land is Kharaitar& Banjar Kadeem .

Recommendations:-

Since the area applied for the mining lease for collection/extraction of sand, stone & bajri to be used in Stone crusher unit ,applied by Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P is a private land ,Revenue department has no objection in grant of this mining lease over Khasra No 358, 553 & 557 , measuring 05-18-46 Hectares (Private Land)falling in Mauja & Mohal Kungrat Tehsil Haroli District Una H.P .

Mining Officer, Una, District Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase 2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553 557 measuring 05-18-46 Hectares (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in Stone Crusher Unit" conducted on 17.03.2022

3. Forest Department		
3.1 Types of land i.e. Reserve Forest/Protected Forest/Demarcated Forest/ Non Forest Government Land/ Private Land etc.	*Private land*	
3.2 Whether attract FCA,1980		*No*
If yes, then specify Kh. Nos, which attract FCA		

3.3 Whether there is any activity of the forest department in the area such as soil conservation works, nursery plantation, check dams, taming of nalls/stream etc ,if yes please specify and mark on location plan and what precautions are required: *No soil conservation works, nursery plantation, check dams, taming of nalls/stream etc exists near the applied area for mining lease.*

3.4 Whether there is any property of Forest Department nearby which may have direct effect if mining is allowed

No

3.5 Any other observation/condition

Recommendations:-

Since the area applied for the mining lease for collection/extraction of sand, stone & bajri to be used in Stone crusher unit ,applied by Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P (private land/ Hill slope) ,Forest department has no objection in grant of this mining lease over Khasra No 358, 553 & 557 , measuring 05-18-46 Hectares (Private Land)falling in Mauja & Mohal Kungrat Tehsil Haroli District Una H.P .

Mining Officer, Una, District Una (H.P.)

Range Officer
Forest Range
Una H.P.-174303

Divisional Forest Officer
Una Forest Division, Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

4

4. PWD Department					
4.1 Whether any road exist near area				Yes	✓ No
If Yes then	Type of road	Distance from area	Marked on location plan as	Minimum safe distance required for mining	
	NH	N.A		75 m	
	State highway			75 m	
	Link road			50 m	
	Village road			50 m	
4.2 Whether any road exist within area				Yes	✓ No
	Type of road	Distance from area	Marked on location plan as	Minimum safe distance required for mining	
	NH		N.A.		
	State highway		N.A.		
	Link road		N.A.		
	Village road		N.A.		
4.3 Whether there exist any bridge, culvert etc within area/near area				Yes	✓ No
If yes, than No. of bridges etc.					
Whether marked on location plan		yes		If not, please mark	
Minimum safe distance required from bridge etc.	Bridge	Minimum distance required		Any special precaution required	
		U/S	D/S		
	Bridge No.1	200m	500 m	*No Bridge site exists near the applied area*	
	Bridge No.2				

4.4 Any other structure of PWD importance, if yes (Please mark on location plan) than specify any special precaution

No

4.5 Any other observation/condition

4.6 Is there any objection if intake point from PWD road to the leased area is used in case lease is grant, if not, whether to allow with conditions

Project proponent will all time maintain the intake point from PWD road (Lalahri -Nahgal Khurd -Tahliwal Road) and will not ply the heavy vehicle carrying finished product /Machinery through the village roads .

Recommendations: -

No public property/utility like road ,bridge or structure belonging to the PWD department exists near the area applied for the mining lease for collection/extraction of sand, stone & bajri to be used in Stone crusher unit ,applied by Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P,PWD department has no objection in grant of this mining lease over Khasra No 358, 553 & 557 , measuring 05-18-46 Hectares (Private Land)falling in Mauja & Mohal Kungrat Tehsil Haroli District Una H.P .

Mining Officer, Una District Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

Assistant Engineer, Tahliwala Sub Division H.P.P.W.D./B&R\ Haroli

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5. JAL SHAKTI VIBHAG				
5.1 Whether there exist any water supply scheme within/near the area				✓ No
Type of Scheme	Scheme	Minimum safe distance required		
		U/S		D/S
	Water supply tank	200 mtrs	200 Mtrs	200 mtrs.
	Water supply bore well			
	Lift Irrigation Scheme			
	Any other source			
Whether marked on location plan		If not please mark		
Any special recommendation with respect to above schemes				

5.2 Any other important point with respect to IPH department, if yes. Please mark on location plan. Whether any special precaution is required , please specify

5.3 Any other observation/condition

Recommendations:-

No public property/utility like tube well ,bore well , water supply scheme (irrigation/drinking) ,pipeline or structure belonging to the IPH department exists near the area applied for the mining lease for collection/extraction of sand, stone & bajri to be used in Stone crusher unit ,applied by Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag , Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P,Jal Shakti Vibhag has no objection in grant of this mining lease over Khasra No 358, 553 & 557 , measuring 05-18-46 Hectares (Private Land)falling in Mauja & Mohal Kungrat Tehsil Haroli District Una H.P .

Mining Officer,
Una District Una (H.P.)

Assistant Engineer,
Jal Shakti Sub-Division,
Tahliwal Distt.Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

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Environment Protection & Pollution Control Board

(Summary of method for environment Protection)

The site of applied mining lease was inspected jointly on dated 17/03/2022. HP State Pollution Control Board has no objection from pollution point of view and mining lease may be granted subject to following conditions:

1. *The Mining lease area (05-18-46 Hect.) is a Hill slope area (Pvt. Land) at Mauja & Mohal Kungrat Tehsil Haroli Distt. Una, so the mining shall be carried out scientifically and as per the policy of Mining department.*
2. *No blasting shall be carried out.*
3. *Natural Course of river/nalla shall not be disturbed and especially steps shall be taken to control the soil erosion*
4. *The proponent shall obtain/renew consent to operate from State Pollution Control Board and EC from the competent authority as per the orders of Hon'ble Supreme Court dated 27/02/2012 and Hon'ble High Court dated 15/06/2012 and 14/09/2012. The proponent shall not carry out any mining activity without obtaining consent from State board and EC from competent authority.*
5. *Water sprinkling shall be carried out on approach roads and covering of material shall be done during transporting the material from mining lease area*
6. *The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*

Mining Officer, Una District Una (H.P.)

Jr. Env. Engg.
HPSPCB, Una
Distt. Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

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6. Industries Department		
6.1 Location of applied for area (nearest village/important features)		*The site applied for mining lease is located in Mauja & Mohal Kungrat Tehsil Haroli District Una H.P and is appraochable from Palakwah-Lalhri -Tahliwal Road diverting RHS from Nangal Khurd .*
6.2 Purpose of Mining Lease.		***For Stone crusher unit***
6.3 Overlapping of areas with any other lease/contract		**✓ NO**
If yes please give detail N.A		
6.4 Location of the nearest mining area/quarry *M/s Lakhwinder Singh Stone crusher& Screening plant Unit II , village & PO Kungrat Tehsil Haroli District Una H.P*		
6.5 Average daily production anticipated in Metric Tons		*300-350 ton per day*
If yes, please mark on location plan and suggest precaution		*Attached*
6.6 Suitability of mineral as per the purpose given above(Give detail)		*. The applied area is in form of hill slope & is mostly comprised of conglomerate beds with soil matrix & is suitable to be used in crusher.*

Mining Officer,
Una, Dist Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 IIIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

6.7 Feasibility of Mining

(i) Name of Mineral : *Sand, Stone & Bajri*

(ii) Type of mining Hill Slope/River Bed: ***Hill Slope***

(A)Hill Slope

(i)Average angle of slope: *Uniform slope angles are observed in the area. The hill slope having a gentle slope with an angle of 25° to 35° in the applied for mining lease area. The conglomerate deposit, where the mining lease is applied is slightly undulating with 4-5 meters elevation difference from one end to other*

(ii) Nature of rock:

(iii) Scientific mine ability considering the orientation of revenue record:

(iv)Availability of mineral w.r.t anticipated production: *The applied area comprise of conglomerate beds with thin soil matrix & is suitable to be used in crusher*

(v) Availability of area for disposal of waste: *The waste so generated will be backfilled the road pothholes*

(vi) Approach to the Mine area: *The applied crusher site is adjacent to applied area for mining lease For transportation of loaded trucks/tractors to the nearest crusher site & to Lalahri Palakwah Intake point , the vehicles will only pass through the Private Land as well as Govt Land . Project proponent will made necessary arrangements between the land owners and will take care of other issues if any on his own for the mineral transportation to the nearest road and shall indemnity of Government against claims of third parties.*

(vii) Whether areas is prone to land slide if yes then the protection measures needed thereof: *As the mining lease areas is hill with gentle slope and as the adjoining lands are almost flat with very less gradient, there is no scope of landslide in the vicinity of the applied mining lease area. The hill slope is mostly comprised of conglomerate beds with thin soil cover in the mining lease area. The slope at places is uniform and if the mining operations would be carried out in a systematic and scientific way, there are negligible chances of any landslide. Moreover, no adverse joint pattern is observed in the mining lease area which can lead to any further rock/slope failure.*

(B) River Bed: NA

(C) Additional information on case of Grant of Mining Lease

(i) Report under Rule 18(2)of Himachal Pradesh Minor Mineral rule:

(i) **Investment for developing the area :**

(ii) Investment on machinery & equipment :

(iii) Laborers Employed :

(ii) Production of mineral for the last tenure:

(iii)Violation of condition mining noticed in the tenure

(iv) Detailed note on scientific mining w.r.t working cum Environment Management Plan in the last tenure:

Mining Officer, a, District Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

6.8 Whether mining can pose threat to existing object of Public Utility or private property? If any, Give detail and precaution required

No public utility structure of HPPWD, IPH, Forest departments exists near the area applied for the mining lease.

If no, the reason thereof:

6.9 Any other special point pertaining to Industries Department

1. *The area applied for fresh mining lease for collection /extraction of sand ,Stone & Bajri to be used in stone crusher unit is a Hill slope private land comprising Khasra No 358, 553 & 557 measuring 05-18-46 Hactares falling in Mauja & Mohal Kungrat Tehsil Haroli District Una H.P.*
2. *The applied land for mining lease is leased out by land owners in favour of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh , Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P*
3. *The area applied forms a compact block.*
4. *During the course of inspection it was observed by the Committee that the area applied for mining lease is found suitable for the purpose applied for.*
5. *The proposed area falls under Gram Panchayat Kungrat .*
6. *As per the revenue record kism of the applied area for mining lease is Kaharaitar& Banjar Kedeem .*
7. *The applicant will plan the mining activities keeping 5m as buffer zone so that the adjoining lands may not be disturbed/damaged .*
8. *The crusher site is adjacent to the applied area for mining lease the Project Proponent will be made necessary arrangements between the land owners (Private) as well as Govt (in case) and will take care of other issues if any on his own for the mineral transportation to the nearest road and shall indemnity of Government against claims of third parties.*
9. *In order to avoid the annoyance of local habitants ,the project proponent will not use Kungrat - Lalahri village Road for plying vehicles carrying finished product (grit and sand)and will use separate road bypassing the narrow village roads.*
10. *The working in the mining lease area will be strictly as per the Himachal Pradesh Mineral policy 2013 & the provisions of The Himachal Pradesh Minor Minerals (concession) and Mineral (Prevention of illegal mining ,Transportation and Storage Rules ,2015& stipulation of SEIAA.*
11. *The applied area was demarcated on 22.10.2021*
12. *The applicant will start mining operation after obtaining EIA clearance from competent authority.*
13. *The land being private(Hill Slope) Forest department has no objection in granting mining lease.*
14. *No Structure of public utility of PWD & JSV exists within the prescribed limit hence PWD & JSV department has no objection in granting mining lease.*
15. *The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*
16. *The applied are exists in form of hillocks & SubDivisional Soil Conservation Officer,Una has no objection in granting of mining lease .*

Mining Officer,
District Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

Additional Information in light of observation made by the Govt vide letter no Govt Ind-II(F)6-1/2014 dated 6.2.2014/ Udyog-Bhu(Khani-4)Laghu-350/13-12531 12.02.2014

S.No	Information	Reply
1	Status of applied area in Survey Document	The proposed area in which mining lease is applied is Private land & Hill slope & is not reccomended in survey document.
2	Mineral potential of the area	The applied Mining lease is located on a hilly terrain and suitable material for crushing is available in whole of the applied mining lease area The exact reserve calculations will be estimated during the preparation of "Mining plan " of the proposed area.
3	Mineral analysis & Source of replenishment	The mining lease area comprises predominantly the boulders, cobbles, pebbles, bajri, with Clay and silt matrix . The boulders are white, spotted white, greenish white pink, purple and dark green in colour. Quartzite fragments are rounded, sub-rounded and discoidal in shape having smooth surface. The size of minor mineral varies from silt to boulder.Since the applied area is private land hill slope there are no chances of replanishment .
4	Length of river , location of proposed site w.r.t origin of the river ,Distance of existing /proposed crushers or leases from proposed mining lease area .	The applied mining lease area is private land Hill slope & the nearest mining lease belong M/s Lakhwinder singh Stone crusher & screening plant , village & PO Kungrat Tehsil Haroli District Una H.P .Three (03) mineral concessions has been granted in this area .

Mining Officer,
Una District Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

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8.Recommendations		
8.1Whether whole of the area is being recommended for mining	*YES*	
If no, please specify the Kh. Nos. being recommended		
Any other recommendation in addition to recommendations given at top NO		

Final recommondation of the Committee

Keeping the facts & stipulations stated above , the Committee recommends the fresh mining lease (Private land ,Hill slope) for collection/extraction of Stone Bajri for use in stone crusher unit applied by Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag , Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for use in stone crusher over Khasra No 358(00-80-79 Hectares), 553(02-68-51 Hectares), & 557 (01-69-16 Hectares) totaling 05-18-46 Hect falling in Mauja & Mohal Kungrat Tehsil Haroli District Una H.P

Signatures:-

Sub Divisional Magistrate उप-मण्डलाधिकारी(ना0) हरोली, जिला ऊना(हि0प्र0)	**Divisional Forest Officer** Range Officer Forest Range Una H.P.-174303	**Assistant Engineer P.W.D.** Assistant Engineer, Tahliwala Sub.Division H.P.P.W.D.(B&R) Haroli
Assistant Engineer, IPH Assistant Engineer, Jal Shakti Sub-Division, Tahliwal Distt.Una (H.P.)	**Environmental Engineer H.P.EP&PCB** Jr. Env. Engr. HPSPCB, Una Distt. Una (H.P.)	**SubDivisional Soil Conservation Officer,Una** Sub Divisional Soil Cons.Office Una, District Una (H.P.)-174303
Mining Officer Una Mining Officer, Una, District Una (H.P.)		

Mining Officer, Una, District Una (H.P.)

JIR of Sh Lakhwinder Singh Panag S/o Sh Jagmail Singh Panag R/o Flat No 824 HIG Phase-2 ,Mohali Punjab, Proprietor M/s Lakhwinder Singh Stone Crusher & Screening Plant Unit II Village & Post Office Kungrat Tehsil Haroli District Una H.P for mining lease for collection/extraction of Stone Bajri over Khasra No 358, 553,557 measuring 05-18-46 Hect (Private land) mauza & mohal Kungrat Tehsil Haroli District Una H.P , for use in stone crusher unit conducted on 17.03.2022

ANNEXURE-VI

NOC FROM GRAM PANCHAYAT

स्वच्छ हिमाचल• स्वस्थ हिमाचल

जय हिंद,जय भारत

कार्यालय ग्राम पंचायत कुंगड़त विकास खंड हरोली हिमाचल प्रदेश!

प्रस्ताव संख्या 08 दिनाक 06/05/21

आज दिनाक 06/05/2021 को ग्राम पंचायत /ग्राम सभा कुंगडत की वैठक प्रधान श्री प्रवीन कुमार जी की अध्यक्षता में पूर्ण कोरम सहित सम्पन हुई | जिसमे निम्नलिखित प्रस्ताव पारित किया गया |

प्रस्ताव न० 08

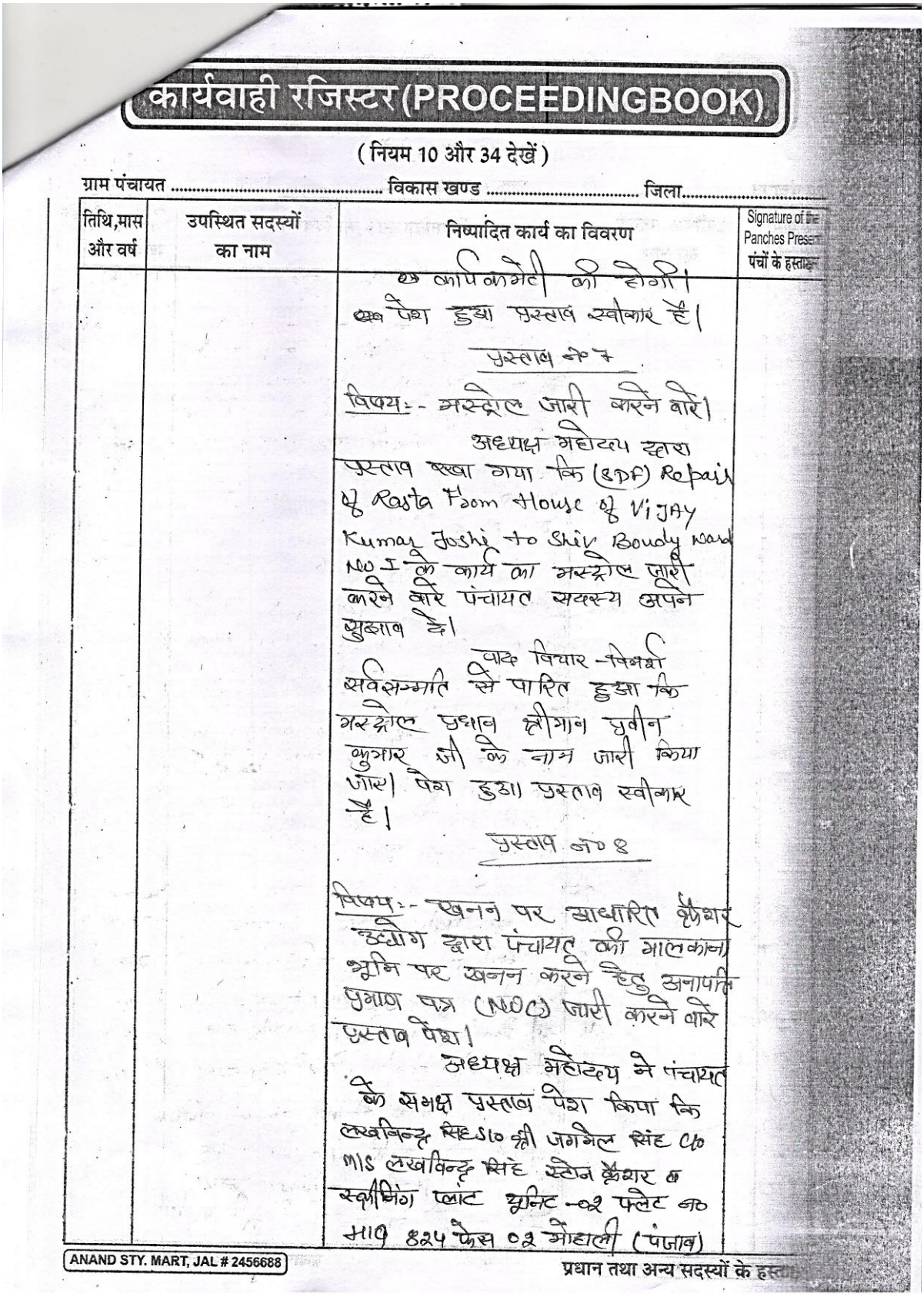
विषय :---खनन पर आधारित क्रेशर उद्योग द्वारा पंचायत की मालकाना भूमि पर खनन करने हेतू अनापत्ति प्रमाण पत्र (NOC) जारी करने वारे प्रस्ताव पेश |

अध्यक्ष महोदय ने हाजिर पंचायत के समक्ष प्रस्ताव पेश किया कि लखविन्द्र सिंह S/O श्री जगमेल सिंह C/O M/S लखविन्द्र सिंह स्टोन क्रेशर व स्क्रीनिंग प्लांट यूनिट -02 फ्लेट न० HIG 824 फेस 02 मोहाली (पंजाब)द्वारा दिए गए आवेदन पत्र को पढ़ कर सुनाया गया और वताया गया कि M/S लखविन्द्र सिंह खसरा न० 358,553 एवं 557 महाल कुंगड़त में मलकाना कि जमीन पर खनन (रेत,बजरी और पत्थर) का कार्य करना चाहता है | लखविन्द्र सिंह द्वारा अनापत्ति प्रमाण पत्र की मांग की है | अनापति प्रमाण पत्र जारी करने वारे ग्राम पंचायत सदस्य विचार-विमर्श करें |

बाद-विचार विमर्श उपरांत पंचायत सदस्यों द्वारा सर्वसम्मति से पारित किया कि ग्राम पंचायत कुंगडत खनन हेतू M/S लखविन्द्र सिंह (स्टोन क्रेशर व स्क्रीनिंग प्लांट यूनिट - 02) फ्लेट न० HIG 824 फेस 02 मोहाली (पंजाब)द्वारा दिए गए आवेदन पत्र को स्वीकार करती है और खसरा न० 358,553 एवं 557 महाल कुंगड़त में मलकाना कि जमीन पर खनन हेतू अनुमति प्रदान करती है | इस खनन वारे ग्राम पंचायत कुंगडत को कोई आपत्ति नहीं है | पेश हुआ प्रस्ताव पास हुआ स्वीकार है |

प्रमाणित किया जाता है कि प्रतिलिपि प्रस्ताव की नकल असल मुताविक सही है |

Secretary
Gram Panchayat ,Kungrat
Block Haroli, Distt. una (H.P.)



कार्यवाही रजिस्टर (PROCEEDINGBOOK)

(नियम 10 और 34 देखें)

ग्राम पंचायत ..... विकास खण्ड ..... जिला.....

तिथि, मास और वर्ष	उपस्थित सदस्यों का नाम	निष्पादित कार्य का विवरण	Signature of the Panches Present पंचों के हस्ताक्ष

की कार्यवाही की होगी।
पेश हुआ प्रस्ताव स्वीकार है।

प्रस्ताव नं० 7

विषय:- मस्टरोल जारी करने बारे।

अध्यक्ष महोदय द्वारा प्रस्ताव रखा गया कि (RDF) Repair of Rasta From House of Vijay Kumar Joshi to Shiv Boudy Road No 1 के कार्य का मस्टरोल जारी करने बारे पंचायत सदस्य अपने सुझाव दें।

वाद विचार-उपरांत सर्वसम्मति से पारित हुआ कि मस्टरोल प्रधान हरीश्वर धवीन कुमार जी के नाम जारी किया जाए। पेश हुआ प्रस्ताव स्वीकार है।

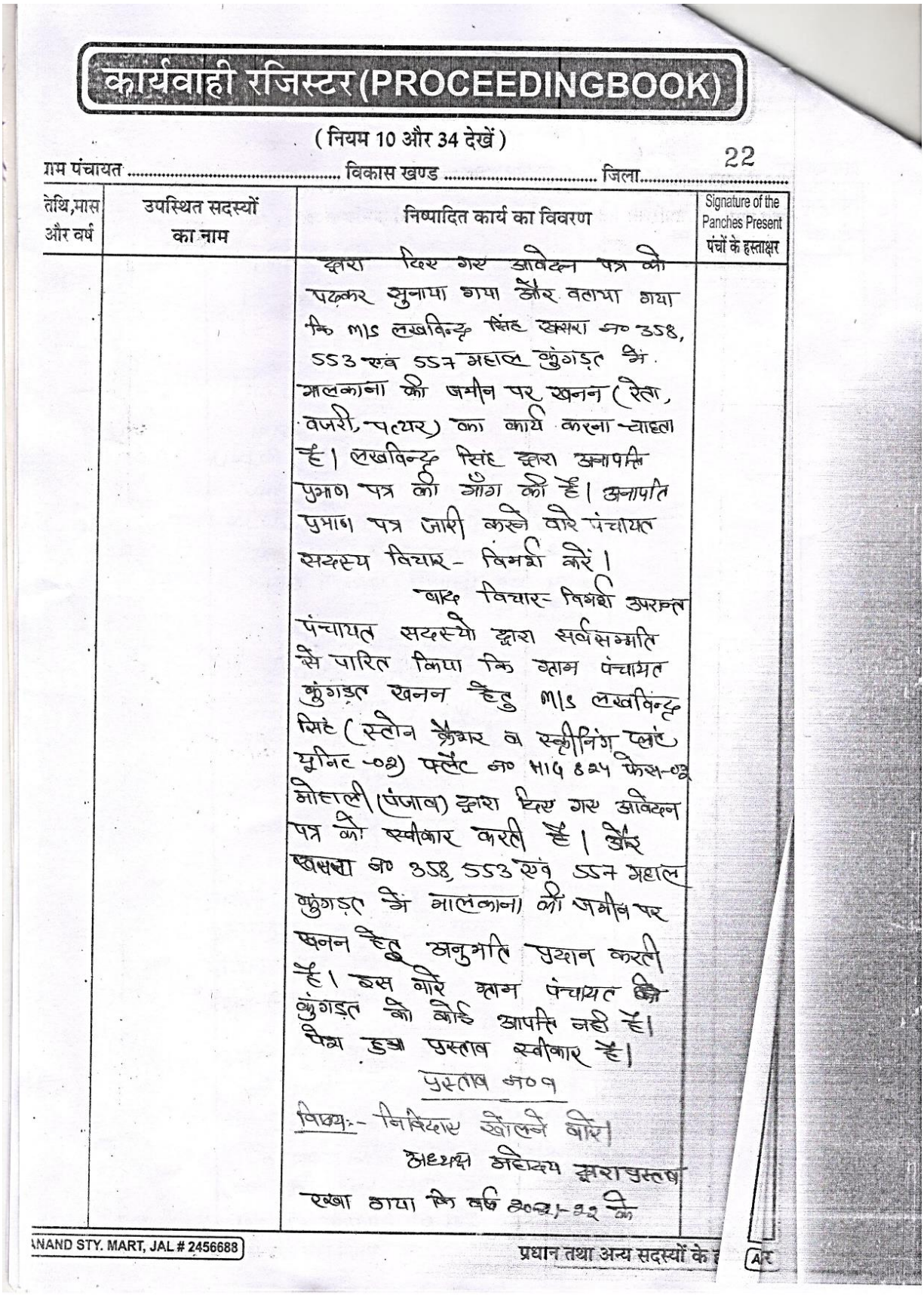
प्रस्ताव नं० 8

विषय:- खनन पर आधारित क्रैशर उद्योग द्वारा पंचायत की मालकाना भूमि पर खनन करने हेतु अनापत्ति प्रमाण पत्र (NOC) जारी करने बारे प्रस्ताव पेश।

अध्यक्ष महोदय ने पंचायत के समक्ष प्रस्ताव पेश किया कि लखविन्द्र सिंह S/o श्री जगमेल सिंह C/o M/S लखविन्द्र सिंह स्टोन क्रैशर & स्क्रीनिंग प्लांट यूनिट-02 फ्लेट नं० M19 824 फेस 02 मोहाली (पंजाब)

ANAND STY. MART, JAL # 2456688

प्रधान तथा अन्य सदस्यों के हस्ता



कार्यवाही रजिस्टर (PROCEEDINGBOOK)

(नियम 10 और 34 देखें)

22

ग्राम पंचायत ..... विकास खण्ड ..... जिला.....

तिथि, मास और वर्ष	उपस्थित सदस्यों का नाम	निष्पादित कार्य का विवरण	Signature of the Panches Present पंचों के हस्ताक्षर

द्वारा दिए गए आवेदन पत्र को पढ़कर सुनाया गया और बताया गया कि M/S लखविन्दर सिंह खसरा नं० 358, 553 एवं 554 महाल झुंगड़त में मालकाना की जमीन पर खनन (रेता, बजरी, पत्थर) का कार्य करना चाहता है। लखविन्दर सिंह द्वारा अनापत्ति प्रमाण पत्र की माँग की है। अनापत्ति प्रमाण पत्र जारी करने बारे पंचायत सदस्य विचार- विमर्श करें।

बाद विचार- विमर्श उपरान्त पंचायत सदस्यों द्वारा सर्वसम्मति से पारित किया कि ग्राम पंचायत झुंगड़त खनन हेतु M/S लखविन्दर सिंह (स्टोन क्रैशर व स्क्रीनिंग प्लांट यूनिट-02) प्लॉट नं० M14 824 फेस-02 मोहाली (पंजाब) द्वारा दिए गए आवेदन पत्र को स्वीकार करती है। और खसरा नं० 358, 553 एवं 554 महाल झुंगड़त में मालकाना की जमीन पर खनन हेतु अनुमति प्रदान करती है। बस वारे ग्राम पंचायत को झुंगड़त को कोई आपत्ति नही है। सेव हुआ प्रस्ताव स्वीकार है।

प्रस्ताव नं० 7

विषय:- निविदाएं खोलने बारे।

अध्यक्ष महोदय द्वारा प्रस्ताव रखा गया कि वर्ष 2021-22 के

ANAND STY. MART, JAL # 2456688

प्रधान तथा अन्य सदस्यों के

ANNEXURE- VII

BOREWELL AFFIDAVIT

AFFEDAVIT

I, Lakhwinder Singh S/o Sh Jagmail Singh, aged 52 years, Proprietor of M/s Lakhwinder Singh Stone Crusher & Screening Plant, VPO Kungrat (Mahal-Thara-Heeran) Tehsil Haroli, Distt Una (H.P) do hereby solemnly affirm and declare as under: -

1. That project proponent for Mining project located at Khasra no 358,553 & 557 Measuring 05-18-46 hect (Pvt Land Hill Slope) falling in Mauza & Mohal Kungrat, Tehsil Haroli Distt Una (H.P.) gives this undertaking water has been taken from own borewell situated at khasra no 2180 Mauza & Mohal Kungrat, Tehsil Haroli Distt Una (H.P.), NOC from the concerned borewell department has been applied and still awaited.
2. That the above statement is true and correct.

Date: -

Deponent

Verification: -

The above-named deponent does hereby verify that the contents of my above affidavit are true and correct to the best of my knowledge and belief and nothing stated here in above is false and no material information has been concealed there from.

Dated: -

Deponent

Affidavit

ATTESTED

NOTARY

26/10/2019

ANNEXURE- VIII

LIST OF FLORA & FAUNA

HP FOREST DEPARTMENT
UNA FOREST DIVISION, UNA (HP)

To whom it may concern

As requested by M/s Lakhwinder Singh (Stone Crusher & Screening Plant Unit-2) Village Kungrat Tehsil Haroli Distt. Una H.P, the following information is hereby authenticated in respect of Khasra No. 358, 553, & 557 kita-3 area measuring 05-18-46 ha. falling at Mohal Kungrat Tehsil Haroli, District Una (HP) which is under private ownership.

There is no wild life sanctuary/National park/Biosphere Reserve within 10 KM distance of the mining lease site.

List of flora and fauna fast growing species, Aquatic Animal species present in the area is enclosed.

Divisional Forest Officer,
Una Forest Division Una (HP)

Endst. No. 24536-37 Dated Una, the 20/3/2023

Copy is forwarded to:-

1. M/s Lakhwinder Singh (Stone Crusher & Screening Plant Unit-2) Village Kungrat Tehsil Haroli Distt. Una H.P w.r.t. his application dated 06.03.2023.
2. R.F.O. Una for information & necessary action w.r.t his office letter No. 1704 dated 16.03.2023.

Divisional Forest Officer,
Una Forest Division Una,(HP)

WILD BIODIVERSITY

Format 18: Trees, Shrubs, Herbs, Tubers, Grasses, Climbers etc.

1. Plant Type	2. Scientific Name	3. Local Name	4. Habit	5. Habitat	6. Local status		7. Commercial / own use	8. Part collected	9. Associated TK	10. Other details	11. Community Knowledge Holder
					Past	Present					
Tree	*Toona ciliata*	Tooni	Perennial deciduous tree	Forest gaps, roadsides and fields	Moderate	Plenty	Own use	Leaves and wood	Folk medicine	Fuel wood and stacking material	Local Community
Tree	*Ougeinia oojeinensis*	Sandan	A medium sized semi-deciduous tree	A component of mixed deciduous and Sal forests. It is found in hot valleys and is also Associated with pines at the higher limits of its elevation range.	Moderate	Rare	Own use	Leaves, bark and wood	Used to make **"Halish"** i.e. structure in bullock plough which connects other two structures i.e. **Jungada** and **Nasi** together.	Fuel wood and used as fodder; It is used to treat a range of conditions including diarrhea, dysentery and fevers, and is said to be also useful in the treatment of anemia, leukoderma, ulcers and biliousness. A paste of bark is applied topically to cuts and wounds.	Local Community
Tree	*Grewia optiva*	Beul	Small to medium sized perennial deciduous tree.	Lowland valley	Moderate	Plenty	Own use	Leaves and wood	Twigs are used for rope making.	Used as fodder, fuel and rope making.	Local Community
Tree	*Bauhinia variegata*	Karyal	Perennial deciduous tree	Commonly found in dry evergreen to dry deciduous forests, often cultivated	Plenty	Plenty	Own use	Flowers, leaves and wood	Leaves, fruits, pods and exudates are edible by humans and are consumed as a vegetable as well as made into pickles and chutneys; Fodder for livestock.	Used as fodder and fuel. Roots are considered carminative and its decoction prevents obesity. Bark is tonic, anthelmintic and used in ulcers and leprosy. Flowers and pods are pickled and used as vegetable.	Local Community

1

Tree	*Ficusauriculata* syn. *F. roxburghii*	Toor Chimal	A medium sized tree with spreading crown, young parts pubescent, young branches are hollow.	Moist deciduous forests	Moderate	Rare	Own use and rarely for commercial use	Leaves, bark and fruits	Fruits are edible. Bark yields a coarse fiber and is used in the preparation of medicine for hydrophobia. Leaves used as fodder for cattle. Leaves are also used to make leaf plates known as "Pattals".	Used as fodder and fuel	Local Community
Tree	*Syzygium cumini*	Jamun	A medium sized evergreen tree, up to 15 m.	Preferring moist and ravines habitat, swamps, etc.	Rare	Moderate	Own use	Fruits, bark and seeds	Medicinal: Bark, fruit, seed; widely used in Ayurveda, Unani and Chinese system of medicine. Ripe fruits are edible, bark and seeds are used as medicine for diabetes. Considered to have antimicrobial properties, also used to treat digestive ailments	Specially consumed by locals for its high sources of Vitamin A and Vitamin C. fruits have some of the highest levels of natural folic acid and recommended for pregnant women. Fruits edible and sold in the market, highly valued for their medicinal properties. Jams and jellies are also prepared.	Local Community
Tree	*Bombax ceiba*	Shimal	A large-sized, deciduous tree, up to 25 m.	Moist deciduous and semi- evergreen forests, also in the plains, road sides, forest, along open streams, etc.	Rare	Rare	Own use as well as for commercial use	Bark, Flowers, root and seed husk	Medicinal: Bark, flower, root; Flowers are used as vegetable; Seed husk used for stuffing of pillows as filling fibre (soft fibre)	The bark gives a gum and exudates are used in medicine. Timber is used for matches and silk cotton extracted from fruits used for stuffing pillows, quilts and as an insulating material for refrigerators and sound-proof covers.	Local Community

2

Tree	*Pyrus pashia*	Kainth	Perennial deciduous tree, often armed with spines	Commonly occurs in the mid- hill region between 700 and 2,000 m above mean sea level with sandy loamy soil that is well drained. Trees are found growing on the bunds of fields, grasslands, meadows and forests.	Rare	Rare	Own use	Leaves, fruits and wood	Fruits are edible and are used by locals; Wood is used for fuel as well as for making agricultural implements, walking sticks, etc. It is also used as a root stock for grafting of pear varieties.	Fodder and fuel; Good construction timber	Local Community
Tree	*Emblica officinalis* syn. *Phyllanthus emblica*	Amla	A small deciduous tree, up to 8m.	Found along hill slopes, on exposed slopes in dry deciduous forests	Rare	Rare	Own use	Fruit, seed, leaves, bark, root, flowers and wood	Medicinal: Bark, fruit and seed; Fresh fruits are rich source of Vitamin C. It is diuretic, laxative and cardiac and liver tonic.Useful in anemia, diarrhea, dyspepsia, hemorrhage, jaundice, leucorrhoea and menorrhea. The twigs or branchlets are used to purify water, especially saline water.	The fruits are consumed raw or dried. The fruits are also used in culinary dishes. Pickles are also prepared. It is considered highly medicinal by Indian tradition. Considered highly medicinal in Ayurveda and Unani system of traditional Indian medicine. It is also believed to nourish the hair and scalp and prevent premature graying of hair.	Local Community
Tree	*Morus alba*	Kinnu	Shrub or a medium sized deciduous tree about 10-12 m tall	Deciduous forests; agricultural fields and forested areas	Moderate	Rare	Own use	Leaves, fruits and wood	Medicinal; The ripe fruits are eaten fresh. Leaves are used extensively for feeding silkworms. Leaves are diaphoretic, roots anthelmintic, bark purgative and vermifuge; Fruits used as medicine for sore throat, dyspepsia and melancholia.	Used as fodder, fuel and timber wood	Local Community

Shrubs

1.	2.	3.	4.	5.	6.		7.	8.	9.	10.	11.
Plant Type	ientific Name	Local Name	Habit	Habitat	Local status		nmercial / own use	Part collected	Associated TK	Other details	Community owledge Holder
					Past	Present					
Shrub	*Indigofera heterantha*	Kathi	Deciduous shrub	Dry sunny mountain slopes, often forming dense scrub, and in forests, at elevations from 1,500-3,000 meters	Plenty	Rare	Own use	Leaves and flowers	Flowers are used for making chutney and raita; Wood is used for fuel and leaves as fodder for goat.	It is an important medicinal plant for its insecticidal and phyto-toxicity potential to be used as strong natural insecticide and herbicides.	Local Community
Shrub	*Berberis lycium*	Kashmal	A semi-deciduous shrub, erect or sub-erect, about 2-4 m tall	Scrub jungles, open hillsides, and shrubberies usually on hot dry slopes	Plenty	Plenty	Own use	Fruits, leaves and roots	Used in Ayurvedic and Unani medicine. Fruits are edible; Leaves are used as fodder for goat. Leaves used to treat jaundice. Roots are used to treat wounds, broken bones, curative piles, ulcers and eye disorders.	Fruits are edible; Plants are used as an antidote for poisoning, antimalarial, antiseptic, blood purifier, carminativeand febrifuge. Also used in bleeding piles, boils, chronic diarrhoea, ear problems, enlargement of liver and spleen, and urogenital disorders.	Local Community
Shrub	*Rosa brunonii*	Kujyo	A prickly and spiny climbing shrub	Forests, thickets, scrub at forest margins	Moderate	Moderate	Own use	Leaves and fruits	Used to cure dysentery	Considered useful in eye troubles, and perfumery. Poultice of roots is useful against joint pains.	Local Community
Shrub	*Asclepias curassavica*	Rakta pushpa	A perennial shrub, up to 1m tall	Occurs most frequently in hilly areas, pastures, wetlands and along roadsides	Rare	Rare	None	Unknown	Unknown	Rarely grown as an ornamental plant in gardens	Local Community

Herbs

	2.	3.	4.	5.	6.		7.	8.	9.	10.	11.
ant /pe	Scientific Name	Local Name	Habit	Habitat	Local status		Commercia/ own use	Part collected	Associated TK	Other details	Community Knowledge Holder
					Past	Present					
erb	*Lophatherum gracile*	Mooth	Perennial herb	Agricultural fields, fallow land and grasslands	Plenty	Moderate	None	None	Unknown	Tubers of the weed affect the roots of the crops and accordingly growth of the plant. It is an exotic weed.	Local Community
erb	*Sonchus oleraceus*	Dudhi	An erect annual herb With simple branches	It can grow on most soil types. It prefers disturbed areas such as fields, gardens and roadsides.	Moderate	Moderate	Own use	Leaves, stem and roots	Leaves and roots are used in indigestion as febrifuge; stem is used as sedative, tonic; root extract is used in ointments for Ulcers and wounds.	Plant is useful in liver diseases.	Local Community
erb	*Bidens pilosa*	Kumbar	Annual forb of gracile habit	Any disturbed or waste ground, roadsides and areas that are dry and infertile	Plenty	Plenty	None	None	Affect growth agriculture crops Tomato, cauliflower, capsicum beans	Its little black seeds hook onto clothes and thereby spread itself around. It is an exotic weed.	Local Community
erb	*Ajuga bracteosa*	Neelkanthi	An evergreen perennial herb growing up to 0.2 m in height	Partially shaded area along the foundation of buildings and edges of woodlands	Rare	Rare	Own use	Leaves	Leaves paste used in case of skin burns	The plant is aromatic, astringent and tonic. The leaves are used in the treatment of fevers as a substitute of quinine.	Local Community

Tubers

1.	2.	3.	4.	5.	6.		7.	8.	9.	10.	11.
Plant Type	ientific Name	Local Name	Habit	Habitat	Local status		nmercial / own use	Part collected	Associated TK	Other details	Community Knowledge Holder
					Past	Present					
Herbaceous plant	*Zingiber officinale*	Aadra	It is aherbaceous perennial which grows annual pseudo stems about a meter tall bearing narrow leaf blades.	Agricultural Land	Plenty	Plenty	Commercial as well as own use	Rhizomes	'Kadha' a decoction of edible herbs prepared along with ginger is used for curing cough and cold.	Used as aflavoring substance in food items	Local
Herbaceous plant	*Colocasia antiquorum*	Kachavi	Evergreen, perennial plant producing a cluster of leaves with long, erect petioles, a tuberose rootstock.	Agricultural Land	Moderate	Moderate	Commercial as well as own use	Corms and leaves	New leaves are used to prepare a traditional dish "Dhindhade".	Used of vegetables their corms, leaves and petioles. Seema	Local
Herbaceous plant	*Colocasia esculenta*	Gagti	It is a fast- growing herbaceous plant that originates from a large corm and can grow to 1.5 m in height.	Agricultural Land	Moderate	Moderate	Commercial as well as own use	Corms and leaves	New leaves are used to prepare a traditional dish "Dhindhade". New petioles are mixed with black gram and used to prepare "Badi".	Used vegetables their leaves petioles. as for corms, and	Local
Herbaceous plant	Kachur	*Curcuma zedoaria*	It is an annual or biennial, aromatic, rhizomatous, tall herb.	Agricultural Land	Moderate	Rare	Commercial as well as own use	Rhizomes and leaves	Salted rhizome kept in pockets by locals to avoid the cough and cold during winter season.	Dried rhizomes are used to cure cough and cold.	Local

Climbers

1.	2.	3.	4.	5.	6.		7.	8.	9.	10.	11.
Plant Type	Scientific Name	Local Name	Habit	Habitat	Local status		Commercial / own use	Part collected	Associated TK	Other details	Community Knowledge Holder
					Past	Present					
Vine	*Clematis vitalba*	Chameli	Herbaceous vine	Agricultural fields, forest and grassland	Moderate	Moderate	Own use	Leaves	Fodder for goat	It is used in the treatment of rheumatism and skin eruptions.	Local
Climber	*Vitishimalayana*	Unknown	Deciduous climbing shrub	Found in forests or shrub jungles and hillsides, ranging in altitude between 500 to 1500 meters and climbing on other trees in the forest	Moderate	Moderate	Unknown	None	Unknown	Medicinal; A poultice of the roots is used to help set dislocated bones.	Local
Climbing Shrub	*Jasminum humile*	Ban chameli	It is a roundish semi evergreen shrub with thick stems	Scrub and dry valleys, 1500-3000mt. in the Himalayas	Rare	Moderate	Unknown	Flowers, leaves and roots	The flowers are astringent and a tonic for the heart and bowels. Apaste made from the flowers is considered effective in the treatment of intestinal problems.	The juice of the root is used in the treatment of ringworm. The paste of leaves is applied locally in skin diseases, wounds and ulcers. Leaves are chewed in toothache. Flowers are considered cardiac tonic. Its paste is used in eye diseases. Also used as antidote in poisoning. Plant juice is useful in sinuses and fistulas.	Local

Format 26: Timber Plants

1. Plant Type	2. Local Name	3. Scientific Name	4. Habitat	5. Local status		6. Wild/ home-garden	7. Other uses (multi)	8. Associated TK	9. Other details	10. Community/ Know. holder
				Past	Present					
Tree	Tooni	Toona ciliata	Common in moist deciduous forests and hills above 1100 m; along forest edges	Moderate	Plenty	Wild	Fuel wood, stacking material		Used for furniture making, house construction, floors, panels of doors and windows, etc.	All Community
Tree	Sandan Sannan	Ougeinia oojeinensis	Forest and grasslands	Moderate	Rare	Wild	Fodder	-	The bark is anti- inflammatory, constipating, urinary astringent, anthelmintic.	Mix Community
Tree	Chir	Pinus roxburghii	Forest	Plenty	Moderate	Wild	Fuel	Turpentine obtained from the plants is used in pharmaceutical preparations, perfumery and industry for disinfectants, insecticides and varnishes	Resin making and fuel wood, needles are used for making brush to paint earthen chullahs.	All Community
Tree	Safeda,Saphe da.	**Eucalyptus tereticornis**Sm., syn.Eucalyptusum bellataDomin	Planted	Moderate	Moderate	Planted	Source of essential oil	Its wood is used as timber, for agricultural implements and tool handles. Wood is employed for engineering construction, sleepers, ship-building and flooring.	Successfully introduced in both plains and hiils.	All Community
Tree	Shisham, Tali,	Dalbergia sissooRoxb	Forest	Moderate	Moderate	Wild	Furniture	Leaves are used as fodder. Leaf juice is good for diseases of eyes and is useful in gonorrhoea.	A very valuable timber tree. Roots are astringent and useful in diarrhoea and dysentery. Wood is very hard, durable and good for furniture, musical instruments and house construction.	All Community
Tree	Simbal, Simbal, Semul,	*Bombax ceiba*	Forest	Moderate	Moderate	Wild	Used for firewood. Wood is light can be used for packing cases	Stem, leaves. Flower-buds and fleshy calyx are eaten as vegetables mattresses, and quilts	Seedfibers (Kapok) can be used for stuffing cushions, pillows	All Community

Tree	Jamun, Jamu,	*Syzygium cumini*	Forest	Moderate	Moderate	Wild	Medicinal purpose. Fruits enriches the blood; strengthens the teeth and gums; gargle for sore throat; tonic, astringent, carminative, useful in diseases of the spleen. Fruit kernels are supposed to be good against diabetes.	Fruit juice is good for liver Wood is used for constructions work, agricultural tools, furniture, and as fuel. Leaves are used as fodder for cattles, tassarsilkworm feed on foliage, also used as green manure;	Own use. Ripe fruits are edible. Flowers are a source of bee-forage in apiculture. Bark is used in gargles and as a mouth wash.	All Community
Tree	Sagwan, Teak	*Tectona grandis*	Cultivated	Moderate	Moderate	Wild	Leaves are used for fodder. Theycontain tannin and a dye; also used for plates and for packing, thatching. Bark is astringent, acrid, sweet, cooling, constipating, anthelmintic and depurative; useful in bronchitis, hyperacidity, dysentery, verminosis, burning sensation, diabetes, leprosy and skin diseases	This is the best quality timber yielding plant. Wood is very durable, resistant to fungi; best timbers for furniture and cabinet- making, wagons and railway carriages. used for poles, beams, trusses, columns, roofs, doors, window frames, flooring, planking, panelling, staircases and other constructional work.	Wood is acrid, cooling, laxative; sedative to the gravid uterus; useful in biliousness, piles, leucoderma and dysentery; acts as vermifuge. Wood ash applied to swollen eyelids and strengthen the sight. Oily Product obtained by distillation of wood chips is applied to eczema.	All Community

Format 28: Wild Animals (Mammals, Birds, Reptiles, Amphibia, Insects, others)

1.	2.	3.	4.	5.	6.	7.		8.	9.	10.	11.	12.
nimal Type	Local Name	Scientific Name	Habitat	Description	eason when seen	Local Status		Uses (if any)	ciated TK	Mode of Hunting, ollecting (if any)	Other details	Community/ Knowledge Holder
						Past	Present					
Mammal	Bander	*Macaca* sp.	They are arboreal. Live in forest, mountain.	Brown in colour, medium size body.	All	Rare	Plenty	None	Unknown	None	Badly affect the crop production and cause massive destruction of crops.	All Community
Mammal	Shayil	*Erethizon dorsaum*	Found in forest	One of the world's largest rodents and is covered in sharp, needle-like quills.	Summer	Plenty	Moderate	Used for meat	Spines are used by local to avoid evils	Gun	Causes of destruction crops.	Local Community
Mammal	Kakar	*Muntiacus muntjak*	It is terrestrial mammal	Also known as "barking deer" due to the bark	Mainly in winter season	Moderate	Rare	Used for meat	Unknown	Gun	It is listed as Least Concern on the IUCN Red	Local Community
Bird	Jungli Murga	*Gallus gallus*	Forest and grassland	They are wild ancestors of all domestic poultry. Male has long, golden- orange to deep-red crown and neck feathers and dark metallic-green tail. The under parts are dull black.	All	Plenty	Rare	Meat	None	Gun or using bird's trap	It has a very distinctive social system involving a pecking order, with one dominating all, and one substituting to all.	Local Community
Birds	Chidia	*Passer cinnamomeus*	Strongly associated with human habitation, and can live	The house sparrow is typically about 16c long, ranging from 14 to 18cm. it is a compact bird with a full chest and a large, rounded head	All	Plenty	Moderate	None	Unknown	None	Causes destruction of cereal crops.	Local Community
Birds	Tota,Parrot	*Phaethontidae*	Nest forest	Upright stance strong legs, strong beak.	Summer	Plenty	Plenty	-	-	-	-	Local Community
Birds	Ghughi	*Spilopelia chinensis*	Forest and Nest	Strong, curved weak upright stance.	Summer	Moderate	Moderate	-	-	-	-	Local Community

Birds	Mor, Peacock	*Pavo cristatus*	Forest	Blue colour body with distince tail feather with multi colour.	Summer	Rare	Rare	-	-		-	Local Community
Reptile	Snake		Land and water habitats	They elongated, legless, carnivorous reptiles.	Mostly seen in the Summer season	Plenty	Plenty	None	Unknown	None	-	Local Community
Reptile	Goo	*Varanus vengalensis*	Forest	Lager size lizard	Mostly seen in the all season	Rare	Rare	-	-	-	-	All Community
Amphibia	Mindhaka	*Rana* sp.	Land and water habitats (Ponds and trees)	They are characterized by long hind legs, a short body and no tail. They are carnivorous in nature. They have skin with no hair.	Rainy season	Plenty	Plenty	None	Unknown	None	Unknown	Local Community
Insects	Mau	*Apis cirana*	Orchards, forest and trees cavity	Honeybees are flying insects. They are equipped with two wings, two antennae and three segmented body parts (the head, the thorax and the abdomen)	Summer season	Plenty	Moderate	Honey, pollinator	Unknown	None	They are social insects that live in colonies.	Local Community
Insects	Gayu	*Mantis religiosa*		Body relatively and long is large with four legs at the abdomen area and two larger legs that appear more like arms and used for capturing them pray female are larger in size than male. They have two pair of wings.	All seasons	Moderate	Rare	None	Unknown	None	They eat a large volume of pest insects and can be a farmers best friend by removing infestations of wasps and beetles.	Local Community
Insects	Phiphadi Titli	*Papilio* sp.	Low forest wetland, and forests fields and	They have large, often bright colored wings and conspicuous, fluttering flight. As in all insects, body is divided into three sections: the head, thorax and abdomen.	All seasons	Plenty	Rare	Pollinator	Unknown	None	These are agents pollination of some plants.	Local Community

Insects	Tida	*Caelifera* sp.	Fields and meadows	They are Herbivorous in nature and are brown, green or yellow color. Favorite food is green grass. They posses long, thin antenna and the ability to jump.	All seasons	Moderate	Moderate	None	Unknown	None	Ecologically, these almost exclusively herbivorous insects are integral to food chains, being consumed by a wide variety of vertebrates and invertebrates. A notable characteristic of these is the ability to produce sounds.	Local Community
Insects	Ghiyudi	*Antlion* sp.	Colonized almost cevery landmass on earth. Nest underground, inside trees, houses	They form Colonies that range in size from a few dozen predatory individuals living in small natural cavities to highly organized colonies and may consists of millions of individuals.	All seasons	Plenty	Plenty	None	Unknown	None	Termites are detritivores, consuming dead plants at any level of decomposition. They also play a vital role in the ecosystem by recycling waste material such as dead wood, faeces and plants.	Local Community
Insects	Ghiyudi	*Antlion* sp.	Colonized almost every landmass on earth. Nest underground, inside trees, houses	They form Colonies that range in size from a few dozen predatory individuals living in small natural cavities to highly organized colonies and may consists of millions of individuals.	All seasons	Plenty	Plenty	None	Unknown	None	Termites are detritivores, consuming dead plants at any level of decomposition. They also play a vital role in the ecosystem by recycling waste material such as dead wood, faeces and plants.	Local Community
Insects	Makhi	*Musca* sp.	Houses and poultry farm	They are grey to black in color and posses red eyes. They live and feed on dead and decaying organic material such as garbage.	Summer season	Available	Available	None	Unknown	None	They are act as vector for many diseases-causing organism.	Local Community

Insects	Macher	*Anopheles* sp.	Wetland habitat	They are small, midge-like flies. They feed on the blood of various kinds hosts mainly vertebrates, including mammals, birds, reptiles, mammals and amphibians	Rainy season	Plenty	Plenty	None	Unknown	None	Preferred sources for blood meals.	Local Community
Annelid	Jonk	*Haemadipsa sylvestris*	Adapted to terrestrial life, but are restricted to damp forests With high humidity. Mostly in pines forest.	Sanguivorous species. Dorsum reddish with elongated connected lateral posteriorly. Sucker on posterior side.	Rainy season	Plenty	Moderate	None	Unknown	They are Killed by spreading sufficient amount of salt on them	They are blood feeding organism and causes irritation	Local Community

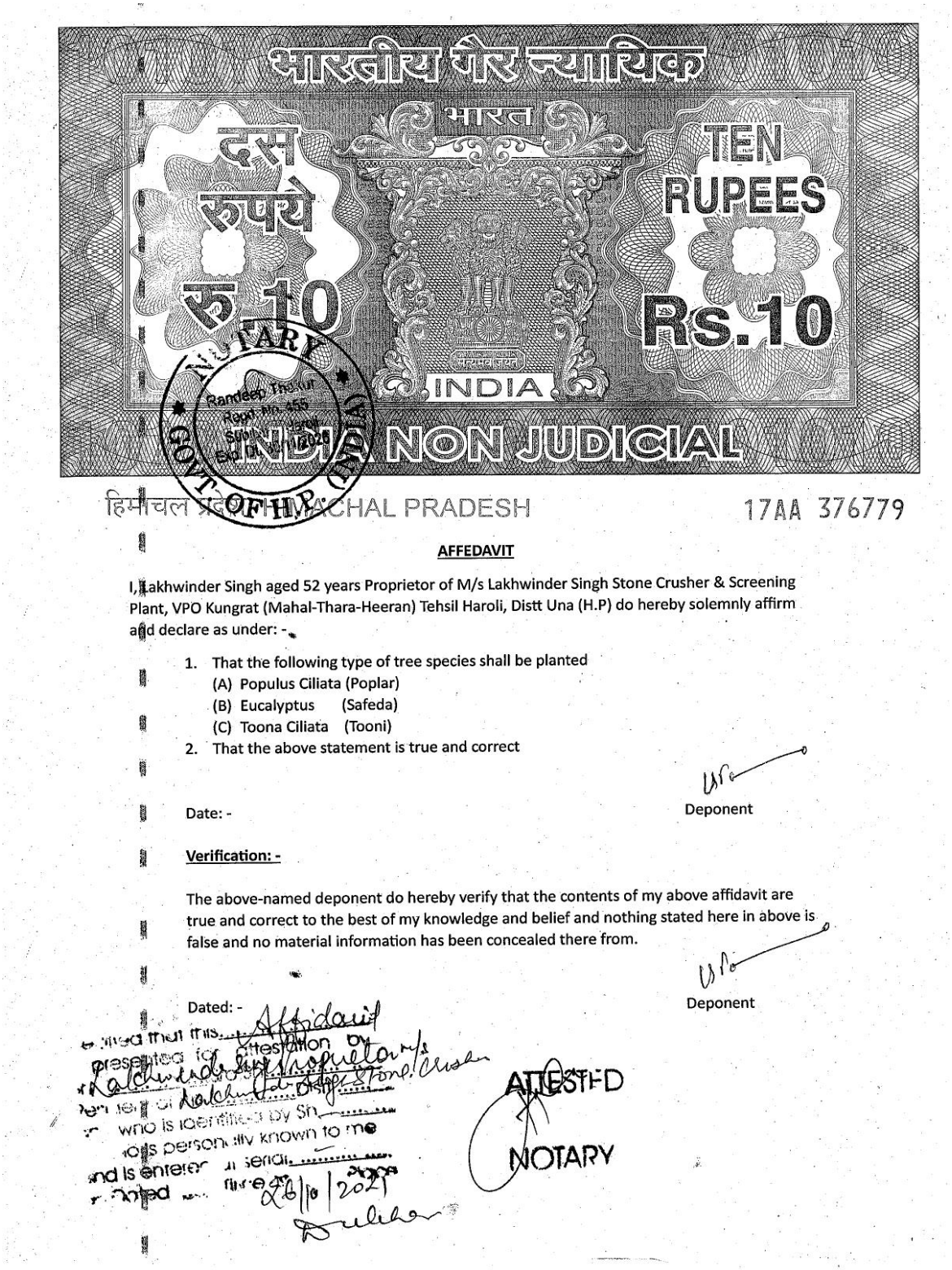
वनक्षेत्रपाल अधिकारी
वन खण्ड

Range Officer
Forest Range
Una H.P-174303

Divisional Forest Officer
Una Forest Division, Una (H.P.)

ANNEXURE- IX

PLANTATION AFFIDAVIT



AFFEDAVIT

I, Lakhwinder Singh aged 52 years Proprietor of M/s Lakhwinder Singh Stone Crusher & Screening Plant, VPO Kungrat (Mahal-Thara-Heeran) Tehsil Haroli, Distt Una (H.P) do hereby solemnly affirm and declare as under: -

1. That the following type of tree species shall be planted
   (A) Populus Ciliata (Poplar)
   (B) Eucalyptus (Safeda)
   (C) Toona Ciliata (Tooni)
2. That the above statement is true and correct

Deponent

Date: -

Verification: -

The above-named deponent do hereby verify that the contents of my above affidavit are true and correct to the best of my knowledge and belief and nothing stated here in above is false and no material information has been concealed there from.

Deponent

Dated: -

Affidavit presented for attestation by Lakhwinder Singh Proprietor M/s Lakhwinder Singh Stone Crusher who is identified by Sh. ..... who is personally known to me and is entered at Serial No. ..... dated 26/10/2021

ATTESTED
NOTARY

ANNEXURE- X

LEASE DEED

हिमाचल प्रदेश HIMACHAL PRADESH A 952051

No. 10/R/SDM
10.8.18

AFFIDAVIT

I, Kishan Singh S/o Sh. Kartar Chand S/o Sh. Beli Ram R/o Mohal & Mauza Kuthar Beet, Sub-Teh Dulehar, Distt Una.H.P. Do hereby solemnly affirm and declare as under:-

1. That I am the owner (co-share) of land comprised in Khewat Nos. 187 min, 183 Khatoni No. 219 min, 214 Khasre Nos. 358, 553, 557 Kitta 3 measuring 5-18-46 hectors as entered in the Jamabandi for the year 2012-2013 situated in Mohal & Mauza Kungrat, Tehsil Haroli, Distt Una (H.P).

2. That I have given consent in favor of Sh. Lakhwinder Singh s/o Sh. Jagmail Singh, R/o Flat No. 824, HIG. Phase-2, Mohali (Punjab) to extract material (Sand, Stone and Bajari) from my/our above stated land for a period of 20 Years and mining lease could be granted by the Department of Industry on this land.

3. That I shall charge a sum of Rs. 2,00,000/- per year from Sh. Lakhwinder Singh s/o Sh. Jagmail Singh, R/o Flat No. 824, HIG. Phase-2, Mohali (Punjab). On account of malkana for the above said land.

4. That the expiry of 20 years I shall settle fresh malkana which shall be agreeable to both the parties.

Aadhar card B059A1205218

5. That in the event of withdrawing forms consent before 20 years. I shall responsible for the damage suffered by Sh. Lakhwinder Singh s/o Sh. Jagmail Singh, R/o Flat No; 824, HIG. Phase-2, Mohali (Punjab).

№ 3191196 8017 **Himachal Government Judicial Paper**

6. That the above said statement is true and correct to the best of my knowledge and belief.

Dated:- 8-8-2018

Deponent

VERIFICATION:-

I/We Further do hereby solemnly affirm and declare that the contents of this affidavit is true and correct to the best of our knowledge and belief and nothing has been concealed therein.

Dated:-8-8-2018

Deponent

Certified that the Deponent who has been identified by Shri ... Solemnly declared the contents of the affidavit before me

Sub Divisional Magistrate
Haroli, Distt. Una (H.P.)

EXECUTIVE SUMMARY

OF

MINING OF MINOR MINERALS

Project name	**Extraction of Sand, Stone & Bajri by Sh. Lakhwinder Singh**
Location	**Khasra no. 358 (0-80-79 Ha), 553 (2-68-51 Ha) & 557 (01-69-16 Ha) falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, H.P.**
Land Status/ Type	**Private Land/ Hill Slope**
Mining Area	**05-18-46 Ha**
Category (as per EIA Notification, 2006)	**Category B1**
Production	**2,08,279 MTPA**
TOR Letter No.	**HPSEIAA/2023/1095-4037-4043 dated 13/02/2024**
Baseline study period	**November 2023- January 2024**

APPLICANT

Sh. Lakhwinder Singh S/o Sh. Jagmail Singh

Prop: M/s Lakhwinder Singh Stone Crusher & Screening Plant

HIG- 824, Phase-II, Mohali, Punjab

PREPARED BY

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/2225/RA 0250)

Address: E- 126, Phase- VII, Industrial Area, Mohali, Punjab- 160055.

Contacts: 0172-4669295, 5090312

E-mail: cptleia@gmail.com

1.0 PROJECT NAME AND LOCATION:

Sh. Lakhwinder Singh S/o Sh. Jagmail Singh, Prop: M/s Lakhwinder Singh Stone Crusher and Screening Plant, Village & P.O. Kungrat, Tehsil Haroli, District Una, Himachal Pradesh has been issued "Letter of Intent" for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-01/2022-2654 on dated 07/06/2022 for extraction/ collection of sand stone & bajri from Hill slope over an area measuring 05-18-46 Hectares bearing Khasra no. 358, 553 & 557 (Private land) falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, State- Himachal Pradesh.

2.0 PROJECT PROPOSAL:

The applicant is seeking prior Environmental Clearance for the proposed project as per EIA notification- 2006 and the subsequent amendments. The proposal involve the extraction/collection of minor minerals such as sand, stone & bajri from the mine lease area of 05-18-46 Ha in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, State- Himachal Pradesh. The project proponent has engaged QCI NABET Accredited Environmental Consultant, Chandigarh Pollution Testing Laboratory-EIA Division for conducting EIA study and preparation of EIA/EMP report. The letter of intent has been issued by the Industries Department GoHP. vide letter No. Udyog- Bhu (Khani-4)Laghu-01/2022-2654 on dated 07/06/2022. Accordingly, the validity period of Letter of Intent is extended for further term of one-year w.e.f. 06.06.2023 onwards for the purpose of obtaining Environment Clearance.

DETAILS OF THE PROJECT:

<table>
<tr><td>Name of the project</td><td colspan="3">Extraction of Sand, Stone & Bajri by Sh. Lakhwinder Singh</td></tr>
<tr><td>Type of project</td><td colspan="3">Mining of Minor Minerals (Sand Stone and Bajri)</td></tr>
<tr><td>Location</td><td colspan="3">Khasra no. 358, 553 & 557, Falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, H.P.</td></tr>
<tr><td>Lease Area Co-ordinates</td><td>Pillar No.</td><td>Latitude</td><td>Longitude</td></tr>
<tr><td></td><td>P1</td><td>31°21'50.96"N</td><td>76°14'02.35"E</td></tr>
<tr><td></td><td>P2</td><td>31°21'54.28"N</td><td>76°14'21.79"E</td></tr>
<tr><td></td><td>P3</td><td>31°21'48.48"N</td><td>76°14'19.62"E</td></tr>
<tr><td></td><td>P4</td><td>31°21'48.39"N</td><td>76°14'02.71"E</td></tr>
</table>

Elevation (Altitude at origin)	Highest 490 meters above MSL. Lowest 450 meters below MSL.
Land Type	Private Land, Hill Slope
Total Area	05-18-46 Ha
Products	Sand, Stone and Bajri
Capacity	2,08,279 MT for first year or 10,41,395 MT over a period of five years (Excluding silt/clay)
Bench Level	5 X 4 meters
Method of mining	Manual and semi-mechanical
Working Days	300
Waste (silt/clay)	36,755 MT for one year or 183776 over a period of five years.
Water consumption	4 KLD
Source of water supply	From Borewell
Cost Details	
Cost of project	Rs. 50 Lakhs.
Cost of EMP	Rs. 13.2 Lakhs (Capital) Rs. 5.4 Lakhs (Recurring)/Annum
Environmental sensitivities of the area	
Ecological sensitive area (national parks, Wildlife sanctuaries, Biosphere reserves etc.)	None within 10 km radius.
International boundary within 5 km radius	None
Nearest highway	2.00 Kms (SH-39)
Nearest railhead/Railway station	12 kms (Naya Nangal towards E)
Nearest airport	Chandigarh Airport (91.42 kms)

Nearest Major City	Una (18 Km)
Nearest Major Settlement	Haroli (10 km)

3.0 PROJECT DESCRIPTION:

The proposed project involves the mining of sand, stone & bajri by open cast mining method in the Hill Slope over an area measuring 05-18-46 Ha with proposed production capacity of 2,08,279 MT/Annum.

Details of the production during the five-year period are produced below.

Table showing year-wise production programme of mining in mineable area

Period	Bench Level (in meters)	Useable Material Consumed from the bench (M.T.)	Wastage (Mining Wastage+ Top Soil)
1st year	488, 484,480, 476	208200	36723
2nd year	476, 472, 468, 464	208200	36741
3rd year	464, 460	208200	36641
4th year	460, 456,452	208200	36920
5th year	452,448	208595	36751

4.0 WASTE DISPOSAL & ARRANGEMENT:

During mining operation, low grade mineral like silty sand and top soil as mine waste will be produced after screening in the stone crusher. The waste material will be partly used for the maintenance of road and part of this mineral can be stacked at proper place for utilization of this material during road construction or some other use as a filling material. The top soil will be spread over the benches developed after mining for growing plantation. The year wise generation of silty sand/ Top soil is shown in the following table: -

Showing year wise generation of silty sand & Top soil

S. No.	Year	Quantity of Wastage (MT)
1.	**1st year**	36723
2.	**2nd year**	36741
3.	**3rd year**	36641
4.	**4th year**	36920
5.	**5th year**	36751
Total		**183776**

5.0 DESCRIPTION OF ENVIRONMENT:

The baseline data in respect of environmental components: Air, Soil, Noise, Water, Ecology & Biodiversity has been collected for non-monsoon season from November, 2023 – January 2024. The EIA study is being carried out for mine lease (core zone) & area within 10 km radius of lease area (buffer zone).

BASELINE STATUS

Attribute	Baseline Study
Ambient Air quality	• AAQ monitoring was carried out at 8 locations, the maximum value of 75.0 ug/m^3 for PM 10 was observed at Haroli and the minimum value of 61.4 ug/m^3 at Beeton. P98 remained as 68.2 µg/m^3 during this period. • The maximum value of 39.9 ug/m^3 for PM 2.5 was observed at Kutharbeet & minimum of 31.5 ug/m^3 at project site. P98 remained as 37.2 µg/m^3 during study period. • In respect of SO_2, the maximum concentration of 7.4 ug/m^3 was observed at Bathu & minimum of 4.5 ug/m^3 at Haroli. P98 remained as 6.45 µg/m^3 during study period. • In case of NO_2, the maximum value of 11.8 ug/m^3 was observed at Dhugge & minimum of 8.3 ug/m^3 at Tahliwal station.

	• CO was not detected at any of the stations.
Noise Levels	• Of the eight-noise monitoring location, maximum day time noise of maximum 48.4 dB (A) was observed at project site and minimum 43.6 dB (A) at Kutharbeet. • For night time noise levels, the maximum of 35.4 dB (A) was observed at project site & the minimum of 31.6 dB (A) at Dhugge.
Water Quality	**Ground water** • The monitoring was done at 8 locations. • The pH varied from 7.34 to 7.89. • Total hardness ranged from 240 to 270 mg/L. • TDS ranged from 270 to 288 mg/L. • Fluoride was not detected. **Surface water** Surface water was analyzed at one location for upstream & downstream quality**.** • pH of the surface water is 7.33 • Total hardness was found to be 118 mg/l. • TDS was found to be 168 mg/l. The tolerance limit is 1,500 mg/l as per IS:2296 • Fecal Coliform was observed in the range 30 MPN/100 ml. • Total Coliform was 70 MPN/100 ml. • COD was 8.8 mg/L. • BOD was < 2 mg/L.
Soil Quality	Soil was analyzed for 8 locations. • pH varies from 7.38 to 7.78.

	• EC was observed maximum at 365 µmhos/cm at Project site and minimum 321 µmhos/cm at Dhugge. • Organic matter ranged from 0.38 to 0.52 %. • Measured conc. in respect of N, P & K was moderate at all the locations.

5.1 BIOLOGICAL ENVIRONMENT:

The biological environment has been studied based on the site observation and secondary data. There are no rare or critically endangered and threatened plant species in the study area as per the IUCN category. The species found in the study area are common and widely distributed.

5.2 SOCIO ECONOMIC ENVIRONMENT:

Study of socio-economic environment refers to the systematic analysis of various social, economic characteristics of human beings living in the given geographical area which in the present case includes the study area and the impact zone. The underlying idea of study is to evaluate the cultural, social & environmental impacts of the proposed development on the social set up of the people of the area.

The demographic profile of the study area is tabulated below:

DEMOGRAPHY & SOCIO-ECONOMY

Name of villages	No. of Households	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Rora Baliwal	310	1502	783	719	164	84.18	75.35	326	0	777	416	361
Haroli	307	1537	773	764	174	95.21	81.60	433	15	778	515	263
Bhadauri	264	1264	668	596	143	87.96	70.36	300	0	408	139	269
Palakwah	401	1854	914	940	235	93.27	81.01	483	2	545	471	74
Pubowal	457	2154	1126	1028	224	92.10	74.19	827	0	700	262	438
Kutharbeet	294	1420	708	712	168	91.65	79.01	474	0	676	333	343
Polianbeet	259	1295	662	633	150	88.30	74.65	490	151	397	195	202
Kungrat	182	808	401	407	90	98.04	80.00	508	0	218	147	71

(Source: Census of India, 2011)

6.0 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES:

Environment	Anticipated Impacts	Mitigation measures
Air environment	• In Opencast mining operations are generally prone to generation of high levels of PM10 and to a limited extent SO2, NOx due to fossil fuel-based vehicles, machines. • Loading & unloading operation during manual & semi-mechanized mining results is the generation of dust which depends upon the emission rate of pollutant & its dispersal and the meteorological conditions • Air pollution mainly due to PM10, SO2 and NOx may result in irritation and inflammation of eyes and congestion of throat and infection in lungs. • The respirable dust has serious	• Emissions inventory for SPM, RSPM, SO2, NOx shall be undertaken to satisfy the statuary requirements. • Dust suppressions shall be done by water sprayers, avoiding overloads of transported vehicles, water spray on access routes. • Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried out in day time only. • Mining shall be done in a controlled manner. • Plantation will be carried out on approach roads and in Lease boundary. • The speed of dumpers plying on the haul road should limited to avoid generation of dust. • Haul road shall be covered with gravels. • Ambient Air Quality Monitoring will be

	impact on the health of the workers. Lung functions are impaired due to the both respirable and non-respirable dust particles. Chronic exposure leads to respiratory illness like asthma, emphysema, severe dyspnoea (shortness of breath) and bronchitis in extreme cases pneumoconiosis or the black lung disease of miners. • The effect of dust may be harmful to the human health. The major contribution of air pollution is by opencast mining, such as excavation, loading and transportation etc. which will lead to short-term rise in the respirable particulate matter (PM10).	conducted on regularly basis to assess the quality of ambient air.
Water environment	• The mining operations may impact groundwater hydrogeology and surface water regime and the	• Mining operation shall be undertaken as per approved mining plan; hence, there shall not be noticeable effect on surrounding ground

	impacts depends on the nature of material, hydrogeology and groundwater requirements. • Groundwater contamination due to water table intersection. • Surface water contaminants due to waste water disposal. • Excessive mining results in the thickness of natural layer which may reduce the recharge of groundwater.	water resources due to mining. • Damage in the water body, depends on its assimilative capacity. Since no water will be used in the mining operations, therefore, no waste water will be generated, thereby no impact on groundwater and surface water quality. Small amount of domestic waste water shall be treated in septic tanks and soak pits at crusher site before to putuse for plantation. • No overburden or loose sediments will be kept in the working benches particularly during monsoon season. • Check dams and gully checks will be raised to reduce the velocity of runoffs, thereby minimizing the flooding & carryover of deposits to the receiving waters. • Mine waste dumps will be stabilized during the course of their retention. • There would not be any adverse effect on the ground water quality. The proposed mining

		shall be much above the water table. However, regular monitoring of quality in the existing hand pumps/tube wells in the vicinity would be carried out.
Noise Environment	• The proposed mining activity is done manually as well as semi mechanized. Hence the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals. The area is away from the habitation and the noise shall be caused only by use of mechanical device which shall be below the permissible limit prescribed. There is no blasting involve. The noise level will not exceed the required level.	• Well maintained vehicles will be used in order to reduce the noise during movement of vehicles. Regular and proper maintenance of vehicles will be ensured. • No vehicular movement during night time. • Only trained drivers will be allowed to operate vehicles during mining to reduce any chance of accidents. • Plantation of trees along the mining area will be done to dampen the noise.
Land Environment	• Change in the Topography of the Land / Land Degradation. • Solid waste generation • Soil erosion	• The proposed mining activity is carried out in Hill- Slope, therefore the broken area will be reclaimed by systematic backfilling and rehabilitated by afforestation so that

	• Impact on the Agricultural Practice at nearby area due to dust generation.	landscape of the area is improved • The waste will back-filled in the mined-out areas on which plantation will be raised. • Soil erosion shall be prevented by constructing gully checks, check dams, etc. • Agriculture activities are practiced nearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.
Ecology & Biodiversity	• Disturbance to free movement / living of wild fauna viz. Birds, Reptiles etc. • Impact on Agriculture. • Impact on land use and vegetation.	• Noise produced due to vehicular movement for carrying sand materials will be within permissible noise limit. Higher noise level in the area may lead to restlessness and failure in detection of calls of mates and young ones. • If wild animals/birds are noticed crossing the core zone, they will not be disturbed at all. • Noise level will be maintained within permissible limit (silent zone-50dB (A) during day time or residential zone 55dB (A)

		as per Noise Pollution (Regulation and Control) Rules 2000, CPCB norms. • There will be no impact on the agriculture. Dust generated will be suppressed during mining operation at mining site as well as during transportation will be suppressed by sprinkling. • No tree cutting will be allowed.
Solid waste	• Generation of solid waste.	• There will not be generation of solid waste from the project as all the mined material will be processed at crusher. • Domestic sewage after septic treatment at nearly crusher site will be disposed on to land for plantation. • The silt & clay mixture generated during mining will be processed at crusher along with after minerals.
Soil Environment	• Soil erosion/loss of fertile top soil.	• Proper garland to be constructed around the waste dump to avoid soil erosion.

		• The areas where topsoil could be utilized for landscape prior to stripping of top soil will be utilized and this topsoil will be later used for reclamation of the mining site as part of mine closure.
Health and Safety	• Fugitive dust emission could have potential impact on human health.	• Persons working in dusty area to be provided with protective gears such as helmets, dust masks, ear muff etc.; • Regular water sprinkling at dust generating areas, haul roads. • Occupational health checkup of all workers working in mine, and Pulmonary function test for workers working in dusty areas. • Workers continuously exposed to higher noise levels will be provided ear muffs/ear plugs. • There will be restriction on vehicle

		speed to avoid accidents. • Regular health checkup of all the workers working in mine will be done.
Socio-economic	• As such no negative impact will be anticipated there.	• The project will generate employment opportunities for around 170-175 locals in addition to the indirect employment for many. • The project will contribute to the social and environmental well-being by way of CSR & CER. • Ancillary development in the area.
Traffic environment	• There will be increase in traffic density which will lead to air pollution in terms of particulates & gaseous emissions. • The vehicular movement results in noise pollution.	• Only PUC certified vehicles will be used for transportation. • Unnecessary blowing of horns will be prohibited. • Workers will be periodically examined for health checkups.

7.0 PROJECT BENEFIT:

The project will bring overall improvement in the surrounding area by way of employment opportunities and the state by revenue generation. There will be improvement in the economic condition of the people and the enhancement in the quality of life through employment.

8.0 ENVIRONMENTAL MANAGEMENT PLAN:

No major environmental impacts are associated in the Hill Slope mining except the generation of fugitive emissions from handling of minerals. The preventive measures will be in place to keep the pollutants in the prescribed levels. Plantation as proposed will further improve the air quality in the area. A budgetary provision of Rs. 13.2 Lakhs as capital cost and Rs. 5.4 Lakhs as recurring cost has been made for environmental management In addition, provision has been made for occupational health & safety of workers. Regular Environmental Monitoring has been instituted in the environmental monitoring program.

Conclusion: As the proposed project results in the economic, social & environmental upliftment of the area and the initiative through the CSR & CER, there will be positive impact in the region. The project may therefore be implemented at the earliest.

कार्यकारी सारांश

गौण खनिजों का खनन

परियोजना का नाम	श्री लखविंदर सिंह द्वारा रेत, पत्थर और बजरी का निष्कर्षण।
जगह	खसरा नं. 358 (0-80-79 हेक्टेयर), 553 (2-68-51 हेक्टेयर) और 557 (01-69-16 हेक्टेयर) मौजा/मोहाल कुंगरट, तहसील हरोली, जिला ऊना, हिमाचल प्रदेश।
भूमि की स्थिति/प्रकार	निजी भूमि/पहाड़ी ढलान
खनन क्षेत्र	05-18-46 हेक्टेयर
श्रेणी (ईआईए अधिसूचना, 2006 के अनुसार)	श्रेणी बी1
उत्पादन	2,08,279 एमटीपीए
टीओआर पत्र क्रमांक	HPSEIAA/2023/1095-4037-4043 दिनांक 13/02/2024
आधारभूत अध्ययन अवधि	नवंबर 2023- जनवरी 2024

आवेदक

श्री लखविंदर सिंह पुत्र स्व. जगमेल सिंह

प्रोप: मैसर्स लखविंदर सिंह स्टोन क्रशर और स्क्रीनिंग प्लांट

एचआईजी- 824, चरण-2, मोहाली, पंजाब

सलाहकार

चंडीगढ़ प्रदूषण परीक्षण प्रयोगशाला- ईआईए प्रभाग

(QCI/NABET प्रमाणपत्र संख्या: NABET/EIA/2225/RA 0250)

पता: ई-126, चरण- VII, औद्योगिक क्षेत्र, मोहाली, पंजाब- 160055।

संपर्क: 0172-4669295, 5090312

ईमेल: cptleia@gmail.com

1.0 परियोजना का नाम और स्थान:

श्री लखविंदर सिंह पुत्र स्व. जगमेल सिंह, प्रोप: मैसर्स लखविंदर सिंह स्टोन क्रशर और स्क्रीनिंग प्लांट, गांव और पीओ कुंगराट, तहसील हरोली, जिला ऊना, हिमाचल प्रदेश को पत्र संख्या उद्योग-भू खानी-4)लघु-01/2022-2654 दिनांक 07/06/2022 के माध्यम से खनन पट्टा खसरा नंबर 358, 553 और 557 (निजी भूमि) , 05-18-46 हेक्टेयर मौजा/मोहाल कुंगराट, तहसील हरोली, जिला ऊना, राज्य-हिमाचल प्रदेश क्षेत्र पर पहाड़ी ढलान से रेत पत्थर और बजरी के निष्कर्षण/संग्रह के लिए "आशय पत्र" जारी किया गया है।

2.0 परियोजना प्रस्ताव:

आवेदक ईआईए अधिसूचना-2006 और उसके बाद के संशोधनों के अनुसार प्रस्तावित परियोजना के लिए पूर्व पर्यावरणीय मंजूरी की मांग कर रहा है। प्रस्ताव में मौजा/मोहाल कुंगराट, तहसील हरोली, जिला ऊना, राज्य-हिमाचल प्रदेश में 05-18-46 हेक्टेयर के खनन पट्टा क्षेत्र से रेत, पत्थर और बजरी जैसे लघु खनिजों का निष्कर्षण/संग्रह शामिल है। परियोजना प्रस्तावक ने ईआईए अध्ययन और ईआईए/ईएमपी रिपोर्ट तैयार करने के लिए QCI NABET मान्यता प्राप्त पर्यावरण सलाहकार, चंडीगढ़ प्रदूषण परीक्षण प्रयोगशाला-ईआईए डिवीजन को नियुक्त किया है। आशय पत्र उद्योग विभाग, हिमाचल प्रदेश सरकार द्वारा दिनांक 07/06/2022 को पत्र क्रमांक उद्योग-भू (खानि-4)लघु-01/2022-2654 द्वारा जारी किया गया है। तदनुसार, पर्यावरण मंजूरी प्राप्त करने के उद्देश्य से आशय पत्र की वैधता अवधि 06.06.2023 से एक वर्ष की अवधि के लिए बढ़ा दी गई है।

परियोजना का विवरण:

<table>
<tr><td>परियोजना का नाम</td><td colspan="3">श्री लखविंदर सिंह द्वारा रेत, पत्थर और बजरी का निष्कर्षण।</td></tr>
<tr><td>प्रोजेक्ट का प्रकार</td><td colspan="3">गौण खनिजों (बलुआ पत्थर और बजरी) का खनन</td></tr>
<tr><td>जगह</td><td colspan="3">खसरा नं. 358, 553 और 557, मौजा/मोहाल कुंगराट, तहसील हरोली, जिला ऊना, हिमाचल प्रदेश में पड़ता है।</td></tr>
<tr><td>पट्टा क्षेत्र समन्वय</td><td>स्तंभ संख्या</td><td>अक्षांश</td><td>देशान्तर</td></tr>
<tr><td></td><td>पी1</td><td>31°21'50.96"उ</td><td>76°14'02.35"पूर्व</td></tr>
<tr><td></td><td>पी2</td><td>31°21'54.28" उ</td><td>76°14'21.79"पूर्व</td></tr>
<tr><td></td><td>पी 3</td><td>31°21'48.48"उ</td><td>76°14'19.62"पूर्व</td></tr>
</table>

	पी4	31°21'48.39" उ	76°14'02.71"पूर्व
ऊंचाई (उत्पत्ति पर ऊंचाई)	एमएसएल से उच्चतम 490 मीटर ऊपर। एमएसएल से न्यूनतम 450 मीटर नीचे।		
भूमि का प्रकार	निजी भूमि, पहाड़ी ढलान		
कुल क्षेत्रफल	05-18-46 हेक्टेयर		
उत्पादों	रेत, पत्थर और बजरी		
क्षमता	प्रथम वर्ष के लिए 2,08,279 मीट्रिक टन या पाँच वर्षों की अवधि में 10,41,395 मीट्रिक टन (गाद/मिट्टी को छोड़कर)		
बेंच स्तर	5x4 मीटर		
खनन की विधि	मैनुअल और अर्ध-यांत्रिक		
काम कर दिन	300		
अपशिष्ट (गाद/मिट्टी)	एक वर्ष के लिए 36,755 मीट्रिक टन या पाँच वर्षों की अवधि में 183776 मीट्रिक टन।		
पानी की खपत	4 केएलडी		
जल आपूर्ति का स्रोत	बोरवेल से		
लागत विवरण			
परियोजना की लागत	रु. 50 लाख.		
ईएमपी की लागत	रु. 13.2 लाख (पूंजी) रु. 5.4 लाख (आवर्ती)/वर्ष		
क्षेत्र की पर्यावरणीय संवेदनशीलता			
पारिस्थितिक संवेदनशील क्षेत्र (राष्ट्रीय उद्यान, वन्यजीव अभयारण्य, बायोस्फीयर रिजर्व आदि)	10 किमी के दायरे में कोई नहीं।		
5 किमी के दायरे में अंतर्राष्ट्रीय सीमा	कोई नहीं		

निकटतम राजमार्ग	2.00 किलोमीटर (एसएच-39)
निकटतम रेलवे स्टेशन/रेलवे स्टेशन	12 किलोमीटर (नया नंगल पूर्व की ओर)
निकटतम हवाई अड्डा	चंडीगढ़ हवाई अड्डा (91.42 किलोमीटर)
निकटतम प्रमुख शहर	ऊना (18 किलोमीटर)
निकटतम प्रमुख बस्ती	हरोली (10 किमी)

3.0 परियोजना विवरण:

प्रस्तावित परियोजना में **2,08,279 मीट्रिक टन प्रति वर्ष** की प्रस्तावित उत्पादन क्षमता के साथ 05-18-46 हेक्टेयर क्षेत्र में पहाड़ी ढलान में खुली खनन विधि द्वारा रेत, पत्थर और बजरी का खनन शामिल है। पाँच वर्ष की अवधि के दौरान उत्पादन का विवरण नीचे दिया गया है।

खनन योग्य क्षेत्र में खनन का वर्षवार उत्पादन कार्यक्रम दर्शाने वाली तालिका

अवधि	**बेंच लेवल (मीटर में)**	**बेंच से उपभोग योग्य उपयोगी सामग्री (एमटी)**	**अपव्यय (खनन अपव्यय + ऊपरी मिट्टी)**
1 ला वर्ष	488, 484,480, 476	208200	36723
दूसरा साल	476, 472, 468, 464	208200	36741
तीसरा वर्ष	464, 460	208200	36641
चौथा वर्ष	460, 456,452	208200	36920
5वां वर्ष	452,448	208595	36751

4.0 अपशिष्ट निपटान एवं व्यवस्था:

खनन कार्य के दौरान स्टोन क्रशर में स्क्रीनिंग के बाद खनन अपशिष्ट के रूप में निम्न श्रेणी के खनिज जैसे सिल्टी रेत और ऊपरी मिट्टी का उत्पादन किया जाएगा। अपशिष्ट पदार्थ का उपयोग आंशिक रूप से सड़क के रखरखाव के लिए किया जाएगा और इस खनिज के हिस्से को सड़क निर्माण के दौरान या

भराव सामग्री के रूप में किसी अन्य उपयोग के लिए इस सामग्री के उपयोग के लिए उचित स्थान पर रखा जा सकता है। ऊपरी मिट्टी को वृक्षारोपण के लिए खनन के बाद विकसित बेंचों पर फैलाया जाएगा। वर्षवार गादयुक्त रेत/ऊपरी मिट्टी का उत्पादन निम्नलिखित तालिका में दर्शाया गया है:-

गाददार रेत और ऊपरी मिट्टी की वर्षवार पीढ़ी दर्शाई जा रही है

क्र.सं.	**वर्ष**	**बर्बादी की मात्रा (एमटी)**
1.	**पहला वर्ष**	36723
2.	**दूसरा वर्ष**	36741
3.	**तीसरा वर्ष**	36641
4.	**चौथा वर्ष**	36920
5.	**5वां वर्ष**	36751
कुल		**183776**

5.0 पर्यावरण का विवरण:

पर्यावरणीय घटकों के संबंध में आधारभूत डेटा: वायु, मिट्टी, शोर, पानी, पारिस्थितिकी और जैव विविधता नवंबर, 2023 से जनवरी 2024 तक गैर-मानसून सीज़न के लिए एकत्र किया गया है। ईआईए अध्ययन खदान पट्टे (कोर ज़ोन) एवं पट्टा क्षेत्र (बफर जोन) के 10 किमी के दायरे के भीतर के क्षेत्र के लिए किया जा रहा है।

आधारभूत स्थिति

गुण	**आधारभूत अध्ययन**
परिवेशी वायु गुणवत्ता	• AAQ की निगरानी 8 स्थानों पर की गई, PM_{10} के लिए अधिकतम मान 75.0 ug/m3 हरोली में और न्यूनतम मान 61.4 ug/m3 बीटन में देखा गया। इस अवधि में P98, 68.2 µg/m3 रहा। • पीएम 2.5 का अधिकतम मान 39.9 ug/m3 कुथारबीट में और न्यूनतम 31.5 ug/m3 परियोजना स्थल पर देखा गया।अध्ययन अवधि के दौरान P98 37.2 µg/m3 रहा।

	• SO2 के संबंध में, अधिकतम सांद्रता 7.4 ug/m3 बाथू में और न्यूनतम 4.5 ug/m3 हरोली में देखी गई।अध्ययन अवधि के दौरान P98 6.45 µg/m3 रहा। • NO2 के मामले में, अधिकतम मान 11.8 ug/m3 धुग्गे में और न्यूनतम 8.3 ug/m3 टाहलीवाल स्टेशन पर देखा गया। • किसी भी थाने पर CO का पता नहीं चला।
शोर का स्तर	• आठ शोर निगरानी स्थानों में से, परियोजना स्थल पर दिन के समय अधिकतम 48.4 डीबी (ए) और कुथारबीट में न्यूनतम 43.6 डीबी (ए) शोर देखा गया। • रात के समय शोर के स्तर के लिए, परियोजना स्थल पर अधिकतम 35.4 डीबी (ए) और धुग्गे में न्यूनतम 31.6 डीबी (ए) देखा गया।
पानी की गुणवत्ता	**भूजल** • 8 स्थानों पर निगरानी की गई. • पीएच 7.34 से 7.89 के बीच रहा। • कुल कठोरता 240 से 270 मिलीग्राम/लीटर तक थी। • टीडीएस 270 से 288 मिलीग्राम/लीटर तक था। • फ्लोराइड नहीं पाया गया. **ऊपरी तह का पानी** **अपस्ट्रीम और डाउनस्ट्रीम गुणवत्ता के लिए एक स्थान पर सतही जल का विश्लेषण किया गया।** • सतही जल का पीएच 7.33 है। • कुल कठोरता 118 मिलीग्राम/लीटर पाई गई। • टीडीएस 168 मिलीग्राम/लीटर पाया गया। IS:2296 के अनुसार सहनशीलता सीमा 1,500 mg/l है। • फ़ेकल कोलीफ़ॉर्म 30 एमपीएन/100 मिली की सीमा में देखा गया।

	• कुल कोलीफॉर्म 70 एमपीएन/100 मिली था। • सीओडी 8.8 मिलीग्राम/लीटर था। • बीओडी <2 मिलीग्राम/लीटर था।
मिट्टी की गुणवत्ता	8 स्थानों के लिए मिट्टी का विश्लेषण किया गया। • pH 7.38 से 7.78 के बीच होता है। • परियोजना स्थल पर EC अधिकतम 365 µmhos/cm **और धुग्गे पर न्यूनतम 321 µmhos/cm** देखा गया। • कार्बनिक पदार्थ 0.38% से 0.52% तक था। • मापा सांद्रण. एन, पी और के सभी स्थानों पर मध्यम था।

5.1 जैविक पर्यावरण:

साइट अवलोकन और द्वितीयक डेटा के आधार पर जैविक पर्यावरण का अध्ययन किया गया है। IUCN श्रेणी के अनुसार अध्ययन क्षेत्र में कोई दुर्लभ या गंभीर रूप से लुप्तप्राय और संकटग्रस्त पौधों की प्रजातियाँ नहीं हैं। अध्ययन क्षेत्र में पाई जाने वाली प्रजातियाँ सामान्य और व्यापक रूप से वितरित हैं।

5.2 सामाजिक आर्थिक वातावरण:

सामाजिक-आर्थिक वातावरण का अध्ययन किसी दिए गए भौगोलिक क्षेत्र में रहने वाले मनुष्यों की विभिन्न सामाजिक, आर्थिक विशेषताओं के व्यवस्थित विश्लेषण को संदर्भित करता है जिसमें वर्तमान मामले में अध्ययन क्षेत्र और प्रभाव क्षेत्र शामिल हैं। अध्ययन का अंतर्निहित विचार क्षेत्र के लोगों के सामाजिक ढांचे पर प्रस्तावित विकास के सांस्कृतिक, सामाजिक और पर्यावरणीय प्रभावों का मूल्यांकन करना है।

अध्ययन क्षेत्र की जनसांख्यिकीय प्रोफ़ाइल नीचे सारणीबद्ध है:

जनसांख्यिकीऔर सामाजिक-अर्थव्यवस्था

गांवों के नाम	घरों की संख्या	कुल जनसंख्या	पुरुष	महिला	बच्चा (0-6)	साक्षरता (%)		अनुसूचित जाति	अनुसूचित जनजाति	कुल श्रमिक	मुख्य कार्यकर्ता	सीमांत श्रमिक
						पुरुष	महिला					
रोरा बालीवाल	310	1502	783	719	164	84.18	75.35	326	0	777	416	361
हरोली	307	1537	773	764	174	95.21	81.60	433	15	778	515	263
भदौरी	264	1264	668	596	143	87.96	70.36	300	0	408	139	269
पालकवाह	401	1854	914	940	235	93.27	81.01	483	2	545	471	74
पूबोवाल	457	2154	1126	1028	224	92.10	74.19	827	0	700	262	438
कुथरबीट	294	1420	708	712	168	91.65	79.01	474	0	676	333	343
पोलियानबीट	259	1295	662	633	150	88.30	74.65	490	151	397	195	202
कुंगराट	182	808	401	407	90	98.04	80.00	508	0	218	147	71

(स्रोत: भारत की जनगणना, 2011)

6.0 प्रत्याशित पर्यावरणीय प्रभाव एवं शमन उपाय:

पर्यावरण	प्रत्याशित प्रभाव	शमन के उपाय
वायु पर्यावरण	• ओपनकास्ट खनन कार्यों में आम तौर पर जीवाश्म ईंधन आधारित वाहनों, मशीनों के कारण PM_{10} के उच्च स्तर और कुछ हद तक SO_2, NO_X उत्पन्न होने का खतरा होता है। • मैनुअल और अर्ध-मशीनीकृत खनन के दौरान लोडिंग और अनलोडिंग ऑपरेशन के परिणामस्वरूप धूल का उत्पादन होता है जो प्रदूषक के उत्सर्जन दर और इसके फैलाव और मौसम संबंधी स्थितियों पर निर्भर करता है। • वायु प्रदूषण मुख्य रूप से PM_{10}, SO_2 और NO_X के कारण आंखों में जलन और सूजन, गले में जमाव और फेफड़ों में संक्रमण हो सकता है।	• प्रतिमा की आवश्यकताओं को पूरा करने के लिए SPM, RSPM, SO_2, NO_X के लिए उत्सर्जन सूची बनाई जाएगी। • पानी के स्प्रेयर द्वारा धूल दमन किया जाएगा, परिवहन किए गए वाहनों की अधिकता से बचा जाएगा, पहुंच मार्गों पर पानी का छिड़काव किया जाएगा। • क्रशर स्थल तक तिरपाल से ढके वाहनों में सामग्री का परिवहन केवल दिन के समय किया जाएगा। • खनन नियंत्रित तरीके से किया जाएगा। • संपर्क मार्गों और लीज सीमा में वृक्षारोपण किया जाएगा। • धूल उत्पन्न होने से बचाने के लिए हॉल रोड पर चलने वाले डंपरों की गति सीमित होनी चाहिए। • हॉल रोड को बजरी से ढक दिया जाएगा।

	• श्वसनीय धूल का श्रमिकों के स्वास्थ्य पर गंभीर प्रभाव पड़ता है। श्वसन योग्य और गैर श्वसन योग्य दोनों प्रकार के धूल कणों के कारण फेफड़ों की कार्यप्रणाली ख़राब हो जाती है। लंबे समय तक संपर्क में रहने से अस्थमा, वातस्फीति, गंभीर डिस्पेनिया (सांस की तकलीफ) और ब्रोंकाइटिस जैसी श्वसन संबंधी बीमारियां होती हैं, गंभीर मामलों में न्यूमोकोनियोसिस या खनिकों के काले फेफड़ों की बीमारी होती है। • धूल का प्रभाव मानव स्वास्थ्य के लिए हानिकारक हो सकता है। वायु प्रदूषण का प्रमुख योगदान खुले खनन से होता है, जैसे उत्खनन, लोडिंग और परिवहन आदि, जिससे श्वसन योग्य कण पदार्थ (PM_{10}) में अल्पकालिक वृद्धि होगी।	• परिवेशी वायु की गुणवत्ता का आकलन करने के लिए नियमित आधार पर परिवेशी वायु गुणवत्ता निगरानी आयोजित की जाएगी।
जल पर्यावरण	• खनन कार्य भूजल जल विज्ञान और	• खनन कार्य अनुमोदित खनन योजना के अनुसार

	सतही जल व्यवस्था को प्रभावित कर सकते हैं और यह प्रभाव सामग्री की प्रकृति, जल विज्ञान और भूजल आवश्यकताओं पर निर्भर करता है। • जल स्तर चौराहे के कारण भूजल संदूषण। • अपशिष्ट जल निपटान के कारण सतही जल संदूषक। • अत्यधिक खनन से प्राकृतिक परत मोटी हो जाती है जिससे भूजल का पुनर्भरण कम हो सकता है।	किया जाएगा; इसलिए, खनन के कारण आसपास के भूजल संसाधनों पर कोई उल्लेखनीय प्रभाव नहीं पड़ेगा। • जल निकाय में क्षति, उसकी आत्मसात करने की क्षमता पर निर्भर करती है। चूंकि खनन कार्यों में पानी का उपयोग नहीं किया जाएगा, इसलिए कोई अपशिष्ट जल उत्पन्न नहीं होगा, जिससे भूजल और सतही जल की गुणवत्ता पर कोई प्रभाव नहीं पड़ेगा। वृक्षारोपण के लिए उपयोग करने से पहले घरेलू अपशिष्ट जल की थोड़ी मात्रा को क्रशर स्थल पर सेप्टिक टैंक और सोख गड्ढों में उपचारित किया जाएगा। • विशेष रूप से मानसून के मौसम के दौरान कामकाजी बेंचों में कोई अतिरिक्त बोझ या ढीली तलछट नहीं रखी जाएगी। • अपवाह के वेग को कम करने के लिए चेक बांधों और नालियों की जांच की जाएगी, जिससे बाढ़ और जमा पानी को प्राप्त होने वाले पानी में ले जाने

		की प्रक्रिया को कम किया जा सके। • खनन अपशिष्ट डंप को उनके अवधारण के दौरान स्थिर किया जाएगा। • भूजल गुणवत्ता पर कोई प्रतिकूल प्रभाव नहीं पड़ेगा। प्रस्तावित खनन जल स्तर से काफी ऊपर होगा। हालाँकि, आसपास के मौजूदा हैंडपंपों/नलकूपों की गुणवत्ता की नियमित निगरानी की जाएगी।
शोर का वातावरण	• प्रस्तावित खनन गतिविधि मैन्युअल के साथ-साथ अर्ध-मशीनीकृत भी की जाती है। इसलिए अनुमान है कि एकमात्र प्रभाव खनिजों के परिवहन के लिए तैनात वाहनों की आवाजाही के कारण होगा। यह क्षेत्र बस्ती से दूर है और शोर केवल यांत्रिक उपकरण के उपयोग के कारण होगा जो निर्धारित अनुमेय सीमा से कम होगा। इसमें ब्लास्टिंग शामिल नहीं है. शोर का स्तर आवश्यक स्तर से अधिक	• वाहनों की आवाजाही के दौरान शोर को कम करने के लिए सुव्यवस्थित वाहनों का उपयोग किया जाएगा। वाहनों का नियमित एवं उचित रख-रखाव सुनिश्चित किया जायेगा। • रात के समय वाहनों की आवाजाही नहीं। • दुर्घटनाओं की किसी भी संभावना को कम करने के लिए खनन के दौरान केवल प्रशिक्षित ड्राइवरों को ही वाहन चलाने की अनुमति दी जाएगी। • शोर को कम करने के लिए खनन क्षेत्र के आसपास वृक्षारोपण किया जाएगा।

	नहीं होगा.	
भूमि पर्यावरण	• भूमि की स्थलाकृति में परिवर्तन/भूमि क्षरण। • ठोस अपशिष्ट उत्पादन • मिट्टी का कटाव • धूल उत्पन्न होने के कारण आस-पास के क्षेत्र में कृषि पद्धति पर प्रभाव।	• प्रस्तावित खनन गतिविधि पहाड़ी-ढलान में की जाती है, इसलिए टूटे हुए क्षेत्र को व्यवस्थित बैकफ़िलिंग द्वारा पुनः प्राप्त किया जाएगा और वनीकरण द्वारा पुनर्वास किया जाएगा ताकि क्षेत्र के परिदृश्य में सुधार हो सके • अपशिष्ट को वापस खनन किए गए क्षेत्रों में भर दिया जाएगा जहां वृक्षारोपण किया जाएगा। • गली चेक, चेक डैम आदि का निर्माण करके मिट्टी के कटाव को रोका जाएगा। • आस-पास के क्षेत्रों में कृषि गतिविधियाँ की जाती हैं, जो धूल उत्पन्न होने के कारण प्रभावित हो सकती हैं, लेकिन सक्रिय क्षेत्रों जैसे कि परिवहन सड़कों, उत्खनन स्थलों पर नियमित रूप से पानी छिड़कने जैसे शमन उपायों का सख्ती से पालन किया जाएगा ताकि प्रभाव कम से कम हो।
पारिस्थितिकी एवं जैव विविधता	• जंगली जीवों के मुक्त विचरण/रहने में बाधा। पक्षी, सरीसृप आदि।	• रेत सामग्री ले जाने के लिए वाहनों की आवाजाही के कारण उत्पन्न शोर अनुमेय शोर सीमा के भीतर

	• कृषि पर प्रभाव. • भूमि उपयोग एवं वनस्पति पर प्रभाव.	होगा। क्षेत्र में उच्च शोर स्तर से बेचैनी हो सकती है और साथियों और युवाओं की कॉल का पता लगाने में विफलता हो सकती है। • यदि जंगली जानवरों/पक्षियों को कोर जोन पार करते हुए देखा जाए तो उन्हें बिल्कुल भी परेशान नहीं किया जाएगा। • ध्वनि प्रदूषण (विनियमन और नियंत्रण) नियम 2000, सीपीसीबी मानदंडों के अनुसार शोर का स्तर दिन के समय अनुमेय सीमा (शांत क्षेत्र -50 डीबी (ए) या आवासीय क्षेत्र 55 डीबी (ए) के भीतर बनाए रखा जाएगा। • खेती पर कोई असर नहीं पड़ेगा. खनन कार्य के दौरान उत्पन्न धूल को खनन स्थल पर दबाया जाएगा तथा परिवहन के दौरान छिड़काव द्वारा भी दबाया जाएगा। • किसी भी पेड़ को काटने की अनुमति नहीं दी जाएगी.

ठोस अपशिष्ट	• ठोस अपशिष्ट का उत्पादन.	• परियोजना से ठोस अपशिष्ट उत्पन्न नहीं होगा क्योंकि सभी खनन सामग्री को क्रशर पर संसाधित किया जाएगा। • लगभग क्रशर स्थल पर सेप्टिक उपचार के बाद घरेलू सीवेज को वृक्षारोपण के लिए भूमि पर निस्तारित किया जाएगा। • खनन के दौरान उत्पन्न गाद और मिट्टी के मिश्रण को खनिजों के साथ क्रशर पर संसाधित किया जाएगा।
मृदा पर्यावरण	• मृदा अपरदन/उपजाऊ ऊपरी मिट्टी का नष्ट होना।	• मिट्टी के कटाव को रोकने के लिए कूड़े के ढेर के चारों ओर उचित माला का निर्माण किया जाना चाहिए। • जिन क्षेत्रों में ऊपरी मिट्टी को हटाने से पहले भूदृश्य के लिए ऊपरी मिट्टी का उपयोग किया जा सकता है, उसका उपयोग किया जाएगा और इस ऊपरी मिट्टी का उपयोग बाद में खदान बंद करने के हिस्से के रूप में खनन स्थल के

		सुधार के लिए किया जाएगा।
स्वास्थ्य और सुरक्षा	• क्षणिक धूल उत्सर्जन का मानव स्वास्थ्य पर संभावित प्रभाव पड़ सकता है।	• धूल भरे क्षेत्र में काम करने वाले व्यक्तियों को हेलमेट, डस्ट मास्क, ईयर मफ आदि जैसे सुरक्षात्मक गियर प्रदान किए जाएंगे; • धूल पैदा करने वाले क्षेत्रों, परिवहन सड़कों पर नियमित रूप से पानी का छिड़काव। • खदान में काम करने वाले सभी श्रमिकों की व्यावसायिक स्वास्थ्य जांच, और धूल भरे क्षेत्रों में काम करने वाले श्रमिकों के लिए पल्मोनरी फ़ंक्शन परीक्षण। • लगातार उच्च शोर स्तर के संपर्क में रहने वाले श्रमिकों को ईयर मफ/ईयर प्लग प्रदान किए जाएंगे। • दुर्घटनाओं से बचने के लिए वाहन की गति पर प्रतिबंध रहेगा।

		• खदान में काम करने वाले सभी कर्मियों की नियमित स्वास्थ्य जांच करायी जायेगी.
सामाजिक-आर्थिक	• ऐसे में वहां किसी नकारात्मक प्रभाव की आशंका नहीं होगी.	• यह परियोजना कई लोगों के लिए अप्रत्यक्ष रोजगार के अलावा लगभग 170-175 स्थानीय लोगों के लिए रोजगार के अवसर पैदा करेगी। • यह परियोजना सीएसआर और सीईआर के माध्यम से सामाजिक और पर्यावरणीय कल्याण में योगदान देगी। • क्षेत्र में सहायक विकास.
यातायात वातावरण	• यातायात घनत्व में वृद्धि होगी जिससे कणों और गैसीय उत्सर्जन के रूप में वायु प्रदूषण होगा। • वाहनों की आवाजाही से ध्वनि प्रदूषण होता है।	• परिवहन के लिए केवल पीयूसी प्रमाणित वाहनों का उपयोग किया जाएगा। • अनावश्यक हार्न बजाना प्रतिबंधित रहेगा। • श्रमिकों का समय-समय पर स्वास्थ्य परीक्षण किया जाएगा।

7.0 परियोजना लाभ:

यह परियोजना रोजगार के अवसरों के माध्यम से आसपास के क्षेत्र में और राजस्व सृजन के माध्यम से राज्य में समग्र सुधार लाएगी। रोजगार के माध्यम से लोगों की आर्थिक स्थिति में सुधार और जीवन की गुणवत्ता में वृद्धि होगी।

8.0 पर्यावरण प्रबंधन योजना:

खनिजों के रख-रखाव से होने वाले क्षणिक उत्सर्जन को छोड़कर हिल स्लोप खनन में कोई बड़ा पर्यावरणीय प्रभाव जुड़ा नहीं है। प्रदूषकों को निर्धारित स्तर पर बनाए रखने के लिए निवारक उपाय किए जाएंगे। प्रस्तावित वृक्षारोपण से क्षेत्र में वायु गुणवत्ता में और सुधार होगा। पर्यावरण प्रबंधन के लिए पूंजीगत लागत के रूप में 13.2 लाख रुपये और आवर्ती लागत के रूप में 5.4 लाख रुपये का बजटीय प्रावधान किया गया है। इसके अलावा, श्रमिकों के व्यावसायिक स्वास्थ्य और सुरक्षा के लिए प्रावधान किया गया है। पर्यावरण निगरानी कार्यक्रम में नियमित पर्यावरण निगरानी स्थापित की गई है।

निष्कर्ष: प्रस्तावित परियोजना के परिणामस्वरूप क्षेत्र का आर्थिक, सामाजिक और पर्यावरणीय उत्थान होगा तथा सीएसआर और सीईआर गतिविधियो के माध्यम से क्षेत्र में सकारात्मक प्रभाव पड़ेगा। इसलिए परियोजना को जल्द से जल्द लागू किया जा सकता है।

SYNOPSIS

OF

MINING OF MINOR MINERALS

Project name	**Extraction of Sand, Stone & Bajri by Sh. Lakhwinder Singh**
Location	**Khasra no. 358 (0-80-79 Ha), 553 (2-68-51 Ha) & 557 (01-69-16 Ha) falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, H.P.**
Land Status/ Type	**Private Land/ Hill Slope**
Mining Area	**05-18-46 Ha**
Category (as per EIA Notification, 2006)	**Category B1**
Production	**2,08,279 MTPA**
TOR Letter No.	**HPSEIAA/2023/1095-4037-4043 dated 13/02/2024**
Baseline study period	**November 2023- January 2024**

APPLICANT

Sh. Lakhwinder Singh S/o Sh. Jagmail Singh

Prop: M/s Lakhwinder Singh Stone Crusher & Screening Plant

HIG- 824, Phase-II, Mohali, Punjab

PREPARED BY

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/2225/RA 0250)

Address: E- 126, Phase- VII, Industrial Area, Mohali, Punjab- 160055.

Contacts: 0172-4669295, 5090312

E-mail: cptleia@gmail.com

1.0 PROJECT NAME AND LOCATION:

Sh. Lakhwinder Singh S/o Sh. Jagmail Singh, Prop: M/s Lakhwinder Singh Stone Crusher and Screening Plant, Village & P.O. Kungrat, Tehsil Haroli, District Una, Himachal Pradesh has been issued "Letter of Intent" for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-01/2022-2654 on dated 07/06/2022 for extraction/ collection of sand stone & bajri from Hill slope over an area measuring 05-18-46 Hectares bearing Khasra no. 358, 553 & 557 (Private land) falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, State- Himachal Pradesh.

2.0 PROJECT PROPOSAL:

The applicant is seeking prior Environmental Clearance for the proposed project as per EIA notification- 2006 and the subsequent amendments. The proposal involve the extraction/collection of minor minerals such as sand, stone & bajri from the mine lease area of 05-18-46 Ha in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, State- Himachal Pradesh. The project proponent has engaged QCI NABET Accredited Environmental Consultant, Chandigarh Pollution Testing Laboratory-EIA Division for conducting EIA study and preparation of EIA/EMP report. The letter of intent has been issued by the Industries Department GoHP. vide letter No. Udyog- Bhu (Khani-4)Laghu-01/2022-2654 on dated 07/06/2022. Accordingly, the validity period of Letter of Intent is extended for further term of one-year w.e.f. 06.06.2023 onwards for the purpose of obtaining Environment Clearance.

DETAILS OF THE PROJECT:

<table>
<tr><td>Name of the project</td><td colspan="3">Extraction of Sand, Stone & Bajri by Sh. Lakhwinder Singh</td></tr>
<tr><td>Type of project</td><td colspan="3">Mining of Minor Minerals (Sand Stone and Bajri)</td></tr>
<tr><td>Location</td><td colspan="3">Khasra no. 358, 553 & 557, Falling in Mauza/Mohal Kungrat, Tehsil Haroli, District Una, H.P.</td></tr>
<tr><td>Lease Area Co-ordinates</td><td>Pillar No.</td><td>Latitude</td><td>Longitude</td></tr>
<tr><td></td><td>P1</td><td>31°21'50.96"N</td><td>76°14'02.35"E</td></tr>
<tr><td></td><td>P2</td><td>31°21'54.28"N</td><td>76°14'21.79"E</td></tr>
<tr><td></td><td>P3</td><td>31°21'48.48"N</td><td>76°14'19.62"E</td></tr>
<tr><td></td><td>P4</td><td>31°21'48.39"N</td><td>76°14'02.71"E</td></tr>
</table>

Elevation (Altitude at origin)	Highest 490 meters above MSL. Lowest 450 meters below MSL.
Land Type	Private Land, Hill Slope
Total Area	05-18-46 Ha
Products	Sand, Stone and Bajri
Capacity	2,08,279 MT for first year or 10,41,395 MT over a period of five years (Excluding silt/clay)
Bench Level	5 X 4 meters
Method of mining	Manual and semi-mechanical
Working Days	300
Waste (silt/clay)	36,755 MT for one year or 183776 over a period of five years.
Water consumption	4 KLD
Source of water supply	From Borewell
Cost Details	
Cost of project	Rs. 50 Lakhs.
Cost of EMP	Rs. 13.2 Lakhs (Capital) Rs. 5.4 Lakhs (Recurring)/Annum
Environmental sensitivities of the area	
Ecological sensitive area (national parks, Wildlife sanctuaries, Biosphere reserves etc.)	None within 10 km radius.
International boundary within 5 km radius	None
Nearest highway	2.00 Kms (SH-39)
Nearest railhead/Railway station	12 kms (Naya Nangal towards E)
Nearest airport	Chandigarh Airport (91.42 kms)

Nearest Major City	Una (18 Km)
Nearest Major Settlement	Haroli (10 km)

3.0 PROJECT DESCRIPTION:

The proposed project involves the mining of sand, stone & bajri by open cast mining method in the Hill Slope over an area measuring 05-18-46 Ha with proposed production capacity of 2,08,279 MT/Annum.

Details of the production during the five-year period are produced below.

Table showing year-wise production programme of mining in mineable area

Period	Bench Level (in meters)	Useable Material Consumed from the bench (M.T.)	Wastage (Mining Wastage+ Top Soil)
1st year	488, 484,480, 476	208200	36723
2nd year	476, 472, 468, 464	208200	36741
3rd year	464, 460	208200	36641
4th year	460, 456,452	208200	36920
5th year	452,448	208595	36751

4.0 WASTE DISPOSAL & ARRANGEMENT:

During mining operation, low grade mineral like silty sand and top soil as mine waste will be produced after screening in the stone crusher. The waste material will be partly used for the maintenance of road and part of this mineral can be stacked at proper place for utilization of this material during road construction or some other use as a filling material. The top soil will be spread over the benches developed after mining for growing plantation. The year wise generation of silty sand/ Top soil is shown in the following table: -

Showing year wise generation of silty sand & Top soil

S. No.	Year	Quantity of Wastage (MT)
1.	**1st year**	36723
2.	**2nd year**	36741
3.	**3rd year**	36641
4.	**4th year**	36920
5.	**5th year**	36751
Total		**183776**

5.0 DESCRIPTION OF ENVIRONMENT:

The baseline data in respect of environmental components: Air, Soil, Noise, Water, Ecology & Biodiversity has been collected for non-monsoon season from November, 2023 – January 2024. The EIA study is being carried out for mine lease (core zone) & area within 10 km radius of lease area (buffer zone).

BASELINE STATUS

Attribute	Baseline Study
Ambient Air quality	• AAQ monitoring was carried out at 8 locations, the maximum value of 75.0 ug/m^3 for PM 10 was observed at Haroli and the minimum value of 61.4 ug/m^3 at Beeton. P98 remained as 68.2 µg/m^3 during this period. • The maximum value of 39.9 ug/m^3 for PM 2.5 was observed at Kutharbeet & minimum of 31.5 ug/m^3 at project site. P98 remained as 37.2 µg/m^3 during study period. • In respect of SO_2, the maximum concentration of 7.4 ug/m^3 was observed at Bathu & minimum of 4.5 ug/m^3 at Haroli. P98 remained as 6.45 µg/m^3 during study period. • In case of NO_2, the maximum value of 11.8 ug/m^3 was observed at Dhugge & minimum of 8.3 ug/m^3 at Tahliwal station.

	• CO was not detected at any of the stations.
Noise Levels	• Of the eight-noise monitoring location, maximum day time noise of maximum 48.4 dB (A) was observed at project site and minimum 43.6 dB (A) at Kutharbeet. • For night time noise levels, the maximum of 35.4 dB (A) was observed at project site & the minimum of 31.6 dB (A) at Dhugge.
Water Quality	**Ground water** • The monitoring was done at 8 locations. • The pH varied from 7.34 to 7.89. • Total hardness ranged from 240 to 270 mg/L. • TDS ranged from 270 to 288 mg/L. • Fluoride was not detected. **Surface water** Surface water was analyzed at one location for upstream & downstream quality**.** • pH of the surface water is 7.33 • Total hardness was found to be 118 mg/l. • TDS was found to be 168 mg/l. The tolerance limit is 1,500 mg/l as per IS:2296 • Fecal Coliform was observed in the range 30 MPN/100 ml. • Total Coliform was 70 MPN/100 ml. • COD was 8.8 mg/L. • BOD was < 2 mg/L.
Soil Quality	Soil was analyzed for 8 locations. • pH varies from 7.38 to 7.78.

	• EC was observed maximum at 365 µmhos/cm at Project site and minimum 321 µmhos/cm at Dhugge. • Organic matter ranged from 0.38 to 0.52 %. • Measured conc. in respect of N, P & K was moderate at all the locations.

5.1 BIOLOGICAL ENVIRONMENT:

The biological environment has been studied based on the site observation and secondary data. There are no rare or critically endangered and threatened plant species in the study area as per the IUCN category. The species found in the study area are common and widely distributed.

5.2 SOCIO ECONOMIC ENVIRONMENT:

Study of socio-economic environment refers to the systematic analysis of various social, economic characteristics of human beings living in the given geographical area which in the present case includes the study area and the impact zone. The underlying idea of study is to evaluate the cultural, social & environmental impacts of the proposed development on the social set up of the people of the area.

The demographic profile of the study area is tabulated below:

DEMOGRAPHY & SOCIO-ECONOMY

Name of villages	No. of Households	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Rora Baliwal	310	1502	783	719	164	84.18	75.35	326	0	777	416	361
Haroli	307	1537	773	764	174	95.21	81.60	433	15	778	515	263
Bhadauri	264	1264	668	596	143	87.96	70.36	300	0	408	139	269
Palakwah	401	1854	914	940	235	93.27	81.01	483	2	545	471	74
Pubowal	457	2154	1126	1028	224	92.10	74.19	827	0	700	262	438
Kutharbeet	294	1420	708	712	168	91.65	79.01	474	0	676	333	343
Polianbeet	259	1295	662	633	150	88.30	74.65	490	151	397	195	202
Kungrat	182	808	401	407	90	98.04	80.00	508	0	218	147	71

(Source: Census of India, 2011)

6.0 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES:

Environment	Anticipated Impacts	Mitigation measures
Air environment	• In Opencast mining operations are generally prone to generation of high levels of PM10 and to a limited extent SO2, NOx due to fossil fuel-based vehicles, machines. • Loading & unloading operation during manual & semi-mechanized mining results is the generation of dust which depends upon the emission rate of pollutant & its dispersal and the meteorological conditions • Air pollution mainly due to PM10, SO2 and NOx may result in irritation and inflammation of eyes and congestion of throat and infection in lungs. • The respirable dust has serious	• Emissions inventory for SPM, RSPM, SO2, NOx shall be undertaken to satisfy the statuary requirements. • Dust suppressions shall be done by water sprayers, avoiding overloads of transported vehicles, water spray on access routes. • Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried out in day time only. • Mining shall be done in a controlled manner. • Plantation will be carried out on approach roads and in Lease boundary. • The speed of dumpers plying on the haul road should limited to avoid generation of dust. • Haul road shall be covered with gravels. • Ambient Air Quality Monitoring will be

	impact on the health of the workers. Lung functions are impaired due to the both respirable and non-respirable dust particles. Chronic exposure leads to respiratory illness like asthma, emphysema, severe dyspnoea (shortness of breath) and bronchitis in extreme cases pneumoconiosis or the black lung disease of miners. • The effect of dust may be harmful to the human health. The major contribution of air pollution is by opencast mining, such as excavation, loading and transportation etc. which will lead to short-term rise in the respirable particulate matter (PM10).	conducted on regularly basis to assess the quality of ambient air.
Water environment	• The mining operations may impact groundwater hydrogeology and surface water regime and the	• Mining operation shall be undertaken as per approved mining plan; hence, there shall not be noticeable effect on surrounding ground

	impacts depends on the nature of material, hydrogeology and groundwater requirements. • Groundwater contamination due to water table intersection. • Surface water contaminants due to waste water disposal. • Excessive mining results in the thickness of natural layer which may reduce the recharge of groundwater.	water resources due to mining. • Damage in the water body, depends on its assimilative capacity. Since no water will be used in the mining operations, therefore, no waste water will be generated, thereby no impact on groundwater and surface water quality. Small amount of domestic waste water shall be treated in septic tanks and soak pits at crusher site before to putuse for plantation. • No overburden or loose sediments will be kept in the working benches particularly during monsoon season. • Check dams and gully checks will be raised to reduce the velocity of runoffs, thereby minimizing the flooding & carryover of deposits to the receiving waters. • Mine waste dumps will be stabilized during the course of their retention. • There would not be any adverse effect on the ground water quality. The proposed mining

		shall be much above the water table. However, regular monitoring of quality in the existing hand pumps/tube wells in the vicinity would be carried out.
Noise Environment	• The proposed mining activity is done manually as well as semi mechanized. Hence the only impact is anticipated is due to movement of vehicles deployed for transportation of minerals. The area is away from the habitation and the noise shall be caused only by use of mechanical device which shall be below the permissible limit prescribed. There is no blasting involve. The noise level will not exceed the required level.	• Well maintained vehicles will be used in order to reduce the noise during movement of vehicles. Regular and proper maintenance of vehicles will be ensured. • No vehicular movement during night time. • Only trained drivers will be allowed to operate vehicles during mining to reduce any chance of accidents. • Plantation of trees along the mining area will be done to dampen the noise.
Land Environment	• Change in the Topography of the Land / Land Degradation. • Solid waste generation • Soil erosion	• The proposed mining activity is carried out in Hill- Slope, therefore the broken area will be reclaimed by systematic backfilling and rehabilitated by afforestation so that

	• Impact on the Agricultural Practice at nearby area due to dust generation.	landscape of the area is improved • The waste will back-filled in the mined-out areas on which plantation will be raised. • Soil erosion shall be prevented by constructing gully checks, check dams, etc. • Agriculture activities are practiced nearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.
Ecology & Biodiversity	• Disturbance to free movement / living of wild fauna viz. Birds, Reptiles etc. • Impact on Agriculture. • Impact on land use and vegetation.	• Noise produced due to vehicular movement for carrying sand materials will be within permissible noise limit. Higher noise level in the area may lead to restlessness and failure in detection of calls of mates and young ones. • If wild animals/birds are noticed crossing the core zone, they will not be disturbed at all. • Noise level will be maintained within permissible limit (silent zone-50dB (A) during day time or residential zone 55dB (A)

		as per Noise Pollution (Regulation and Control) Rules 2000, CPCB norms. • There will be no impact on the agriculture. Dust generated will be suppressed during mining operation at mining site as well as during transportation will be suppressed by sprinkling. • No tree cutting will be allowed.
Solid waste	• Generation of solid waste.	• There will not be generation of solid waste from the project as all the mined material will be processed at crusher. • Domestic sewage after septic treatment at nearly crusher site will be disposed on to land for plantation. • The silt & clay mixture generated during mining will be processed at crusher along with after minerals.
Soil Environment	• Soil erosion/loss of fertile top soil.	• Proper garland to be constructed around the waste dump to avoid soil erosion.

		• The areas where topsoil could be utilized for landscape prior to stripping of top soil will be utilized and this topsoil will be later used for reclamation of the mining site as part of mine closure.
Health and Safety	• Fugitive dust emission could have potential impact on human health.	• Persons working in dusty area to be provided with protective gears such as helmets, dust masks, ear muff etc.; • Regular water sprinkling at dust generating areas, haul roads. • Occupational health checkup of all workers working in mine, and Pulmonary function test for workers working in dusty areas. • Workers continuously exposed to higher noise levels will be provided ear muffs/ear plugs. • There will be restriction on vehicle

		speed to avoid accidents. • Regular health checkup of all the workers working in mine will be done.
Socio-economic	• As such no negative impact will be anticipated there.	• The project will generate employment opportunities for around 170-175 locals in addition to the indirect employment for many. • The project will contribute to the social and environmental well-being by way of CSR & CER. • Ancillary development in the area.
Traffic environment	• There will be increase in traffic density which will lead to air pollution in terms of particulates & gaseous emissions. • The vehicular movement results in noise pollution.	• Only PUC certified vehicles will be used for transportation. • Unnecessary blowing of horns will be prohibited. • Workers will be periodically examined for health checkups.

7.0 PROJECT BENEFIT:

The project will bring overall improvement in the surrounding area by way of employment opportunities and the state by revenue generation. There will be improvement in the economic condition of the people and the enhancement in the quality of life through employment.

8.0 ENVIRONMENTAL MANAGEMENT PLAN:

No major environmental impacts are associated in the Hill Slope mining except the generation of fugitive emissions from handling of minerals. The preventive measures will be in place to keep the pollutants in the prescribed levels. Plantation as proposed will further improve the air quality in the area. A budgetary provision of Rs. 13.2 Lakhs as capital cost and Rs. 5.4 Lakhs as recurring cost has been made for environmental management In addition, provision has been made for occupational health & safety of workers. Regular Environmental Monitoring has been instituted in the environmental monitoring program.

Conclusion: As the proposed project results in the economic, social & environmental upliftment of the area and the initiative through the CSR & CER, there will be positive impact in the region. The project may therefore be implemented at the earliest.