DRAFT ENVIRONMENT IMPACT ASSESSMENT REPORT

OF

MINING OF MINOR MINERALS

Project	**Collection/ Extraction of Sand, Stone & Bajri by Sh. Ravi Verma; Partner M/s Shree Ram Stone Crusher**
Location	**Khasra no. 692/1, 693/1 & 745/1 falling in Mohal Maira Batrah , Mauja Maira Doomal, Tehsil Nurpur, District Kangra, Himachal Pradesh**
Land Status/ Type	**Private Land/ River Bed**
Mining Area	**02-11-20 Ha**
Category (as per EIA Notification, 2006)	**Category B1 (Due to cluster formation as three mining lease area exists within 500m periphery of project site)**
Production	**40,275 MTPA**
TOR Letter No.	**HPSEIAA/SEIAA/2023/1098-4099-5006 dated 13.03.2024**
Baseline study period	**October 2023 – December 2023**

APPLICANT

Sh. Ravi Verma; Partner M/s Shree Ram Stone Crusher

Village & P.O. Kandwal, Tehsil Nurpur,

District Kangra, Himachal Pradesh

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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<tr><td>Location</td><td>Khasra Nos. 692/1, 693/1 & 745/1, Mohal Maira Batrah, Mauja Maira Dhoomal, Tehsil Nurpur, District Kangra, Himachal Pradesh</td></tr>
<tr><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>32°20'24.32"N</td><td>75°48'50.36"E</td></tr>
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</table>
</td></tr>
<tr><td>Elevation (Altitude at origin)</td><td>Highest 459 meters above MSL.
Lowest 451 meters below MSL.</td></tr>
<tr><td>Land Status/ Type</td><td>Private Land/ River Bed</td></tr>
<tr><td>Mining Area</td><td>02-11-20 Hectare</td></tr>
<tr><td>Products</td><td>Sand, Stone and Bajri</td></tr>
<tr><td>Production Capacity</td><td>40275 MT for first year or 201375 MT over a period of five years (including silt/clay)</td></tr>
<tr><td>Cost Details</td><td>Total Project cost = Rs. 25 Lakhs
EMP = Rs. 9.0 (Capital cost) and Rs. 2.8 (Recurring Cost)</td></tr>
<tr><td>Source of Electricity</td><td>Not required</td></tr>
<tr><td>Alternative source</td><td>Nil</td></tr>
<tr><td>Power Requirement at mining area</td><td>Not required</td></tr>
<tr><td>Water consumption</td><td>2 KLD</td></tr>
<tr><td>Source of water supply</td><td>From Tubewell</td></tr>
</table>

Air pollution control at mining site	Water sprinklers & tree plantations
Hazardous chemical	Nil.
Hazardous waste	Nil.
Manpower requirement	37 persons
Validity of Lease	As per grant order
Method of mining	Manual
Working Days	270
Waste (silt/clay)	4027 MT for one year or 20138 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/SEIAA/2023-1098 4099-5006 Dated: 13/03/ 2024

To

M/s Shree Ram Stone Crusher,
Partner Sh. Ravi Verma, Village P.O. Kandwal,
Tehsil Nurpur, Distt. Kangra, H.P

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/434348/2023 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/434348/2023 HP SEIAA/2023-1098
b)	Project type	Collection/extraction of Sand, Stone & Bajri.
c)	Project Location	Khasra number 692/1, 693/1 &745/1 falling in Mohal Maira Batrah, Mauza Maira Doomal, Tehsil Nurpur, District Kangra, HP.
d)	Jamabandi	Jamabandi for the year 2020-21.
e)	Land Status	Private Land, Hill River bed.
f)	Capacity	40,275 MTPA.
g)	Mining Area	02-11-20 Hectare, Private land/river bed.
h)	Leases with in 500 meter from the periphery of the area applied.	Three mining leases exist within 500 meters: 1. M/s New Shiva Stone Crusher (4-97-93 Hectare) 2. M/s Shiva Stone Crusher (03-87-70 Hectare) M/s Mahadev Stone Crusher (05-40-07 Hectare)
i)	Letter of Intent	Letter of Intent issued on dated 22/03/2023 (Valid for one year i.e. up to 21/03/2024)
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 and submission of additional documents i.e. approved Mining Plan and Revenue Records on dated 26/2/2024 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.
3. The project proponent shall submit updated DSR report of district Kangra & duly endorsed by SEIAA with the submission of application for grant of Environment Clearance.
4. 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

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Endst. No. As Above. Dated: 2024.

Copy to following for further necessary action:

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

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TOR COMPLIANCE

S.NO.	TORS POINT	TOR COMPLIANCE	REMARK.
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 unit will be operational only after grant of EC. Thus, total production for the one year will be approximately 40275 MT. Accordingly, total production for the five years will be 201375 MT.	Refer para 2.2 and table 2.1 of chapter 2.
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 Annexure I, II	Refer to additional documents.
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 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).	All the salient features of the core zone and buffer zone on the basis of imagery has been shown in table 3.1 and high-resolution imagery Location map within 10 km radius is provided at Fig. 3.1., Pillar coordinates map is provided at Fig. 3.2 and 500m radius map is provided at Fig. 3.3, details for the same with approach road has given in figure 1.3.	Refer Chapter 3 and Chapter 1.
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.	Due to the strategic reason, the Toposheet map is not available in SOI. Therefore, Google map of 10 km Buffer area is provided in Fig 3.1, Geological Map is provided as Fig 2.1, and land use and LULC Map is provided in Fig 3.6	Refer Chapter 2 and Chapter 3
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 project has all the legal documents and competent to follow the land use policy for that mining plan has been prepared by registered RQP. Furthermore, soil quality of the proposed mining area has been done and given as para 3.15 and land environment as 3.14.	Refer chapter 3
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	The project has duly constituted Environment Management Cell (EMC) as per details given in Para 6.5.	Refer Chapter 6.

	Directors of the Company and/or shareholders or stakeholders at large may also be detailed in the EIA report.		
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.	Agreed and complied.	Refer Chapter 7
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
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.	Provided at para 3.14 and 3.15	Refer Chapter 3
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 because this is the river bed mining project	
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.	Not applicable, as there is no involvement of forest land in the project area. The same has been concluded in Point 3 of Joint Inspection Report.	Refer to Annexure III.
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	
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	
15.	The vegetation in the RF/PF areas in the study area, with necessary details, should be given.	No Reserved/Protected Forest areas are found in the study area.	
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.	Not Applicable	
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	No National Parks, Sanctuaries, Biosphere reserve, Wildlife Corridors, Tiger & Elephant Reserves falls within 10km of the mine lease.	

	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.	Certified copy of 500 m distance certificate is attached as Annexure IV.	
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 Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	Provided at para. 3.18 of Chapter 3. No endangered, endemic, RET species are present in the core and buffer zone.	
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.	Neither the project is near to critically polluted area nor likely to come under Aravalli range.	
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 in the 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 of village(s) including their R & R and socio-economic aspects should be discussed in the Report.	Not applicable	
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	Primary Baseline data on Ambient air quality, Water quality, Noise level, Soil, Flora and Fauna was collected during October 2023 to December 2023. Details are provided in para 3.13 to 3.21	Refer Chapter 3.

	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.		
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.	There is no point source of emission as the mining will be done manually.	Refer chapter 1
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 2.0 KLD water is required. The water will be sourced through tubewell.	Refer Annexure VIII.
25.	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Will be provided in Final EIA	
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 it is put use 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.	Provided at para 3.16, 3.16.1 and 3.16.2. 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.	Refer Chapter 3
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 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.	No, the mining operation will not intersect groundwater. All the precautions and rules shall be followed accordingly as mentioned in mine plan.	
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 Chakki Khad. No modification or diversion will be done. The mining will be done manually.	
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 highest point of the project site is 458 meters above MSL and the lowest point is 451 meters above MSL.	Refer table 3.1
31.	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the	500 number of plants is to be planted in the suitable private land as per	Refer Para 2.11 in chapter

	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.	the requirement.	2.
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.	An average 9-10 trucks will be required for the transportation of material through the approach road. Therefore, there will be no impact on transportation.	Refer Para 3.20 of Chapter 3
33.	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA report.	Local labour 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.	The mined-out area will remain a riverbed requiring no restoration and reclamation.	
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 for complied.	
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 along with budgetary allocation.	Though, mining would be done manually, and far away from pollution therefore there may not be major impact envisaged related to project activity. For reducing it upto minimum level all the step has taken in budget.	Provided at Chapter10
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 of Chapter 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.	Refer chapter10
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	Will be included in Final EIA report.	

	the final EIA/EMP Report of the Project.		
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.	Refer chapter 8
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. 25 Lakhs, EMP cost is Rs. 9.0 Lakhs. Recurring cost Rs. 2.8 lakhs.	Refer Chapter 9 and 10
42.	A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.	Agreed for complied.	Refer chapter 7
43.	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Agreed for complied.	Refer chapter 9

ADDITIONAL CONDITIONS

ADDITIONAL TOR			
1.	The project proponent shall also assess the air quality of the area using air quality models.	The air quality of area is assessed using the AEROMOD developed by American Meteorological Society and approved by CPCB.	Refer table and Fig 4.1
2.	The project proponent shall assess and provide comprehensive details of muck disposal in the final EIA/EMP report.	Since the mining area is a part of Chakki River (river bed) having no top soil cover, A mixture of silt and clay @4027 MTPA will be produced which will dumped out of the river bed after consulting local gram panchayat at a separate dumping site which can be later used for plantation and agricultural uses.	Refer table 2.9 of Chapter 2
3.	The project proponent shall submit updated DSR report of District Kangra & duly endorsed by SEIAA with the submission of application for grant of Environment Clearance.	The DSR will be provided once it is endorsed by SEIAA.	
4.	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.	The baseline monitoring was carried out during October 2023 to December 2023.	Refer Chapter 3

EXECUTIVE SUMMARY

1.0 PROJECT NAME AND LOCATION:

Sh. Ravi Verma, Partner M/s Shree Ram Stone Crusher, Village & P.O. Kandwal and Tehsil Nurpur, District-Kangra, Himachal Pradesh has been issued a **"Letter of Intent"** for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-105/2022-12574 on dated 22.03.2023 for the grant of mining lease area for the extraction of Stone, Bajri and Sand over an area situated in Khasra no. 692/1, 693/1 & 745/1 measuring 02-11-20 Ha, (Pvt land, River bed) falling in Mohal Maira Batrah, Mauza Maira Doomal, Tehsil Nurpur, District Kangra, Himachal Pradesh. Accordingly, the validity period of Letter of Intent is extended for further term of one-year w.e.f. 22.03.2024 onwards for the purpose of obtaining Environment Clearance. The letter for the same has been attached as Annexure I (b).

Based on a mining plan prepared by a registered Geologist and subsequently approved by the Industries Department, the project falls in category B2. However, due to cluster formation (Around 3 mining lease area existing within the 500m radius of the project site) the project is ***categorized as 'Cat. 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 stone, sand and Bajri during the five-year period is given below.

Showing Year-wise production programme

Period	Proposed area (in sqm)	Boulders (in MT)	Bajri (in MT)	Sand (in MT)	Silt and clay (in MT)	Total Potential (in MT)
1st year	17900	18124	10069	8055	4027	40275
2nd year	17900	18124	10069	8055	4027	40275
3rd year	17900	18124	10069	8055	4027	40275
4th year	17900	18124	10069	8055	4027	40275
5th year	17900	18124	10069	8055	4027	40275
Total						201375

Thus, during five-year total production of minerals shall be ***2,01,375 metric tons.***

3.0 WASTE DISPOSAL & ARRANGEMENT:

As the silt and clay are inseparable mine waste it will be stacked at the site after screening and washing. The boulders will be used to make grit in the pre-existing stone crusher unit. After the stone has been screened and cleaned, bajri will be used to make grit and M-sand, which will be sold on the open market. The material will be utilized for plantation work or approach road construction.

4.0 RECLAMATION PLAN:

The mined area being part of the river course cannot be reclaimed for any other purpose. The mining depth will be up to 2 meter or up to water level whichever is less, thus water regime will not be disturbed. The entire quarried area will be replenished and reclaimed by the river during monsoon. Thus, the topography or land use of the river bed will not change.

5.0 PLANTATION:

As the maximum part of the area lies within the HFL of the river and is flooded during the rainy season, therefore, it is not suitable land for the growth of any plantation or grassing etc. Suitable private land near the area will be identified by the leaseholder for re-grassing and plantation. The estimated year-wise area proposed for plantation is as under:

Table: - 2.10

Details of Year wise Plantation

Sr. No.	Year	Area in Sq. mtrs	No of plants to be planted
1.	**1st Year**	1000	100
2.	**2nd Year**	1000	100
3.	**3rd Year**	1000	100
4.	**4th Year**	1000	100
5.	**5th Year**	1000	100
Total		**5000**	**500**

The total cost of plantation including its maintenance for five years shall be approx. 3.0 Lakhs. The cost includes cost of plants, minerable and other labour activities.

6.0 PREVENTIVE RETAINING STRUCTURES:

As the whole of the mining lease area lies within the HFL of Chakki Khad, no retaining structures can be constructed.

7.0 MANPOWER REQUIREMENT:

Total production for five years = 201375

Total production for one year = 40275 MT

Total production for one day = 149 MT

No. of labours required for mining149 tons/day = 37

An estimated 37 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	6
Labors	28
Total	37

8.0 COST DETAILS:

Capital cost of the project is Rs 25.0 Lakh and that of EMP is Rs. 9.0 Lakh.

9.0 END USE OF MINERALS:

The boulders shall be used for the manufacturing of grit in the already established stone crusher unit and after screening/washing the stone and bajri shall be used for the manufacturing of grit and M-sand and the sand shall be sold in the open market. The material shall be used for approach road works or plantation work.

10.0 SITE DETAILS:

The mining lease area is situated in the river bed of Chakki River.

11.0 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 01.10.2023. to 31.12.2023.

12.0 AMBIENT AIR QUALITY:

The PM2.5, PM10, SO2, NO2, CO levels were monitored at eight locations in the study for three months study period. 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. The P98 levels of criteria pollutants are as follows: $PM_{2.5}$ is 35.55 µg/m^3, PM_{10} is 66.95 µg/m^3, SO_2 is 5.9 µg/m3, NO_2 is 9.95 µg/m^3 and CO is ND (Not Detected) mg/ m^3 (**Standards are 60, 100, 80 and 80µg/m3 for PM2.5, PM10, SO2,NO2 and CO respectively).**

13.0 WATER QUALITY:

Eight 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.

14.0 NOISE ENVIRONMENT:

Ambient noise levels were monitored at 8 locations in the study area. Noise levels in the study areavary from 50.5 dB (A) to 41.6 dB (A) in day time and 37.8 dB (A) to 31.5 dB (A) during night. The baseline noise levels at all locations are well within the CPCB standards for Noise.

15.0 ECOLOGICAL ENVIRONMENT:

Ecological data has been collected through secondary sources and by site visits. The tree species Drek, Tut, Kachnar, Simble, Siris, etc are the dominant plant species in the study area. Hare, Jackal, Monkey, Wild Boar, Common Mongoose, Crow, Indian Robin, Sparrow 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.

16.0 SENSITIVE ECOSYSTEM:

Within 5 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 5 km radius of the project site.

17.0 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.

18.0 POSSIBLE RISK AND ITS MANAGEMENT:

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.

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.

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

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 wastedumps.

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

- Rough access roads
- Time pressure
- Inadequate brakes
- Carelessly parked vehicles
- Unsafe coupling of trailer
- 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

19.0 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.

20.0 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.

21.0 BUDGET ALLOCATION OF ENVIRONMENT MANAGEMENT PLAN:

Details of expenditure on environment given below.

Expenditure on environmental measures

S. No.	Title	Capital Cost (Rs. InLacs)	Recurring Cost (Rs. In Lacs)/annum	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker through contract supply.	--	1.5	Twice a day & as perrequirement
2.	Green belt development. & its maintenance	3.0	0.50	With affect from thefirst monsoon afterthe grant of EC & completion within two years.
3.	Waste management.	3.0	0.50	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.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	3.0	0.05	As per mining regulations.
Total		**9.0**	**2.8**	

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 namely **Collection/ Extraction of Sand Stone and Bajri by Sh. Ravi Verma; Partner M/s Shree Ram Stone Crusher**. He intended to mine stone, bajri, and sand from the lease area which shall be used in the proposed stone crusher unit the grit and sand shall be sold in market as per demand.

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. This project is categorized as 'B' and its 'EC' lies with state government. The public consultation is to be conducted for the proposed project as three mining lease exists within 500m radius of the project site. Therefore, the project is categorized as 'B1'. Accordingly, the draft EIA report has been prepared for this purpose.

1.2 IDENTIFICATION OF THE PROJECT & PROJECT PROPONENT:

1.2.1 IDENTIFICATION OF THE PROJECT:

The mining lease area is situated in the Chakki Khad, a tributary of the Beas River near village Maira Batrah. The site is approachable through a link road originated from a place known as Naga Bari on the Pathankot- Mandi National Highway 154. The site is located at a distance of 10 kms from the Naga Bari Village. The local town Nurpur/Jassur and Pathankot is about 20 and 30 kms from the site respectively. The project is also well connected by road from major local towns like Kangra, Dharamshala, Damtal etc. The highest point of the applied mining lease area is 459 meters and lowest is 458 meters above mean sea level.

1.2.2 PROJECT PROPONENT:

Sh. Ravi Verma 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 has all the legal documents and competent to follow all the rules and regulation and stipulated conditions timely for those numerous documents has been granted from the requisite departments such as letter of intent has issued by the requisite authority.

1.4 BRIEF DESCRIPTION:

1.4.1 NATURE OF THE PROJECT:

The mining lease area is situated in the Chakki Khad, a tributary of the Beas River which contains Boulders, Sand, Bajri and Silt. The rocks along the bank belong to quaternary formation consisting of boulders. It has also observed that in this type of stream, the replenishment factor is 100% of the material excavated during the year. Additionally, in the lease area there are sufficient chance of deposition of minor minerals that's why mining shall be done every year as the material excavated up to the one-meter depth would be replenished during the rainy seasons.

1.4.2 SIZE OF THE PROJECT:

This is a small project for mining of Stone, Sand and Bajri having an area of about 02-11-20 which is proposed to do mining for five years, one time in year, accordingly total production of minerals for five years will be around 201375 MT and silt/clay@ 20138 MT as a mine waste will be produced.

1.4.3 LOCATION OF THE PROJECT:

The site is approachable through a link road originated from a place known as Naga Bari on the Pathankot- Mandi National Highway 154. The site is located at a distance of 10 kms from the Naga Bari Village. The local town Nurpur/Jassur and Pathankot is about 20 and 30 kms from the site respectively. The details for the same given in table 1. Figure 1.3 shows coordinates of the lease area.

Table 1.1

REVENUE DETAILS OF THE APPLIED MINING LEASE AREA

Khasra Number	692/1, 693/1 and 745/1
Area in Hectares	02-11-20
Mauza & Mohal	Maira Dhoomal/ Maira Batrah
Owner	Private Land
Kism	Gair Mumkin Khad
Name of the Panchayat	Haddal

1.4.4 DETAIL OF ROAD TRANSPORT:

The mining site is located in the river bed of Chakki Khad near the village Maira Bartrah and there is very low to no traffic from the mining lease area to the stone crusher site. However, for the transportation of the loaded vehicles to the nearest approach road. The vehicles may pass through private as well as govt. land. The project proponent shall made necessary arrangements between land owners (Pvt. & Govt.) and will take care of other issues if any at his own for material transportation to the nearest road.

The site is approachable through a link road originating from a place known as Naga Bari on the Pathankot- Mandi National Highway 154. As per maximum proposed production 149 metric tonnes of material shall be transported per day for which an average of ***9-10 T*** @15 MT capacity area required. Details for the same is provided below:

Total Production for 5 years including silt and clay	201375 MT
Total Production for 1 year	40275 MT
No. of working days	270
Total production for 1 one day	149 MT
Capacity of trucks/tippers	15 MT
No. of trucks/tippers	9-10

FIGURE – 1.1

LOCATION MAP (FROM INDIA MAP TO LOCAL MAP)

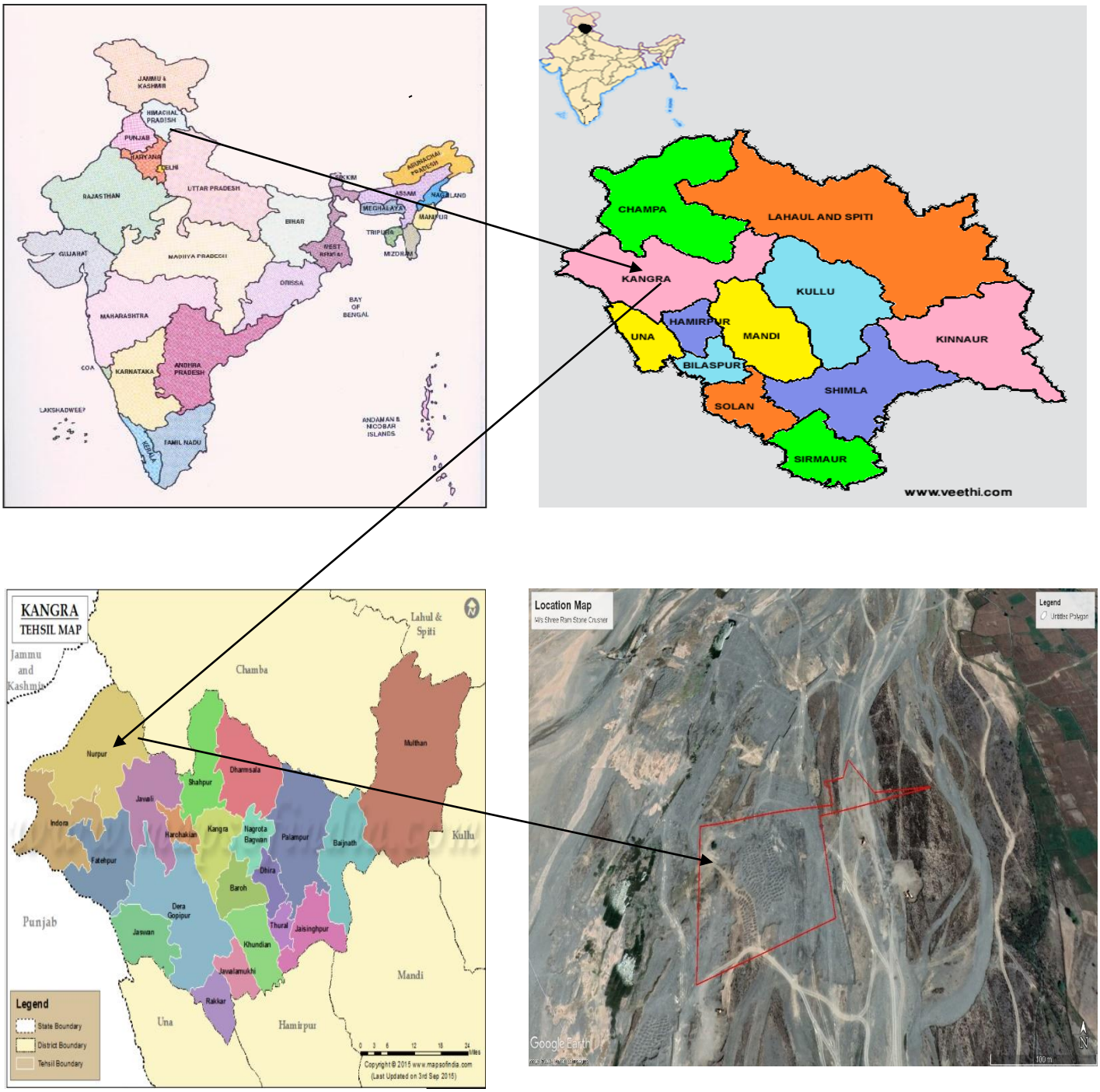
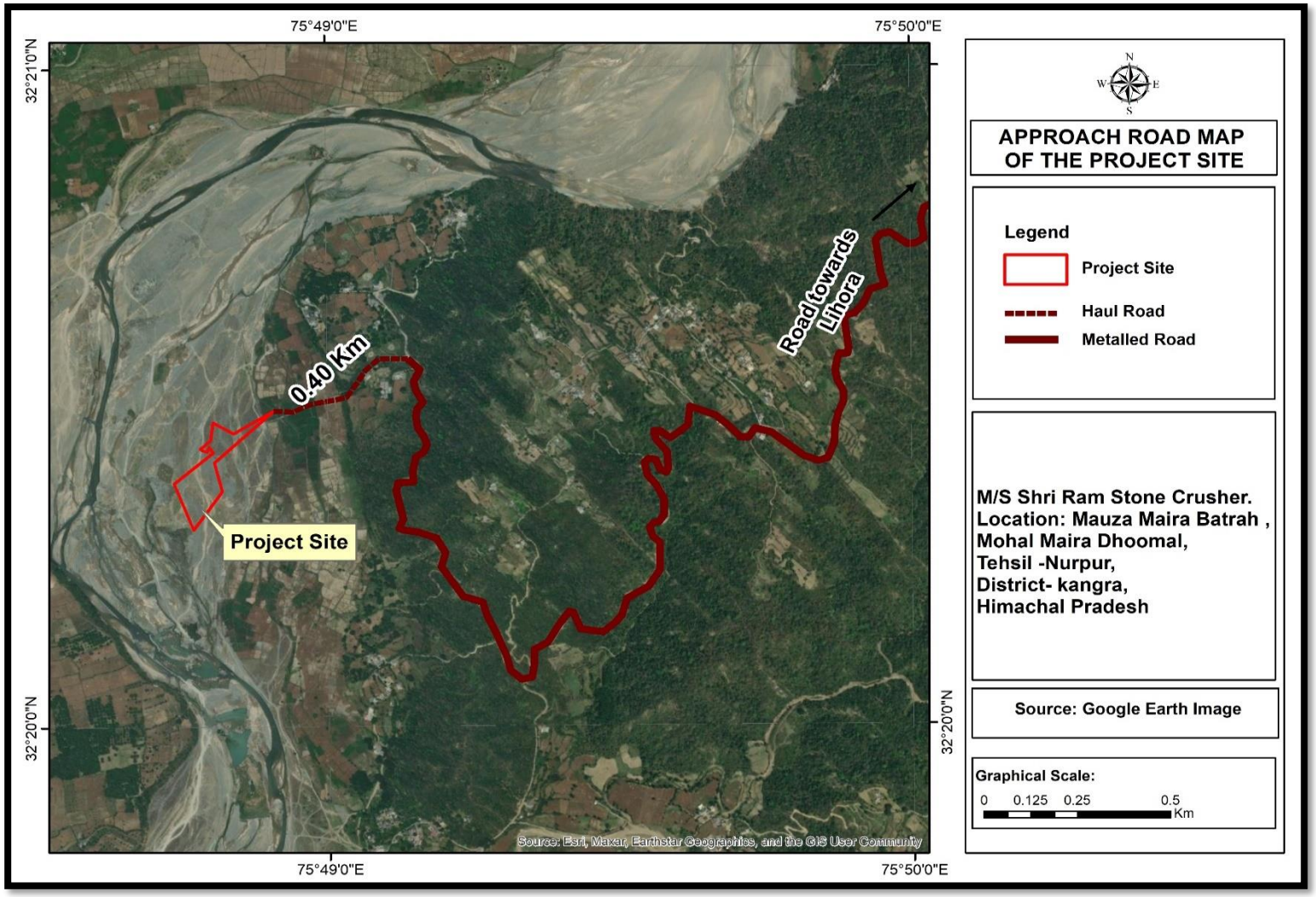


FIGURE 1.2

SATELITE IMAGE SHOWING THE MINING AREA

FIGURE 1.3

IMAGE SHOWING LOCATION APPROCH ROAD TO 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 physiographical study 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 River-bed. 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. Ravi Verma; Partner M/s Shree Ram Stone Crusher has proposed a new project of non-coal mining for obtaining E.C from the concerned authority having production capacity is 40275 MTPA. According to EIA notification and subsequent amendments it is a 'B2 Category' project of serial no. 1(a) of EIA notification. However, due to cluster formation (Around 3 mining lease area existing within the 500m radius of the project site) the project is categorized as ***'Cat. B1'***; certificate for the same has been attached as **Annexure IV**. In this project, mining of minor minerals is manual in the river bed having an area measuring 02-11-20 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:

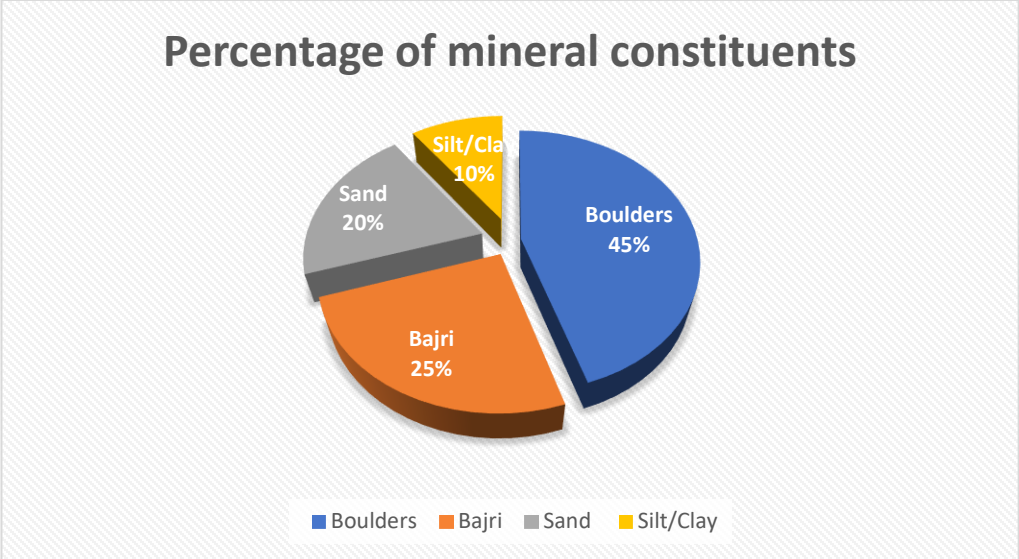
The reserve of all the constituents of river borne material have been calculated for the mineable area of 17900 sqm meters. The reserves have been calculated year wise for five years mining assuming that the excavated pits during previous year mining will be fully replenished with the new crop of minerals.

Details of the production of the sand, stone & bajri from first to fifth year are given below.

Table: - 2.1 Showing year-wise production programme of mining in mineable area

Period	Proposed area (in sqm)	Boulders (in MT)	Bajri (in MT)	Sand (in MT)	Silt and clay (in MT)	Total Potential (in MT)
1st year	17900	18124	10069	8055	4027	40275
2nd year	17900	18124	10069	8055	4027	40275
3rd year	17900	18124	10069	8055	4027	40275
4th year	17900	18124	10069	8055	4027	40275
5th year	17900	18124	10069	8055	4027	40275
Total						201375

Thus, during five-year total production of minerals shall be ***2,01,375 metric tons.***



2.3 DEVELOPMENT AND PRODUCTION:

The mining lease area lies in the riverbed of Chakki River which gets adequately replenished during monsoon as well as during winter rains when the river gets heavy load for a short period. The river levels rises up to 1.5 to 2.0 meters sometimes even during the non-rainy season whenever the gates of Jataun Barrage are opened for de-silting purposes. The mining has been planned in the full block up to a depth of 1.00 meter to give a better chance for replenishment. The worked-out block shall get replenishment during monsoon and winter rains for recharging the worked-out area and the worked-out area shall be fully replenished. Total 17900 square meters of area shall be available for working every year. Geological plan for the same given as **figure 2.1.**

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

- Mining of **91000** square meters of material is proposed to be mined in from the lease area.
- 18124 metric tons of Boulder, 10069 metric tons of Bajri and 8055 metric tons of sand will be produced as a saleable mineral.
- 4027 metric tons of silt & clay will be generated as waste.

Hence, no topsoil is generated.

The production of each mineral constituent is as under: -

Table: 2.2 Production of mineral and mine waste during first year in metric tonnes:

Name of mineral	Quantity in metric tonnes
Boulder	18124
Bajri	10069
Sand	8055
Clay/Silt	4027
Total	**40275**

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

- Mining is proposed in 17900 Sqm area in the river bed.
- 18124 metric tons of boulders and 10069 metric tons of bajri will be produced for manufacturing of Grit.
- 8055 metric tons of sand will be produced as a saleable mineral.
- 4027 metric tons of silt/clay as mine waste will be generated.

No top soil will be generated.

The production of each mineral constituent is as under: -

Table: 2.3

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

Name of mineral	Quantity in metric tonnes
Boulder	18124
Bajri	10069
Sand	8055
Clay/Silt	4027
Total	**40275**

2.3.3 DEVELOPMENT AND PRODUCTION AT END OF THIRD YEAR:

- Mining is proposed in 17900 sqm area in the river bed.
- 18124 metric tonnes of boulders and 10069 metric tonnes of bajri will be produced

for manufacturing of grit.

- 8055 metric tonnes of sand will be produced as a saleable mineral
- 4027 metric tonnes of silt/clay as mine waste will be generated

No top soil will be generated.

The production of each mineral constituent is as under: -

Table: 2.4

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

Name of mineral	Quantity in metric tonnes
Boulder	18124
Bajri	10069
Sand	8055
Clay/Silt	4027
Total	**40275**

2.3.4 DEVELOPMENT AND PRODUCTION AT END OF FOURTH YEAR.

- Mining is proposed in 17900 sqm area in the river bed.
- 18124 metric tonnes of boulders and 10069 metric tonnes of bajri will be produced for manufacturing of grit.
- 8055 metric tonnes of sand will be produced as a saleable mineral
- 4027 metric tonnes of silt/clay as mine waste will be generated

No top soil will be generated.

The production of each mineral constituent is shown in table 2.5: -

Table: 2.5

Production of mineral and mine waste during fourth year in metric tonnes

Name of mineral	Quantity in metric tonnes
Boulder	18124
Bajri	10069
Sand	8055
Clay/Silt	4027
Total	**40275**

2.3.5 DEVELOPMENT AND PRODUCTION AT END OF FIFTH YEAR:

- Mining is proposed in 17900 sqm area in the river bed.
- 18124 metric tonnes of boulders and 10069 metric tonnes of bajri will be produced for manufacturing of grit.
- 8055 metric tonnes of sand will be produced as a saleable mineral
- 4027 metric tonnes of silt/clay as mine waste will be generated

No top soil will be generated.

The production of each mineral constituent is as under: -

Table: 2.6

Production of mineral and mine waste during fifth year in metric tonnes

Name of mineral	Quantity in metric tonnes
Boulder	18124
Bajri	10069
Sand	8055
Clay/Silt	4027
Total	**40275**

2.4 END USE OF MINERAL:

The boulders shall be used for the manufacturing of grit in the already established stone crusher unit and after screening/washing the stone and bajri shall be used for the manufacturing of grit and M-sand and the sand shall be sold in the open market. The material shall be used for approach road works or plantation work.

2.5 GEOLOGY:

The geology of the catchment Area:

The rock of the Chakki Khad catchment comprises the Siwalik Group. 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 size of 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 Group is divisible into threesub-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 basinin NW to the Arunachal foot-hill in SE. In the Himachal Himalaya it has maximum width betweenHoshiarpur and Joginder Nagar.

The Siwalik sediments through occurring as an independent structural belt, are also seen to overliethe 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 theRawalpindi 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 Hari Talyangar 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 Upperon 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 2.7 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 conglomerateand 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 a part of riverbed of Chakki River near the village Maira Batrah containing channel alluvium comprising of Boulders, Cobbles, Pebbles, River Borne Bajri, Sand and Clay deposits. Siwalik rocks are present in the upstream as well as in and around mining area and sediments of quartzite, granite and sandstone are noticeable which are rounded to sub rounded. The boulders, cobbles and pebbles are hard in nature and suitable for manufacturing of angular grit.

2.6.1. The description of Annual Deposition with respect to geology of catchment area:

As the stream is perennial in nature, it comprises Tertiary and Quaternary age of sandstone, conglomerate, clay, gravels beds, sand with pebbles of sandstone and lenses of clay. The banks also comprise of boulder bed. These rocks are soft in nature, unconsolidated, fractured and jointed due to structural discontinuities prone to erosion. The annual deposition of 5.0 cm to 25.0 is observed in the area depending upon the location and site conditions. The area is fully replenished by sediments transport during periods of higher flows i.e. during the monsoon/rainy seasons. Hence, it has been observed that the replenishment factor is 100% of the material excavated during the year. Therefore, the material excavated up to one-meter depth shall be replenished during the rainy/monsoon season.

2.7 RESERVES ESTIMATE:

2.7.1 Percentage wise Distribution of stone, gravel sand etc.

The different constituents of river borne deposits such as Boulder, Bajri, Sand and silt, clay based on size classification were considered for reserve calculation. Although it is not possible to mark these units separately on the geological map therefore, two pits at different locations of 1x1x1 meter dimensions were got dug in the Mining Area and material so excavated was separated into different size and their percentage was worked out and the percentage was taken in to account during calculation of reserves. The results of the test pit dug are given in the following table 2.8

Table 2.8

Showing %age of minor mineral constituents

Table showing %age of minor mineral constituents	
BOULDERS	40%
BAJRI	25%
SAND	20%
SILT & CLAY	15%

2.7.2 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. As per information gathered on previous and ongoing development works like construction of Bridges and Bore wells by the PWD and I&PH department respectively, the average depth of sediments in and around the Mining Area is less than 3.0 meters. However, for calculation of Geological reserves, the depth has been taken upto 2.0 meters. The geological reserves are shown under:

Showing Geological Reserves in metric Tonnes

Area (in sqm)	**Specific gravity**	**Depth (in meters)**	**Availability of Mineral (in MT)**
21120	2.25	3	142560 MT

2.7.3 ESTIMATE OF MINEABLE RESERVES OF EACH MINERAL:

Although the average sediment depth in the mining lease area is anticipated to be greater than 3.00 meters over the entire applied lease area, mineable reserves were computed in the lease area up to a depth of one meter in accordance with river bed mining policy standards. As a safety measure for the nearby area, a buffer zone is maintained from the mining lease boundary's edge. Hence the available mining area is about 17900 Sq. m. The Mineable reserves up to the depth of One meter are given below:

Total applied (in sqm)	Total mineable area available (in sqm)	Depth (in meters)	Specific gravity	Availability of Mineral (in MT)
21120	17900	1	2.25	40275

2.8 RECLAMATION PLAN:

The mined area being part of the river course cannot be reclaimed for any other purpose. The mining depth will be up to 2 meter or up to water level whichever is less, thus water regime will not be disturbed. The entire quarried area will be replenished and reclaimed by the river during monsoon. Thus, the topography or land use of the river bed will not change.

2.8.1 WASTE DISPOSAL ARRANGEMENT:

The applicant is intending to install mechanical screener for sorting the different sizes constituent of river borne material for sale in the open market. The silt/clay are likely to be generated as a mine waste because this material does not have a ready to sell market. Since, the mining lease area is a part of river bed, as such, on such land form, there is no possibility of occurrence of any soil cover. The year wise generation of silt/clay is shown in the following table 2.9

Table: - 2.9

Showing Year wise generation of silt and clay

S. No.	Year	Quantity of Silt and clay (MT)
1.	**1st year**	4752
2.	**2nd year**	4752
3.	**3rd year**	4752
4.	**4th year**	4752
5.	**5th year**	4752
Total		**23760**

2.8.2 YEAR WISE DISPOSAL OF MINE WASTE:

As the silt and clay are inseparable mine waste it will be stacked at the site after screening and washing. The boulders will be used to make grit in the pre-existing stone crusher unit. After the stone has been screened and cleaned, bajri will be used to make grit and M-sand, which will be sold on the open market. The material will be utilized for plantation work or approach road construction.

2.9 TOP SOIL UTILISATION:

Since the mining lease area is part of river bed, as such there is no possibility of presence of any soil cover on such land form.

2.10 PREVENTIVE RETAINING STRUCTURES:

As the whole of the mining lease area lies within the HFL of Chakki Khad, no retaining structures can be constructed.

2.11 PLANTATION WORK:

As the maximum part of the area lies within the HFL of the river and is flooded during the rainy season, therefore, it is not suitable land for the growth of any plantation or grassing etc. Suitable private land near the area will be identified by the leaseholder for re-grassing and plantation. The estimated year-wise area proposed for plantation is as under:

Table: - 2.10

Details of Year wise Plantation

Sr. No.	Year	Area in Sq. mtrs	No of plants to be planted
1.	**1st Year**	1000	100
2.	**2nd Year**	1000	100
3.	**3rd Year**	1000	100
4.	**4th Year**	1000	100
5.	**5th Year**	1000	100
Total		**5000**	**500**

The total cost of plantation including its maintenance for five years shall be approx. 3.0 Lakhs. The cost includes cost of plants, minerable and other labour activities.

2.12 MANPOWER DEVELOPMENT:

Total production for five years = 201375

Total production for one year = 40275 MT

Total production for one day = 149 MT

No. of labours required for mining149 tons/day = 37

An estimated 37 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	6
Labors	28
Total	37

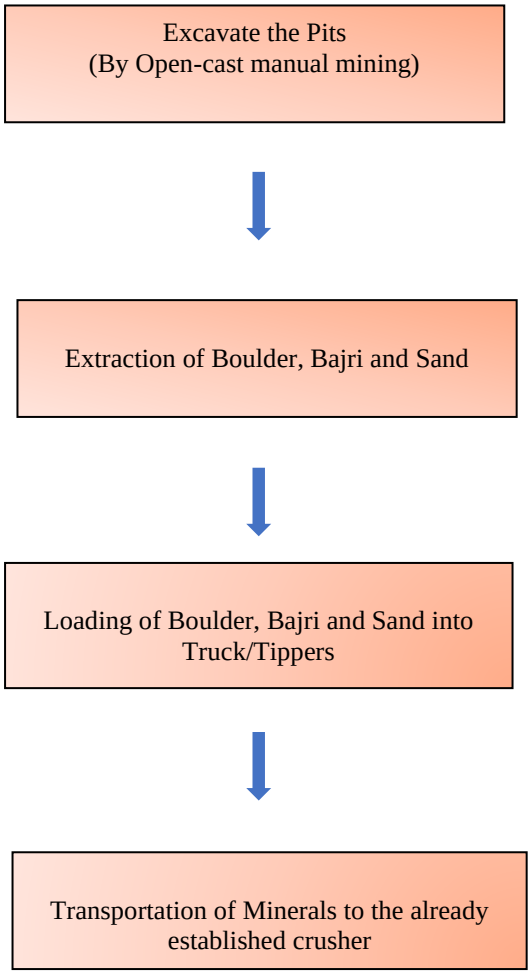
2.13 TYPE OF MINING & MINING METHOD:

The mining method shall be adopted to facilitate the replenishment of the excavated pits during rainy season. The Mining is suggested on rotation basis in such a way that pit of previous year mining will act as depository for the post monsoon season. Thus, each block will be mined to a depth of one meter alternately in the alternate year.

The mining method adopted is of open cast mining.

- The depth of mining will be one meter only.
- No blasting will be involved.
- The method of mining will be manual. No mechanical work/ JCB allowed in the mining lease area.

- Natural course of river shall not be disturbed & especially step shall be taken to control the soil erosion.
- Water sprinkling shall be carried out on approach road and proper covered material during the transport from mining area.
- The mining operations in the lease area are confined to day light hours, from 9 A.M. to 6 P. M.
- The material is sorted manually at mining site and sand is separated from stone and Bajri.
- The sorted stone and Bajri is than loaded into tipper trucks / tractor trolleys by
- shovels and pans and mechanically and transported to already established crusher.



2.14 WATER REQUIREMENT:

Total amount of water required for the project is 2.0 KLD. Water will be sourced from tubewell. A water storage tank of appropriate capacity shall be provided for domestic use. About 1.0 KLD will be required for dust suppression and plantation purpose and about 1.0 KLD for domestic purposes.

FIGURE-2.1

GEOLOGICAL PLAN

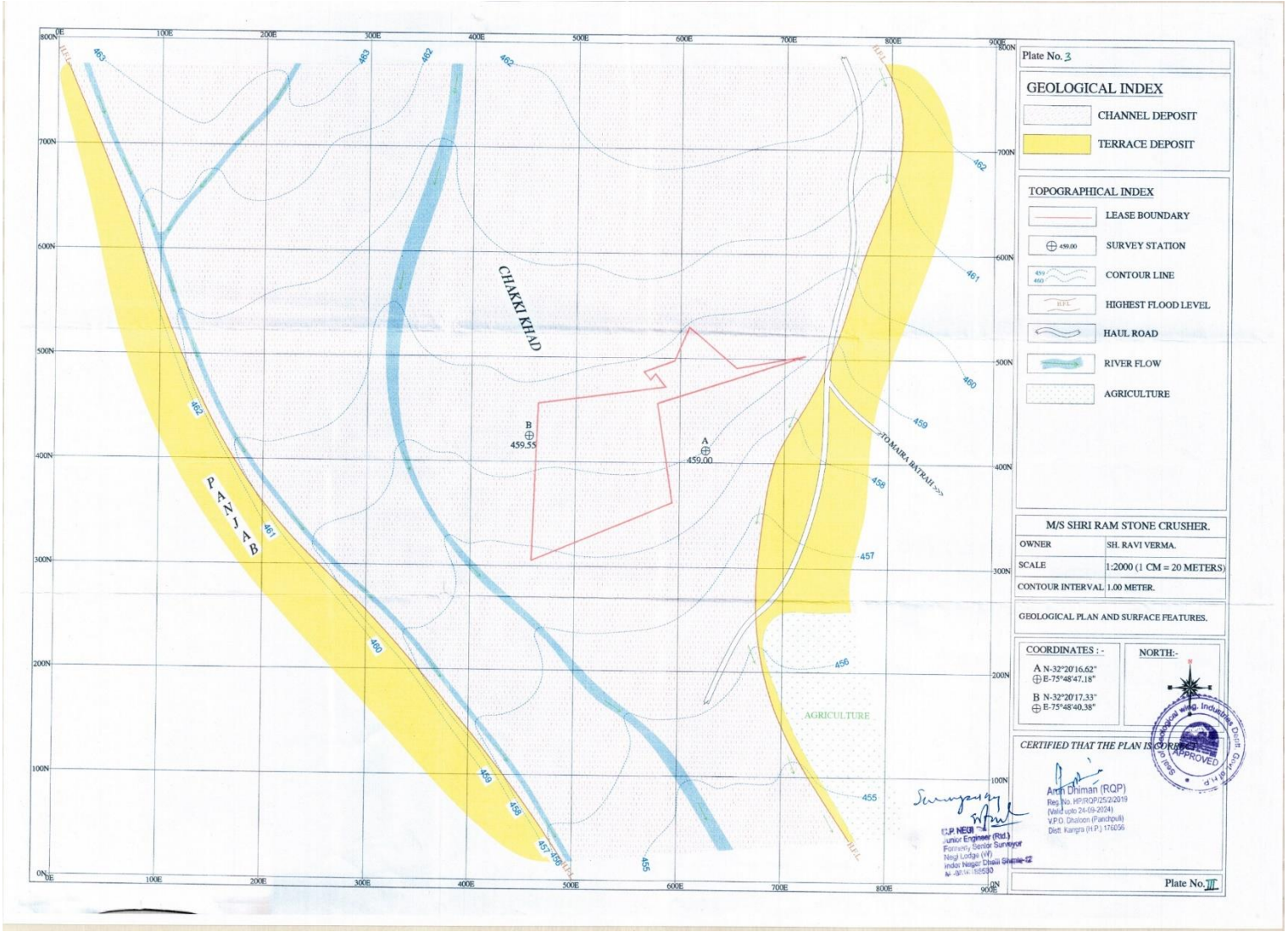


FIGURE-2.2

PIT PLAN FOR 1ST TO 5TH YEAR

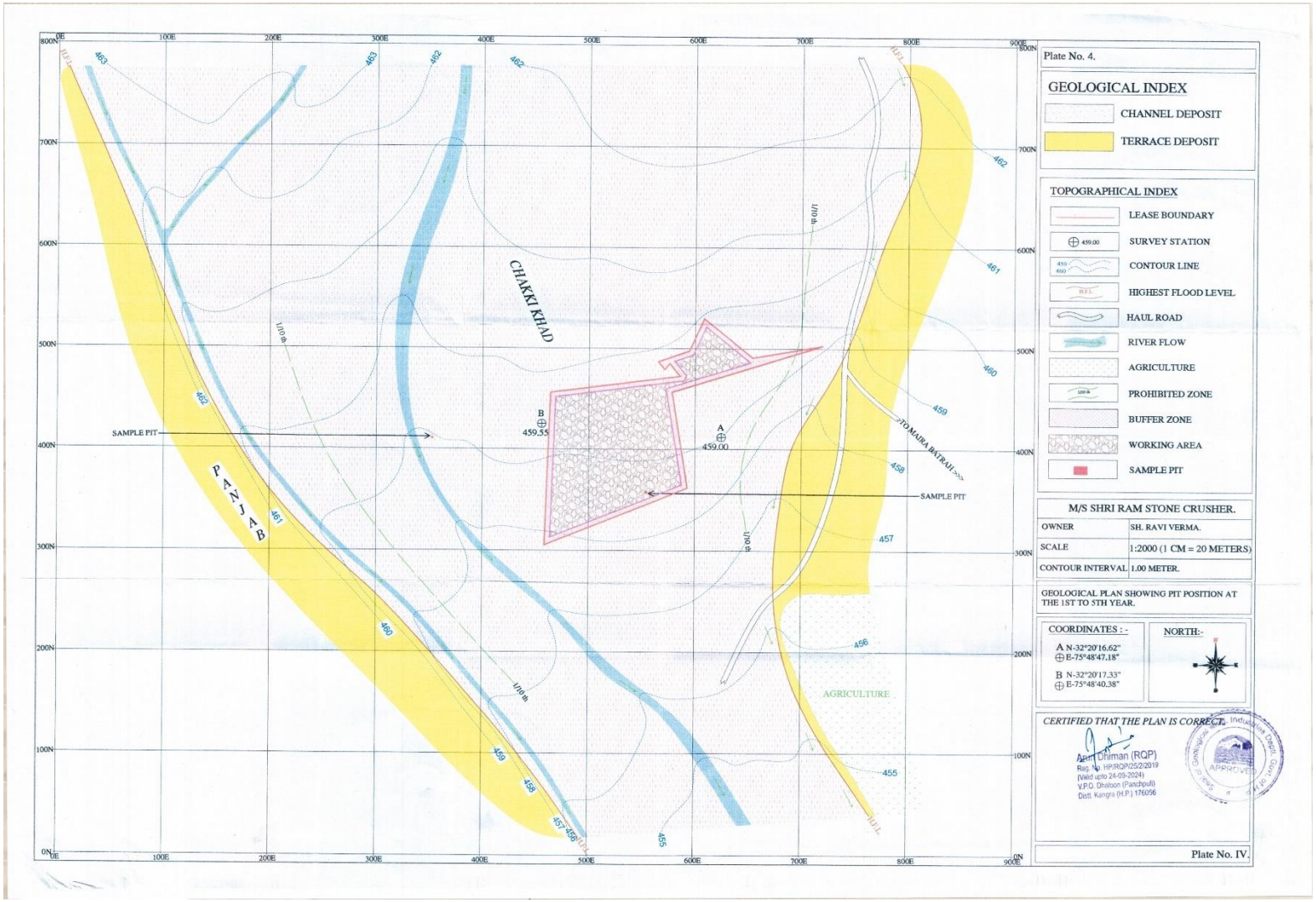
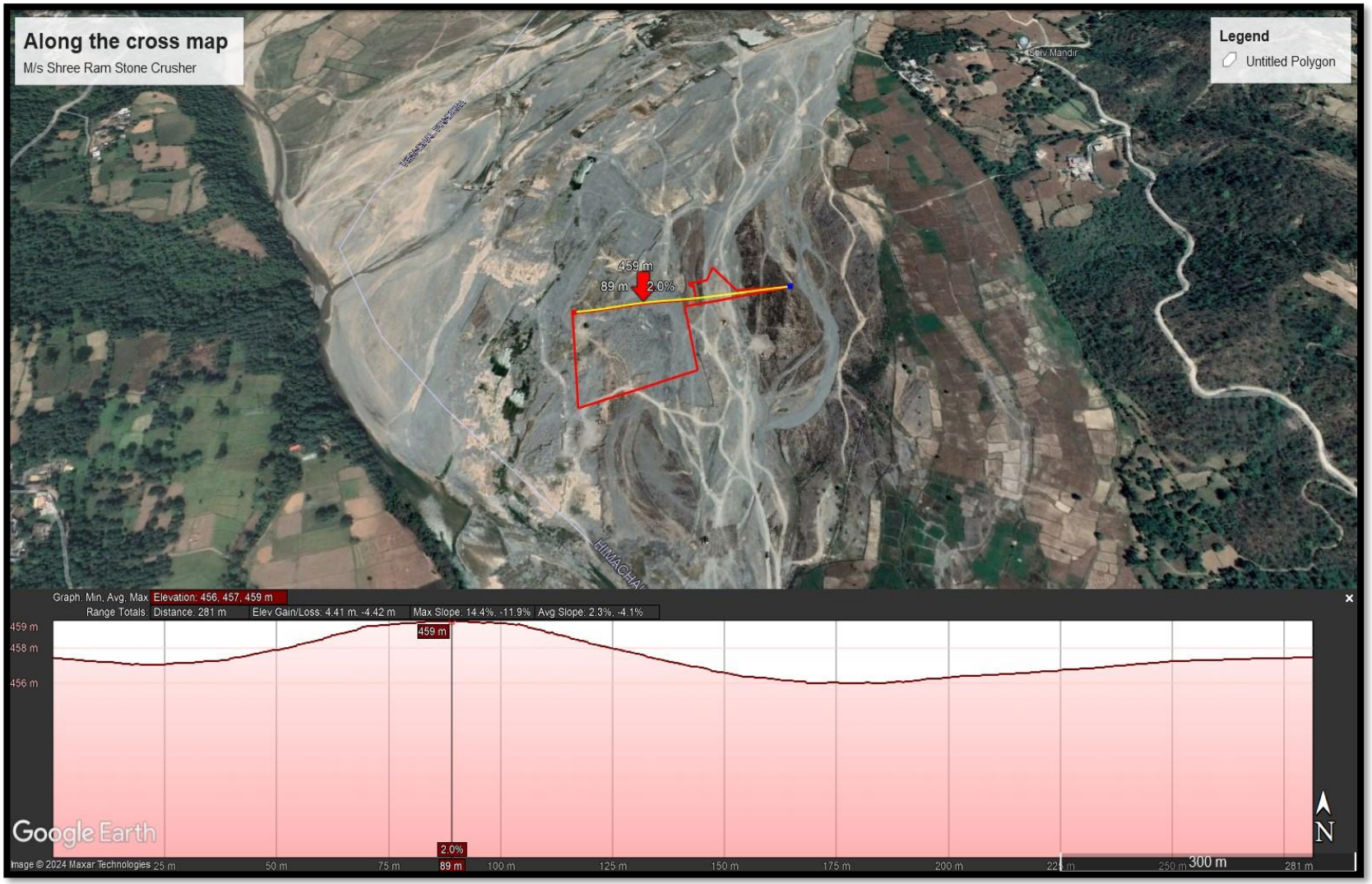


FIGURE 2.3

CROSS SECTION MAP ACROSS THE MINING AREA

FIGURE 2.4

CROSS SECTION MAP ALONG 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 Northernpart 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 beautifulscenic 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 tourists sites had 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 bigreserve 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, Pharmaceuticalsand Liquor can be found in good number at different places in the State. Hydel Power in the State has given a big boost to the 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 KANGRA DISTRICT:

Kangra district is one of the twelve districts of the state of Himachal Pradesh, India. The District forms a north-western part of the Himachal Pradesh, bounded in the north by Chamba district, on the north-east it touches Lahul & Spiti district, On the east it is bounded by Kullu district, on the South by Mandi, Hamirpur and Una district and on the West by Punjab state. The district lies between 31°41′0" and 32°28′05" in north latitudes and between 75°35′34" and 77°04′46" in east longitudes. The district has a total area of 5739 sq.kms which covers 10.31 percent area of the state. The district consists of series of parallel mountain ranges divided by longitudinal the general direction of which, from north-west to south-east, has determined the shape of the district. Dhauladhar is the most

important mountain range of the district which stretched out beautifully facing the fertile valleys of Palampur and Kangra. Dhauladhar range starts from the right bank of the river Beas and forms boundary of the district with Kullu district. Therefore, the range passes through Banghal area above Kangra and Palampur valley covering Bara Banghal ridge. The Paprola range shuts out Bara banghal from kangra valley and this range after crossing Binwa at Paprola runs on to Mandi where it acquires the name of Sikandar Dhar. Kangra is also a home to mango trees. Kangra have the "Hilly & Chilly" type of climate found in most of Himachal Pradesh. During winter, the climate is cold but pleasant when woolens are required after August upto end of April. During summer the temperature is hot and cottons are recommended. Temperature does sometimes cross the 31.6°C mark in summers.

3.3 PROJECT SITE:

The site is approachable through a link road originated from a place known as Naga Bari on the Pathankot- Mandi National Highway 154. The site is located at a distance of 10 kms from the Naga Bari Village. The local town Nurpur/Jassur and Pathankot is about 20 and 30 kms from the site respectively. 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 lease area showing in Fig. 3.2 and 500-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>Details</th></tr>
<tr><td>1.</td><td>Location</td><td></td></tr>
<tr><td>a)</td><td>Mohal/Mauza</td><td>Maira Batrah/ Maira Doomal</td></tr>
<tr><td>b)</td><td>Tehsil</td><td>Nurpur</td></tr>
<tr><td>c)</td><td>District</td><td>Kangra</td></tr>
<tr><td>d)</td><td>State</td><td>Himachal Pradesh</td></tr>
<tr><td>2.</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>32°20'24.32"N</td><td>75°48'50.36"E</td></tr>
<tr><td>P2</td><td>32°20'22.90"N</td><td>75°48'45.00"E</td></tr>
<tr><td>P3</td><td>32°20'19.94"N</td><td>75°48'45.41"E</td></tr>
<tr><td>P4</td><td>32°20'17.85"N</td><td>75°48'39.71"E</td></tr>
<tr><td>P5</td><td>32°20'22.23"N</td><td>75°48'34.84"E</td></tr>
<tr><td>P6</td><td>32°20'25.21"N</td><td>75°48'46.05"E</td></tr>
</table>
</td></tr>
<tr><td>3.</td><td>Elevation</td><td>The highest point of the project site is 458 meters above MSL and the lowest point is 451 meters above MSL.</td></tr>
<tr><td>4.</td><td>Climatic Conditions</td><td></td></tr>
<tr><td>i.</td><td>Temperature Min/Max</td><td>
<table>
<tr><td>Winter C°</td><td>Summer C°</td><td>Rainy C°</td></tr>
<tr><td>Min 5.7</td><td>Min 20.7</td><td>Min. 19.2</td></tr>
<tr><td>Max. 15.9</td><td>Max. 30.6</td><td>Max. 28.2</td></tr>
</table>
</td></tr>
<tr><td>ii.</td><td>Rainfall: Average,</td><td>1920.9 mm approx.</td></tr>
<tr><td>iii.</td><td>Relative Humidity, % (average annually)</td><td>Summer 55%, Monsoon 99%.</td></tr>
<tr><td>iv.</td><td>Wind speed, Kms/hour</td><td>0.82- 9 Km (approx.)</td></tr>
<tr><td>5.</td><td>Nearest Highway/ Road</td><td>NH-154A (7.0 Km towards W direction)/ Link road (500m.)</td></tr>
<tr><td>6.</td><td>Nearest railhead/Railway station</td><td>Nurpur Railway station (7.31 Km towards S Direction)</td></tr>
</table>

7.	**Nearest airport**	Gaggal Airport (47.0 km towards SE direction)
8.	**Nearest Major City**	Nurpur (7.0 Km)
9.	**Nearest Major Settlement.**	Nurpur (7.0 Km)
Features within 5 kms		
i.	**Archaeological important places.**	Nil
ii.	**Wild life/ Elephant & Tiger pl sanctuaries**	Nil
iii.	**Industries**	Nil
iv.	**State boundary**	Punjab
v.	**Mining type**	River bed of Chakki Khad.

FIGURE- 3.1

10 KM BUFFER AREA

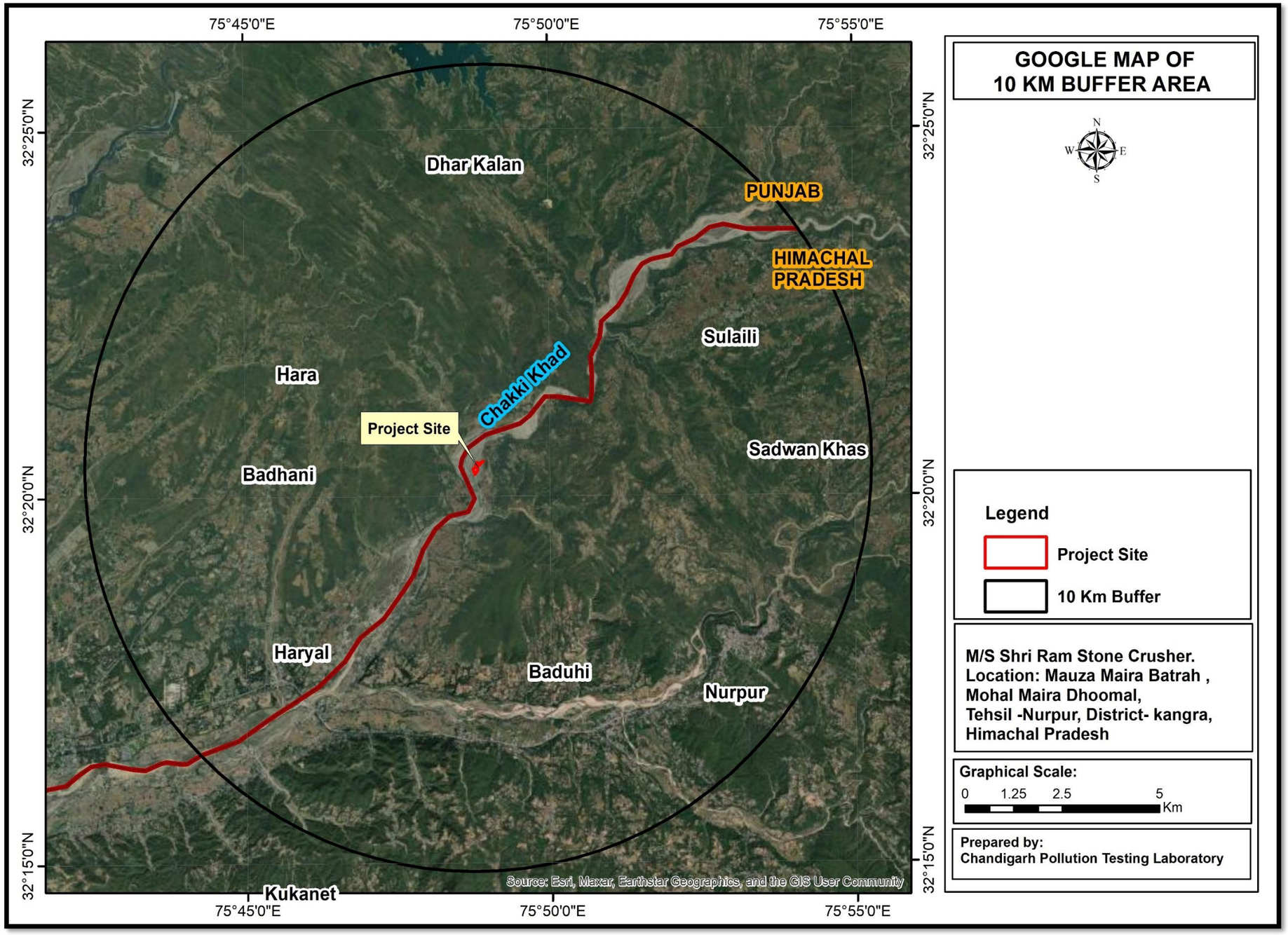


FIGURE- 3.2

PILLAR CO-ORDINATES MAP

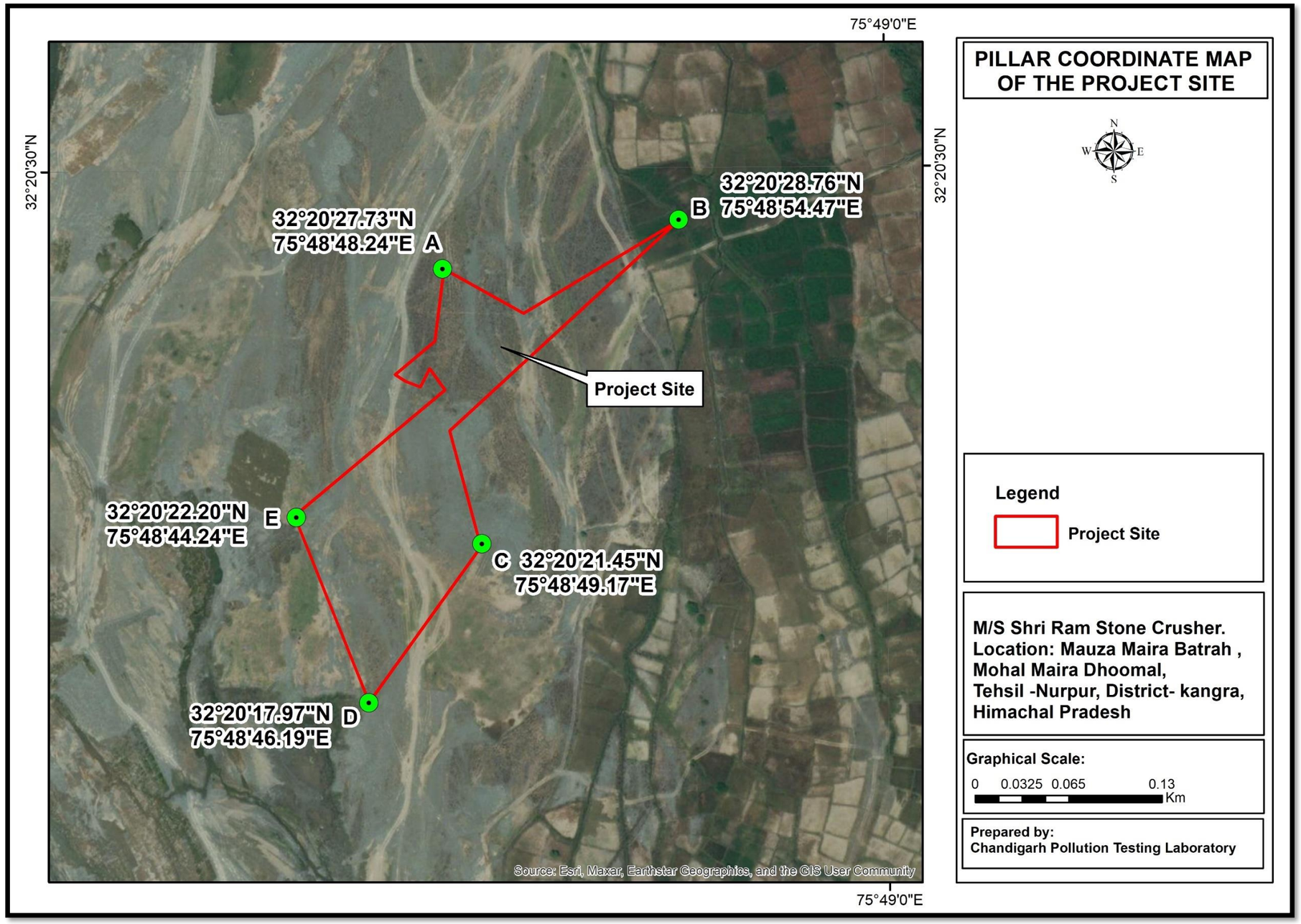
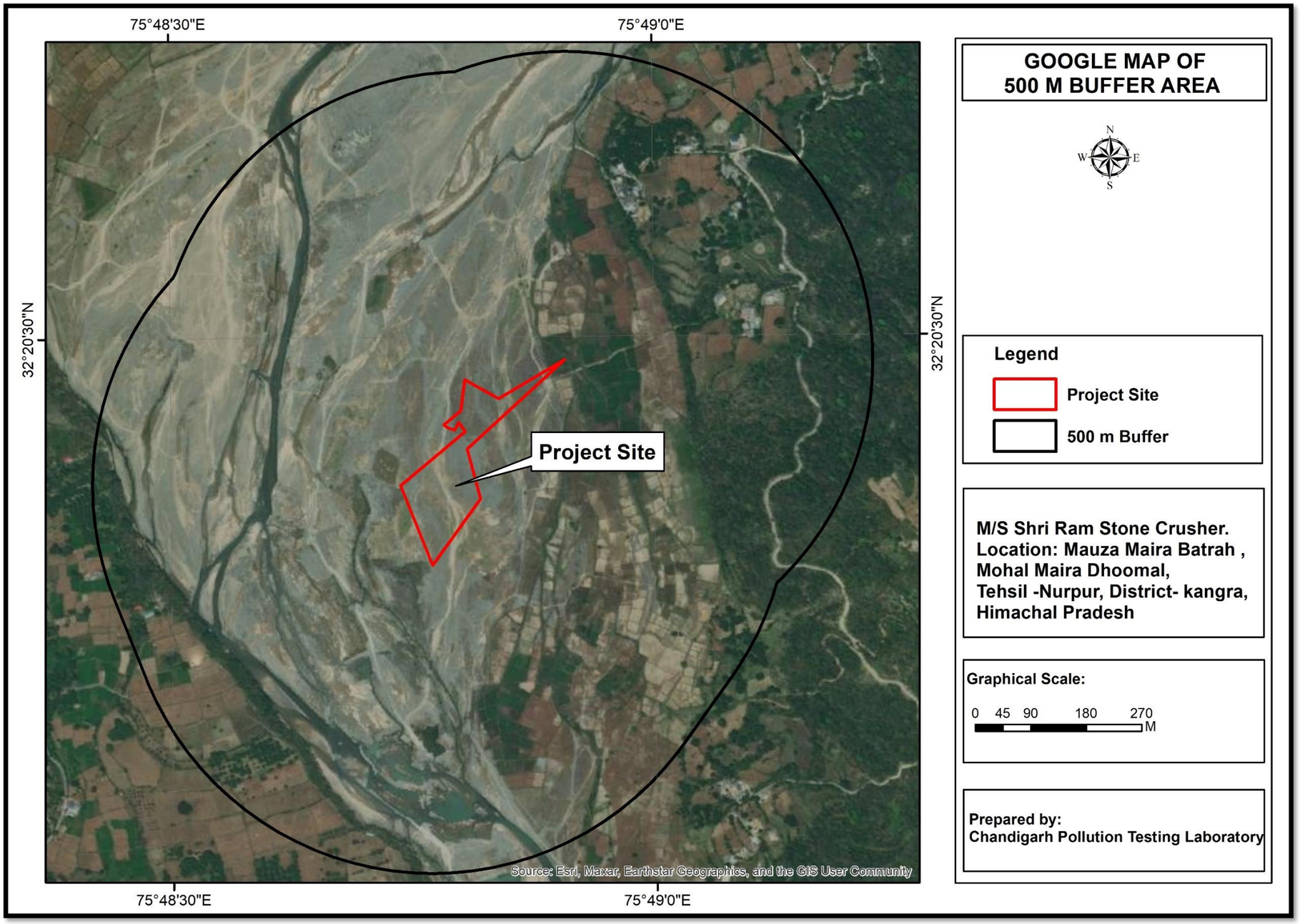


FIGURE- 3.3

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 ***October 2023 to December 2023.*** In addition, certain aspects likeland 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 ***October 2023 to December 2023***. 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 biological environment of the study area, the concept of impact zone has been considered. The impact zone selection is based on preliminary screening and modelling studies. The methodologies forvarious 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 ***October 2023 to December 2023.***

The guidelines for selections ofambient air monitoring stations given in IS – 5182 part 14, 2000 and 'Guidelines for AmbientAir 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

Meteorological data of the project site has been used for the study. The important parameters considered are temperature, humidity, wind speed, wind direction, and rainfall.

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 aseason. 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 longterm 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 Kangra.

3.6 CLIMATE:

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

3.7 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 2.8^{o} C minimum to about 31.6^{o} C maximum during the year. Monthly average temperatures of the area are given in **Table-3.2**

Table - 3.2

Monthly Average Temperature

Month	Mean Temperature (^{o}C)	
	Daily Maximum	**Daily Minimum**
Jan	**9.3**	**2.8**
Feb	**14.7**	**5.9**

Mar	**16.4**	**7.9**
Apr	**22.0**	**11.2**
May	**26.0**	**15.0**
Jun	**28.9**	**18.3**
Jul	**31.6**	**19.0**
Aug	**27.2**	**18.2**
Sep	**28.9**	**17.4**
Oct	**24.9**	**14.6**
Nov	**17.0**	**8.4**
Dec	**13.9**	**4.6**

3.8 RAINFALL:

Rainfall varies significantly with altitude of the 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 starts from July and extends up to last week of August. As per IMD Year wise rainfall data for this zone is given in **Table-3.3**

TABLE - 3.3

YEARL WISE AVERAGE RAINFALL (mm)

Year	2015	2016	2017	2018	2019	2020	2021
Average Rainfall in mm (Kangra District)	1996.5	1602.5	1993.1	2019.8	1920.9	1781.0	1787.7
Average Rainfall in mm (Himachal Pradesh)	1225.4	917.7	1544.5	1182.2	1232.2	1149.5	1031.6

Source: approved mining plan

3.9 HUMIDITY:

During summer season, humidity is lowest 36%. During monsoon month, it goes as high as 80-90%. The average humidity during synoptic hours is 53% and 62% respectively. The highest level of humidity are observed in the month of August.

3.10 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.

3.11 WINDS:

The Wind direction in the area is mostly from South-West to North-East. During January to May 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 Rose Diagram.

3.12MICRO METEOROLOGY AT SITE:

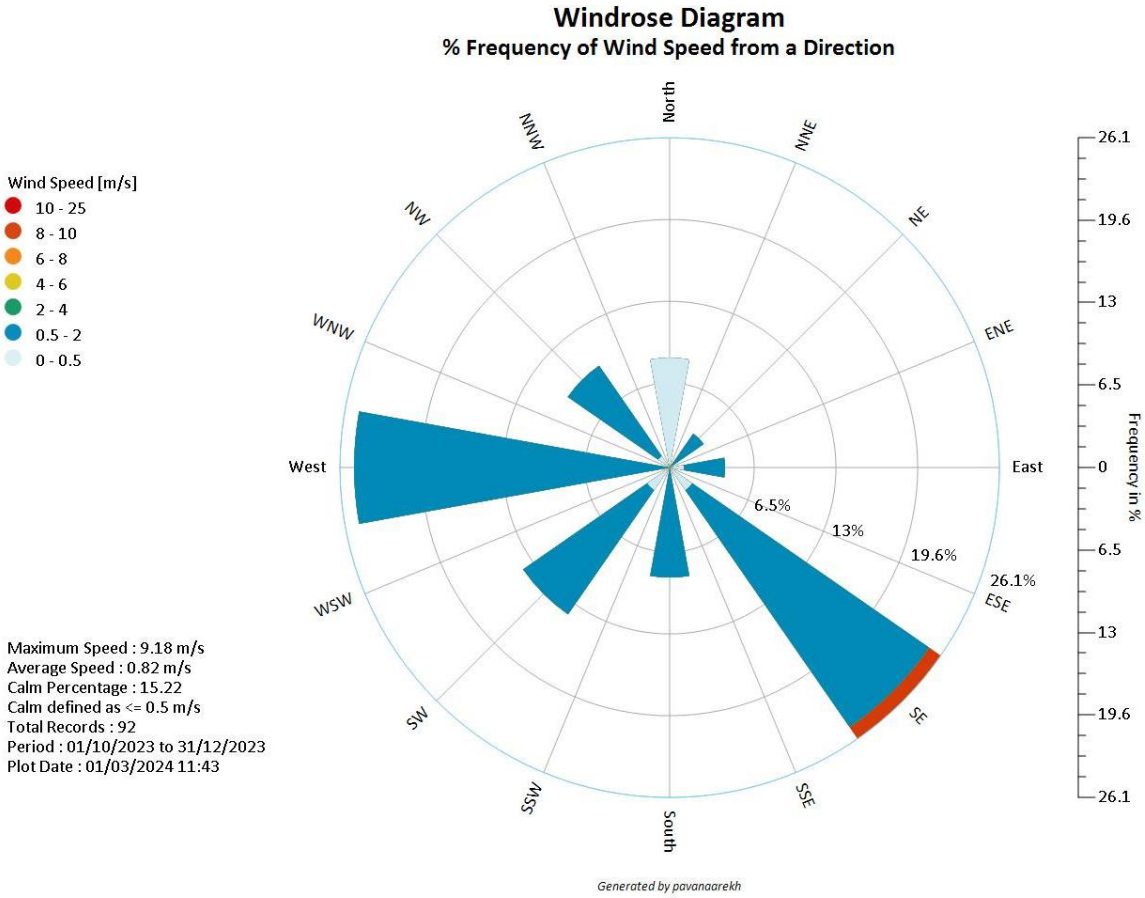
Meteorological station was set-up at site to record surface meteorological parameter during the study period. Summary of the micro-meteorology at site is given below**.**

Table: 3.4 Showing Meteorology at Site

Month	Temperature(ºC)		Relative Humidity (%)
	Max.	Min.	(Average)
October	32.38	16.0	33.71
November	26.13	12.0	34.5
December	20.73	6.0	37.77
January	19.11	5.0	41.51

FIGURE- 3.4

WIND ROSE DIAGRAM FOR STUDY PERIOD



3.13 AMBIENT AIR QUALITY:

The ambient air quality monitoring was done to assess the ambient air quality. Monitoring was carried out at eight stations from ***October 2023 to December 2023***. The guidelines for selections of ambient air monitoring stations given in IS – 5182 part 14, 2000 and CPCB guidelineswere 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 upwindand 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(PM10), Particulate Matter-2.5 (PM2.5), 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 3.5 and Location Air Sampling Stations are given in Figure 3.5

Table 3.5

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**	--	32°20'23.02"N 75°48'44.63"E
2.	AAQ-2	Narainpur	1.69 (towards N)	Upwind	32°21'14.17"N 75°49'19.63"E
3.	AAQ-3	Hara	3.63 (NW)	Crosswind	32°21'29.34"N 75°46'52.20"E
4.	AAQ-4	Dhar Kalan	7.79 (NW)	Crosswind	32°24'17.86"N 75°47'21.14"E
5.	AAQ-5	Khani Jhikli	4.71 (SE)	Crosswind	32°17'51.65"N 75°48'16.85"E
6.	AAQ-6	Thora Khas	4.86 (SE)	Crosswind	32°18'6.66"N 75°50'40.14"E
7.	AAQ-7	Baghar	4.39 (towards S)	Downwind	32°18'37.14"N 75°46'35.76"E
8.	AAQ-8	Khanni Uparli	1.43 (towards S)	Downwind	32°19'30.68"N 75°48'48.67"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.	PM10 µg/m^3	IS:5182, (Part-23) 2006, By Gravimetric Method: 2006
2.	PM2.5 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:

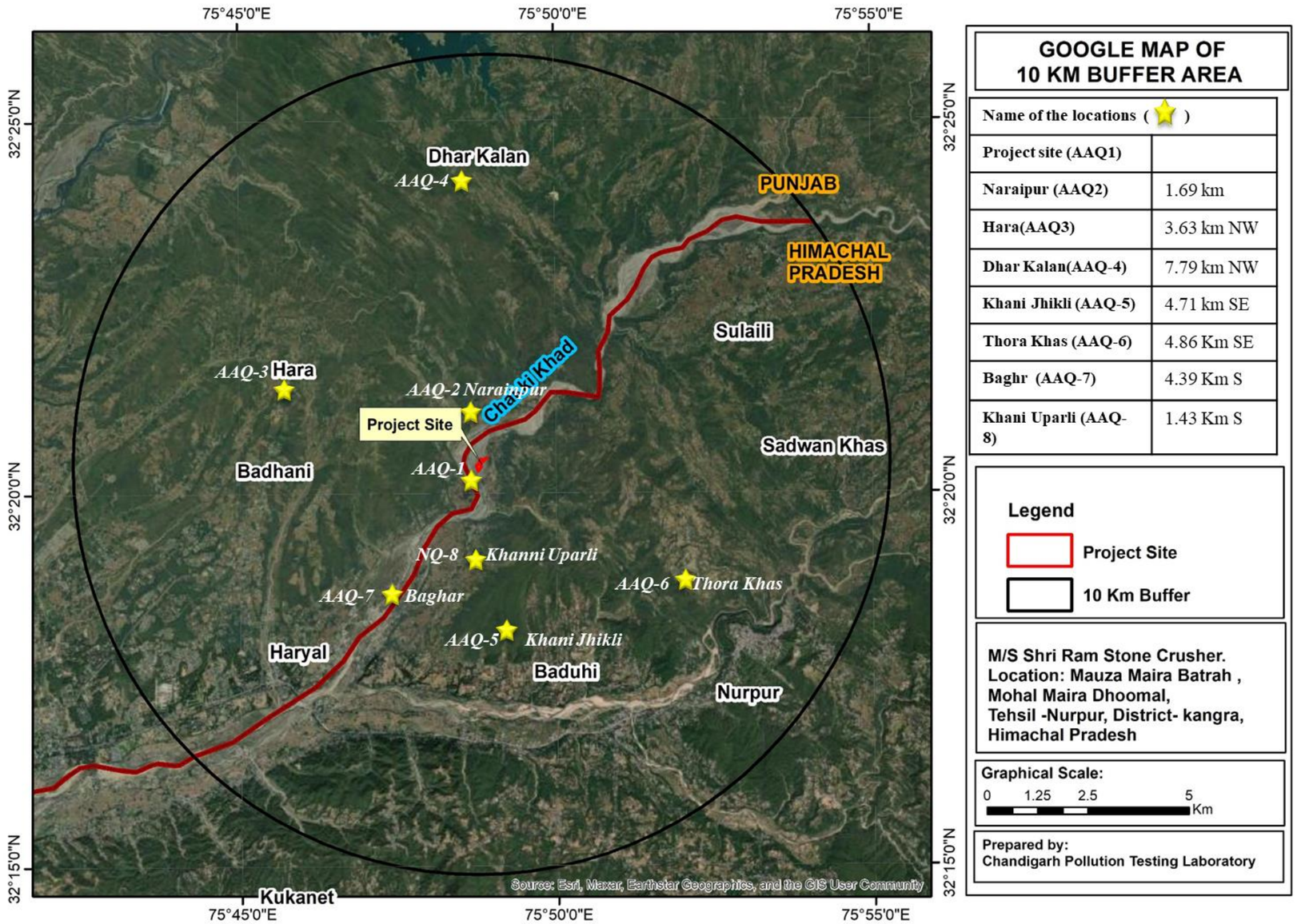
Proper preservation of samples was done after sampling. The Gaseous samples were preserved in an ice box (below 4°C) and transported to the laboratory for analysis. The filter papers were collected using forceps and stored in polythene bags and stored in dry containers during transportation

Results:

The results given in Table-3.**6** 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



GOOGLE MAP OF 10 KM BUFFER AREA

Name of the locations (★)	
Project site (AAQ1)	
Naraipur (AAQ2)	1.69 km
Hara(AAQ3)	3.63 km NW
Dhar Kalan(AAQ-4)	7.79 km NW
Khani Jhikli (AAQ-5)	4.71 km SE
Thora Khas (AAQ-6)	4.86 Km SE
Baghr (AAQ-7)	4.39 Km S
Khani Uparli (AAQ-8)	1.43 Km S

Legend

Project Site

10 Km Buffer

M/S Shri Ram Stone Crusher.
Location: Mauza Maira Batrah , Mohal Maira Dhoomal, Tehsil -Nurpur, District- kangra, Himachal Pradesh

Graphical Scale:
0 1.25 2.5 5 Km

Prepared by:
Chandigarh Pollution Testing Laboratory

TABLE-3.6

AMBIENT AIR QUALITY MONITORING RESULTS (Average value)

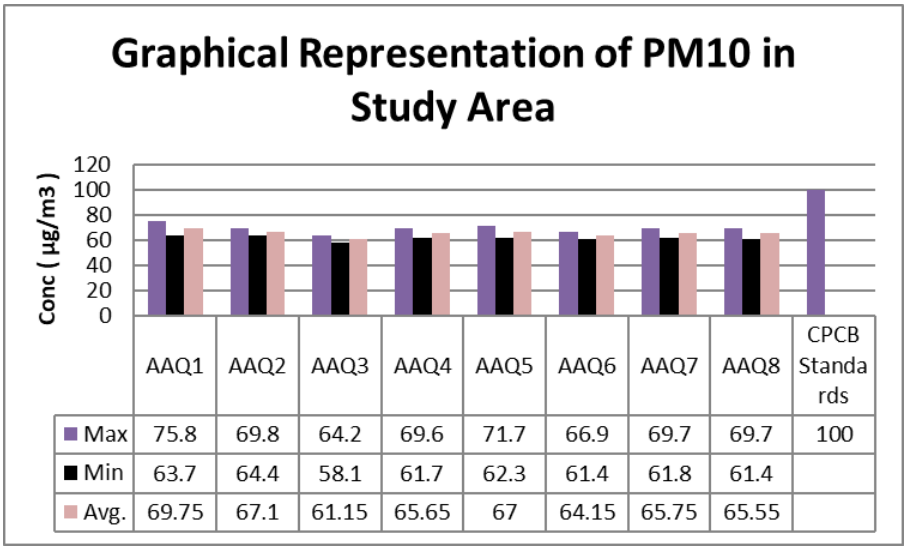
Ambient Air Quality Abstract (October 2023 to December 2023)

Locations	PM10 (µg/m3)			PM2.5 (µg/m3)			SO2 (µg/m3)			NOx (µg/m3)			CO (mg/m3)		
	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.	Max	Min	Avg.
Project site	75.8	63.7	69.75	39.5	31.6	35.55	6.8	5.1	5.95	10.8	9	9.9	ND	ND	ND
Narainpur	69.8	64.4	67.1	39.5	34.4	36.95	6.6	5.1	5.85	10.7	8.7	9.7	ND	ND	ND
Hara	64.2	58.1	61.15	35.2	31.8	33.5	6.2	5.6	5.9	11.7	9.2	10.45	ND	ND	ND
Dhar Kalan	69.6	61.7	65.65	39.9	32.5	36.2	7.5	4.3	5.9	10.8	8.2	9.5	ND	ND	ND
Khani Jhikli	71.7	62.3	67	39.8	31.2	35.5	6.9	5	5.95	10.9	8.9	9.9	ND	ND	ND
Thora Khas	66.9	61.4	64.15	39.5	34.4	36.95	7.4	5.2	6.3	11	9.7	10.35	ND	ND	ND
Baghar	69.7	61.8	65.75	39.8	34	36.9	6.4	5.1	5.75	10.6	9	9.8	ND	ND	ND
Khani Uparli	69.7	61.4	65.55	39.6	34.4	37	6.9	4.8	5.85	10.9	8.8	9.85	ND	ND	ND
P98	**66.95**			**35.55**			**5.9**			**9.95**			**ND**		
CPCB Stds.	**100**			**60**			**80**			**80**			**4.0**		

INTERPRETATION:

Respirable Suspended Particulate Matter (PM10)

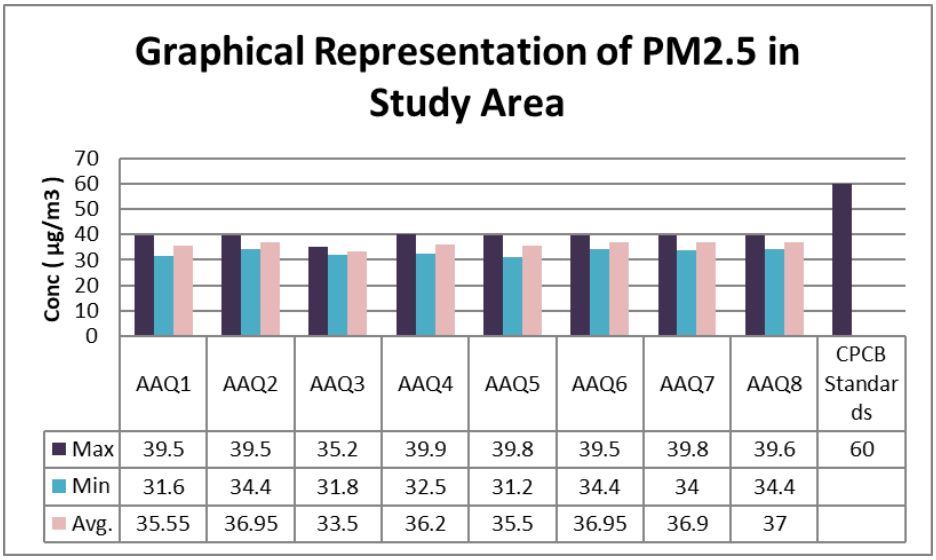
As is evident from the data, PM10 concentration observed in the study area during the study period is minimum at Hara i.e. 58.1 µg/m^3 and maximum at Project site 75.8 µg/m^3. P98 remained as 66.95 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	75.8	69.8	64.2	69.6	71.7	66.9	69.7	69.7	100
Min	63.7	64.4	58.1	61.7	62.3	61.4	61.8	61.4	
Avg.	69.75	67.1	61.15	65.65	67	64.15	65.75	65.55	

Respirable Suspended Particulate Matter (PM2.5)

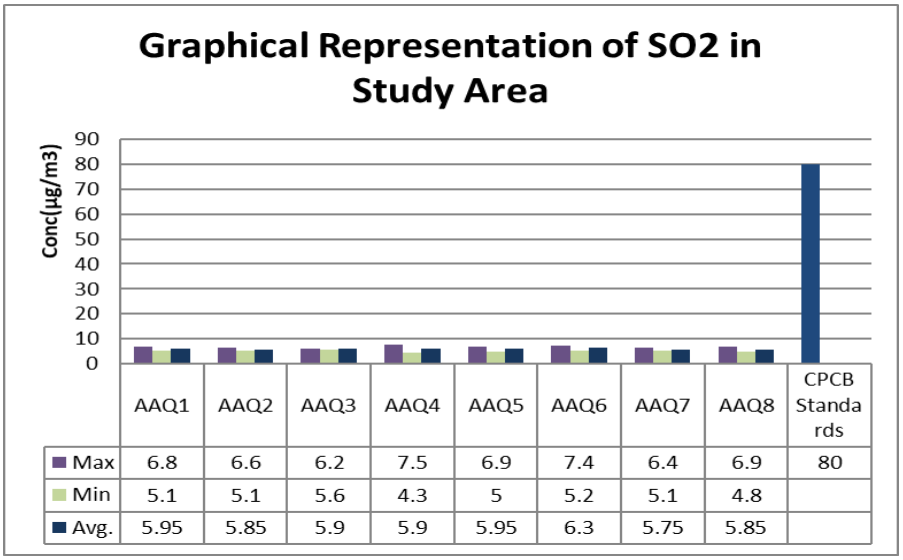
It is minimum of 31.6 µg/m^3 at Project site and maximum of 39.9 µg/m^3 at Dhar Kalan. P98 remained as 35.55 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	39.5	39.5	35.2	39.9	39.8	39.5	39.8	39.6	60
Min	31.6	34.4	31.8	32.5	31.2	34.4	34	34.4	
Avg.	35.55	36.95	33.5	36.2	35.5	36.95	36.9	37	

Sulphur Dioxide (SO2)

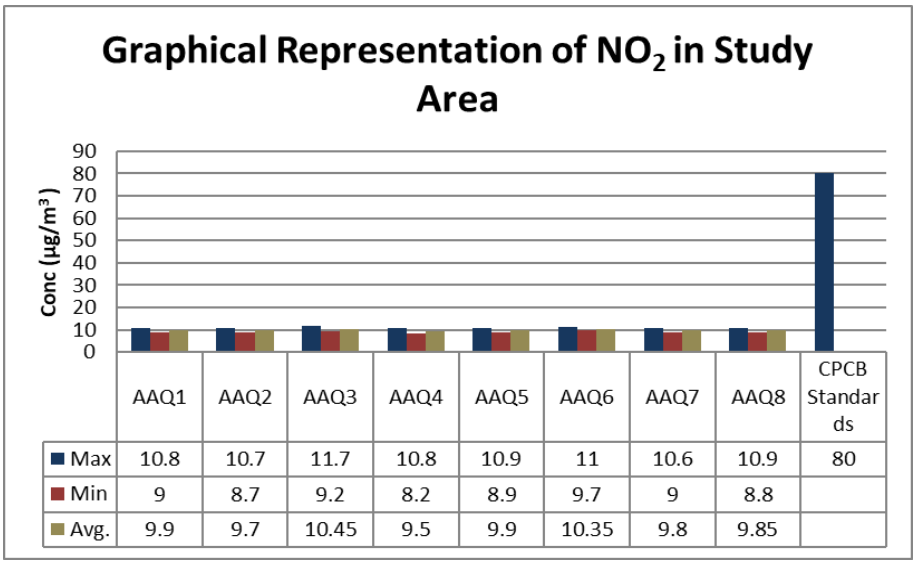
The SO_2 level observed during the baseline period were minimum of 4.3 µg/m^3 and maximum of 7.5 µg/m3 at Dhar Kalan. The situation in the study area as far as SO_2 concentration is concerned is satisfactory. P98 remained as 5.9 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	6.8	6.6	6.2	7.5	6.9	7.4	6.4	6.9	80
Min	5.1	5.1	5.6	4.3	5	5.2	5.1	4.8	
Avg.	5.95	5.85	5.9	5.9	5.95	6.3	5.75	5.85	

Oxides of Nitrogen (NO_X)

NO_X concentration in the study area varied from minimum of 8.2 µg/m^3 at Dhar Kalan and maximum of 11.7 µg/m^3 at Hara. P98 remained as 9.95 µg/m^3 during this period.



	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	CPCB Standards
Max	10.8	10.7	11.7	10.8	10.9	11	10.6	10.9	80
Min	9	8.7	9.2	8.2	8.9	9.7	9	8.8	
Avg.	9.9	9.7	10.45	9.5	9.9	10.35	9.8	9.85	

Carbon Monoxide (CO)

CO concentration is found to be 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.

3.14 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 increasein 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

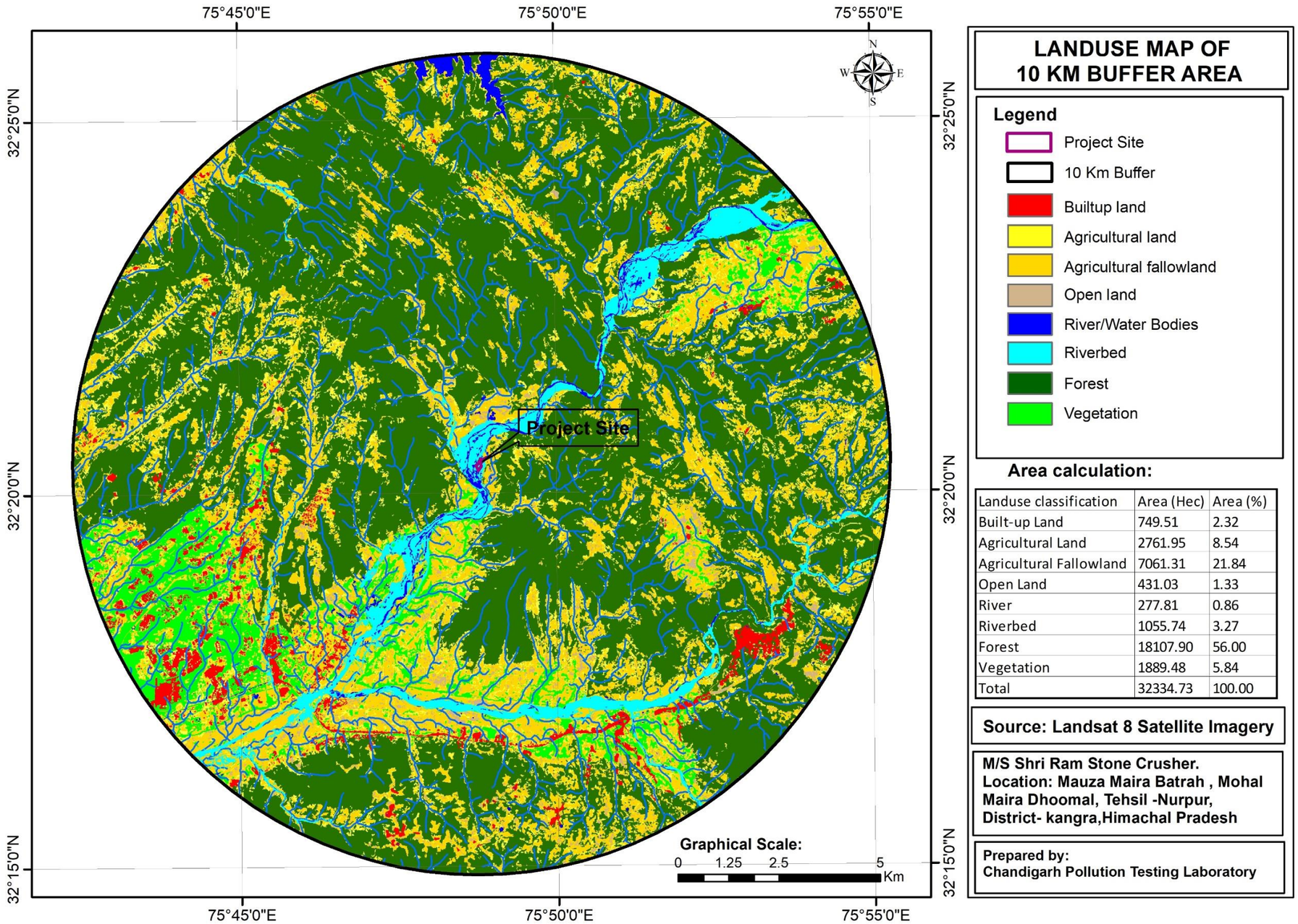
The study area comprises 10km around the project site. The study area is falling under the Survey of India Toposheet/OSM No: 43P/15.

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

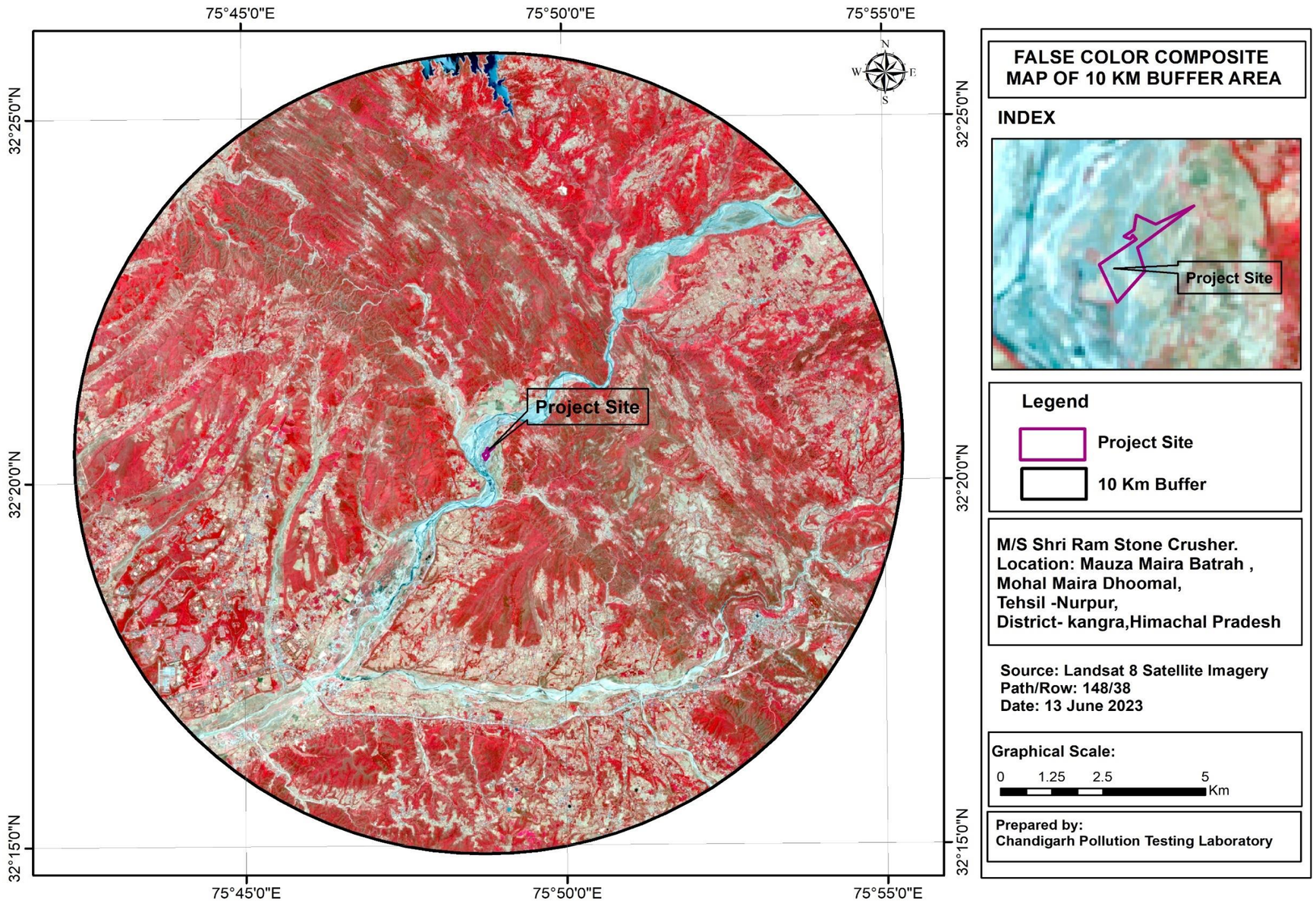
LAND USE LAND COVER MAP SUPERIMPOSED WITH DRAINAGE MAP



Landuse classification	Area (Hec)	Area (%)
Built-up Land	749.51	2.32
Agricultural Land	2761.95	8.54
Agricultural Fallowland	7061.31	21.84
Open Land	431.03	1.33
River	277.81	0.86
Riverbed	1055.74	3.27
Forest	18107.90	56.00
Vegetation	1889.48	5.84
Total	32334.73	100.00

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 Fig 3.7.

3.14.1 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) Fig 3.8.

Fig 3.8: Flowchart showing the methodology adopted for land use/land cover mapping

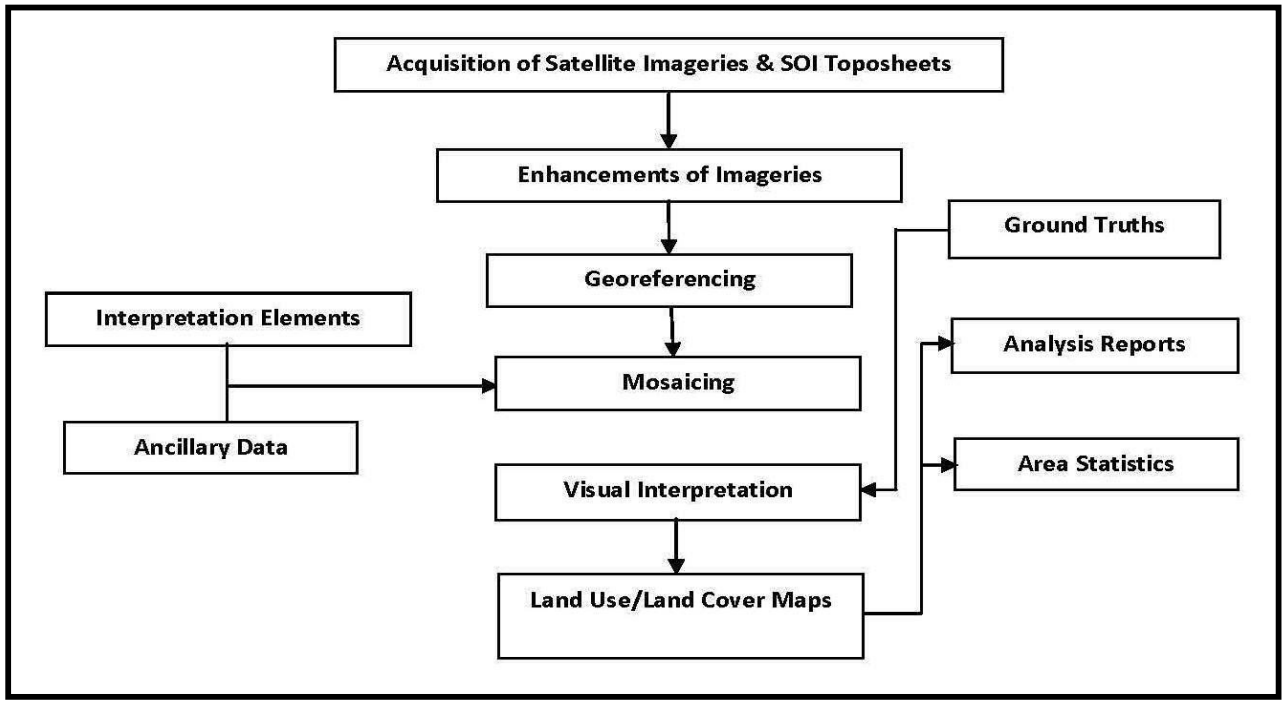


Table 3.7

Land Use/Land Cover Area Statistics

Land Use/Land Cover	Area (Hectare)	Area (Percentage)
Built-up Land	749.51	2.32
Agriculture land	2761.95	8.54
Agriculture Fallow land	7061.31	21.84
Open land	431.03	1.33
River	277.81	0.86
River-bed	1055.74	3.27
Forest	18107.90	56.00
Vegetation	1889.48	5.84
Total	**32334.73**	**100.00**

Source: Land use Land cover map

CONCLUSION & DISCUSSION

Based on the perusal of field visit and interaction with farmers, 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.

3.15 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.

(i) Texture

(ii) Porosity

(iii) Bulk density

(i) Texture

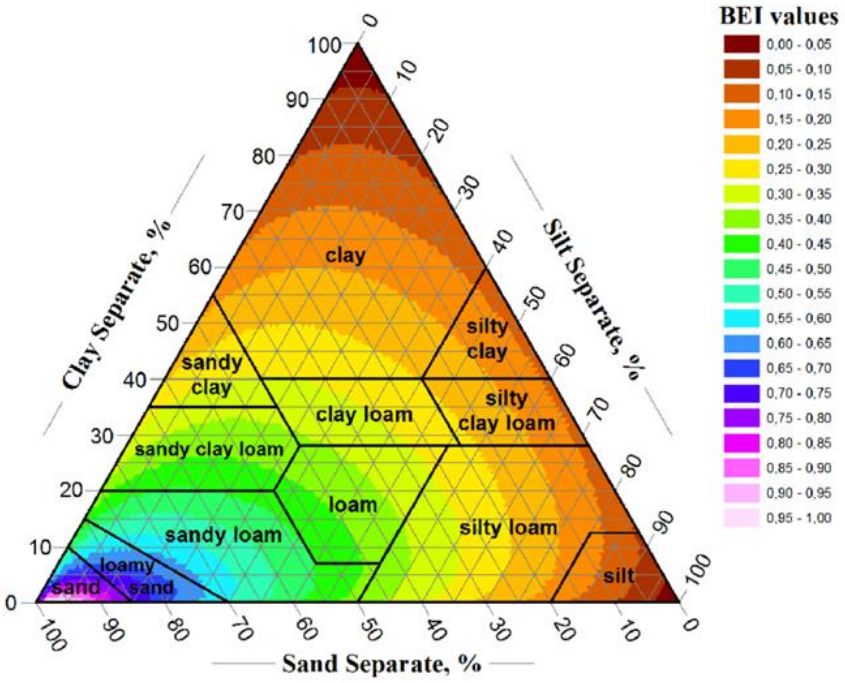
On the basis of texture, the study area may be classified as loamy sand, sandy loam and silty loam.

(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 3.9.** List of soil monitoring station are given **in Table 3.8.** Chemical characteristics of soil observed in the study area are given in **Table 3.9**

Table 3.8

Detail List of Soil Quality Monitoring Stations

S. No.	Sample Code	Name of Village/ Location	Distance & Direction (KM)	Co-ordinates
1.	SQ-1	**Project site**	**0**	32°20'23.02"N 75°48'44.63"E
2.	SQ-2	Narainpur	1.69 (towards N)	32°21'14.17"N 75°49'19.63"E
3.	SQ-3	Hara	3.63 (NW)	32°21'29.34"N 75°46'52.20"E
4.	SQ-4	Dhar Kalan	7.79 (NW)	32°24'17.86"N 75°47'21.14"E
5.	SQ-5	Khani Jhikli	4.71 (SE)	32°17'51.65"N 75°48'16.85"E
6.	SQ-6	Thora Khas	4.86 (SE)	32°18'6.66"N 75°50'40.14"E
7.	SQ-7	Baghar	4.39 (towards S)	32°18'37.14"N 75°46'35.76"E
8.	SQ-8	Khanni Uparli	1.43 (towards S)	32°19'30.68"N 75°48'48.67"E

FIGURE -3.9

LOCATION OF SOIL MONITORING STATIONS

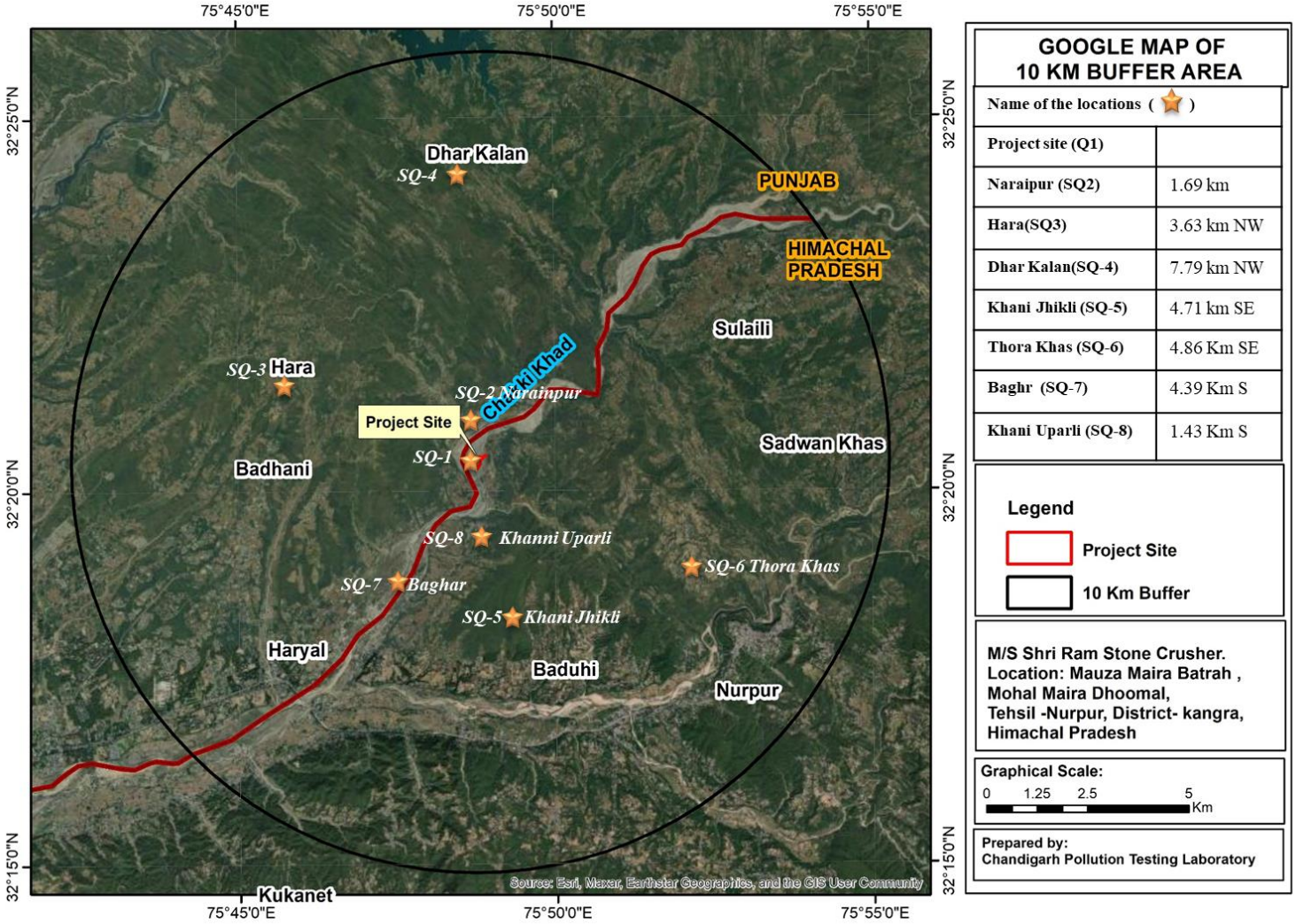


Table –3.9

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

S.No.	Parameter	Unit	SQ1	SQ2	SQ3	SQ4	SQ5	SQ6	SQ7	SQ8	Test Methods	Detection Limit
1.	**pH (1:2.5)**	--	7.54	7.88	7.69	7.84	7.48	7.59	7.66	7.87	IS 2720(P-26),1987	1
2.	**Electrical Conductivity (1:2)**	µmhos/cm	389	378	369	355	374	325	344	363	IS 14767,2000	2µs/cm
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)	1.38	1.44	1.32	1.22	1.28	1.38	1.52	1.44	IS 2720(P-3),1983	1g/cc
5.	**Soil Moisture Content**	%	7.2	6.7	8.2	7.2	6.8	6.8	7.4	6.9	IS 2720(P-2,1973	1%
6.	**Color/ Visual Observation**	--	Brown	Brown	Light Brown	Brown	Brown	Brown	Light Brown	Brown	Handbook of Agriculture, ICAR	--
7.	**Available Calcium**	(mg/kg)	48.8	52.8	55.2	46.2	52.4	42.1	40.8	38.8	Handbook of Agriculture ,ICAR	--

8.	**Available Magnesium**	(mg/kg)	24.2	20.8	18.6	26.2	20.6	18.2	16.4	18.9	Handbook of Agriculture, ICAR	--
9.	**Available Sodium**	(mg/hac)	138	128	118	110	144	116	126	114	CPTL, Lab SOP No. 59	--
10.	**Available Potassium**	(kg/hac)	28.6	18.8	16.4	30.8	32.8	44.4	38.8	30.6	CPTL, Lab SOP No.59	1.0 kg/ha
11.	**Available Nitrogen**	(%)	1.18	1.26	1.10	1.32	1.45	1.38	1.22	1.42	CPTL, Lab SOP No. 62	10%
12.	**Organic Matter**	(%)	0.32	0.48	0.42	0.26	0.24	0.42	0.38	0.20	IS 2720(P-22),2001	0.1%
13.	**Available Phosphorus**	Kg/hac	5.5	6.4	4.8	2.8	4.8	3.6	2.6	1.8	CPTL, Lab SOP No. 59	1.0 kg/ha
14.	**Cation Exchange Capacity**	(meq/100gm)	0.58	0.60	0.55	0.48	0.52	0.34	0.42	0.38	CPTL, Lab SOP No. 58	--
15.	**Iron as Fe**	(mg/kg)	1.44	1.38	1.42	1.36	1.24	1.44	1.38	1.16	CPTL, Lab SOP No. 63	--
16.	**Zinc as Zn**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg
17.	**Lead as Pb**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg

18.	**Manganese as Mn**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg
19.	**Chromium as Cr**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg
20.	**Cadmium as Cd**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg
21.	**Copper as Cu**	(mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	CPTL, Lab SOP No. 63	1.0 mg/kg

3.15.1 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 valuesoils. soils are falling in slightly alkaline to moderately alkaline. Based on the electrical conductivity, the soils are classified into four groups (Normal, Critical forgermination, Critical for growth of the sensitive crops, Injurious to most crops). The electricalconductivity in the study area is varying from 365 to 328 µmhos/cm.

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 1.10 to 1.45 %. Phosphorus influences the vigor of plants and improves the quality of crops. In the study area available, Phosphorus was found in varying quantities of 1.8 to 6.4 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 16.4 to 44.4 Kg/ hac. This is deficient for crops.

Organic Matter in the study area ranges from 0.20% to 0.48 %. This is average to sufficient for thecrops.

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 observationduring field visit of 10km buffer zone from the boundary of cement plant, the soils are sandy loampredominantly. These soils can be classified as modularity good soil with traces or gentle slopes and is modulate land for sustained agriculture as per USDA.

3.16 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 were taken 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 conductivity were 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 3.10** and list of surface & ground water sample is given in **Table 3.10 & 3.12** respectively. The results surface water & ground water are given in **Table 3.11 & 3.13** respectively.

Table 3.10

Surface Water Sampling Stations

Station	Sampling Location
SW-1	Chakki River

Table – 3.11

Results of surface water

S. No.	Parameters	Upstream	Downstream	Test Method
1.	pH	7.42	7.38	IS:3025 (P-11): 1983
2.	Color, HU	<5	<5	IS:3025:P-4:1983
3.	Odour	Agreeable	Agreeable	IS:3025:P-5:1983
4.	Turbidity, NTU	<1	<1	IS:3025 (P-10): 1984
5.	Total Dissolved Solids, mg/l	172	178	IS:3025 (P-16): 1984
6.	Total Suspended Solids, mg/l	9.6	10.8	IS:3025 (P-17): 1984
7.	Total Hardness (as $CaCO_3$), mg/l	116	124	IS:3025 (P-21): 2009
8.	Total Alkalinity (as $CaCO_3$), mg/l	72.0	84.0	IS:3025 (P-23): 1986
9.	Chemical Oxygen Demand,mg/l	7.6	8.8	IS:3025 (P-58): 2006
10.	BOD(at 27°C) for 3 days,mg/l	2.4	2.8	IS:3025(P-44)1993
11.	Dissolved Oxygen,mg/l	6.6	6.4	IS:3025 (P-38): 1989
12.	Calcium(as Ca^{++}),mg/l	38.4	40.6	IS:3025:P-40:1991:RA:2003
13.	Magnesium (as Mg^{++}), mg/l	12.4	14.6	IS:3025:P-46: 1994
14.	Sodium (as Na^{+}), mg/l	24.8	28.8	IS:3025:P-45:1983:RA:2003
15.	Potassium (as K), mg/l	8.8	10.4	IS:3025:P-45:1983
16.	Nitrate (as NO_3),mg/l	2.4	2.8	IS:3025 (P-34) : 1988
17.	Chloride (as Cl), mg/l	6.8	8.8	IS:3025 (P-32): 1988
18.	Sulphate (as SO_4), mg/l	14.8	18.2	IS:3025 P-24 : 1986
19.	Iron (as Fe), mg/l	1.12	1.16	IS:3025(Part-53), 2003 & C/1, 10 Phenanthroline Method.
20.	Total Chromium (as Cr), mg/l	ND	ND	IS:3025 (P-52): 2003
21.	Zinc (as Zn), mg/l	1.10	1.18	IS:3025 (P-49) : 1994
22.	Fluoride (as F) mg/l	1.10	1.11	IS:3025 (P-60) : 2008
23.	Mercury (as Hg) mg/l	ND	ND	IS:3025:P-48):1994:RA-2003
24.	Boron (as B),mg/l	ND	ND	IS:3025 (P-57): 2005
25.	Aluminum (as Al) mg/l	ND	ND	IS:3025:(P-55):2003
26.	Cadmium (as Cd), mg/l	ND	ND	IS:3025 (P-41): 1992
27.	Fecal Coliform, MPN/100 ml	80.0	90.0	IS:1622-1981-(RA2009)
28.	Total Coliform, MPN/100 ml	110	130	IS:1622-1981-(RA2009)

Table – 3.11(a)

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:

- pH of the surface water collected ranged from 7.42– 7.38
- TDS was found to be 172-178 mg/l. The tolerance limit is 1,500 mg/l as per IS:2296
- Total hardness was found to be 116-124 mg/l.
- Total Coliform in water was 110-130 MPN/100ml. The likely source of bacteriological contamination may be due to the proximity to residential area
- All the heavy metals were not detectable.

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 physico–chemical parameters of water.

Table 3.12 shows the details of location of water sampling stations and results of different parameters are given in **Table 3.13.**

Table-3.12

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	32°20'23.02"N 75°48'44.63"E
2.	GW-2	Narainpur	1.69 (towards N)	Sample was collected from middle school	32°21'14.17"N 75°49'19.63"E
3.	GW-3	Hara	3.63 (NW)	Sample was collected from a house in the village	32°21'29.34"N 75°46'52.20"E
4.	GW-4	Dhar Kalan	7.79 (NW)	Sample was collected from a house in the village	32°24'17.86"N 75°47'21.14"E
5.	GW-5	Khani Jhikli	4.71 (SE)	Sample was collected from a house in the village	32°17'51.65"N 75°48'16.85"E
6.	GW-6	Thora Khas	4.86 (SE)	Sample was collected from a house in the village	32°18'6.66"N 75°50'40.14"E
7.	GW-7	Baghar	4.39 (towards S)	Sample was collected from a house in the village	32°18'37.14"N 75°46'35.76"E
8.	GW-8	Khanni Uparli	1.43 (towards S)	Sample was collected from a house in the village	32°19'30.68"N 75°48'48.67"E

FIGURE -3.10

LOCATIONS OF SURFACE WATER & GROUND WATER

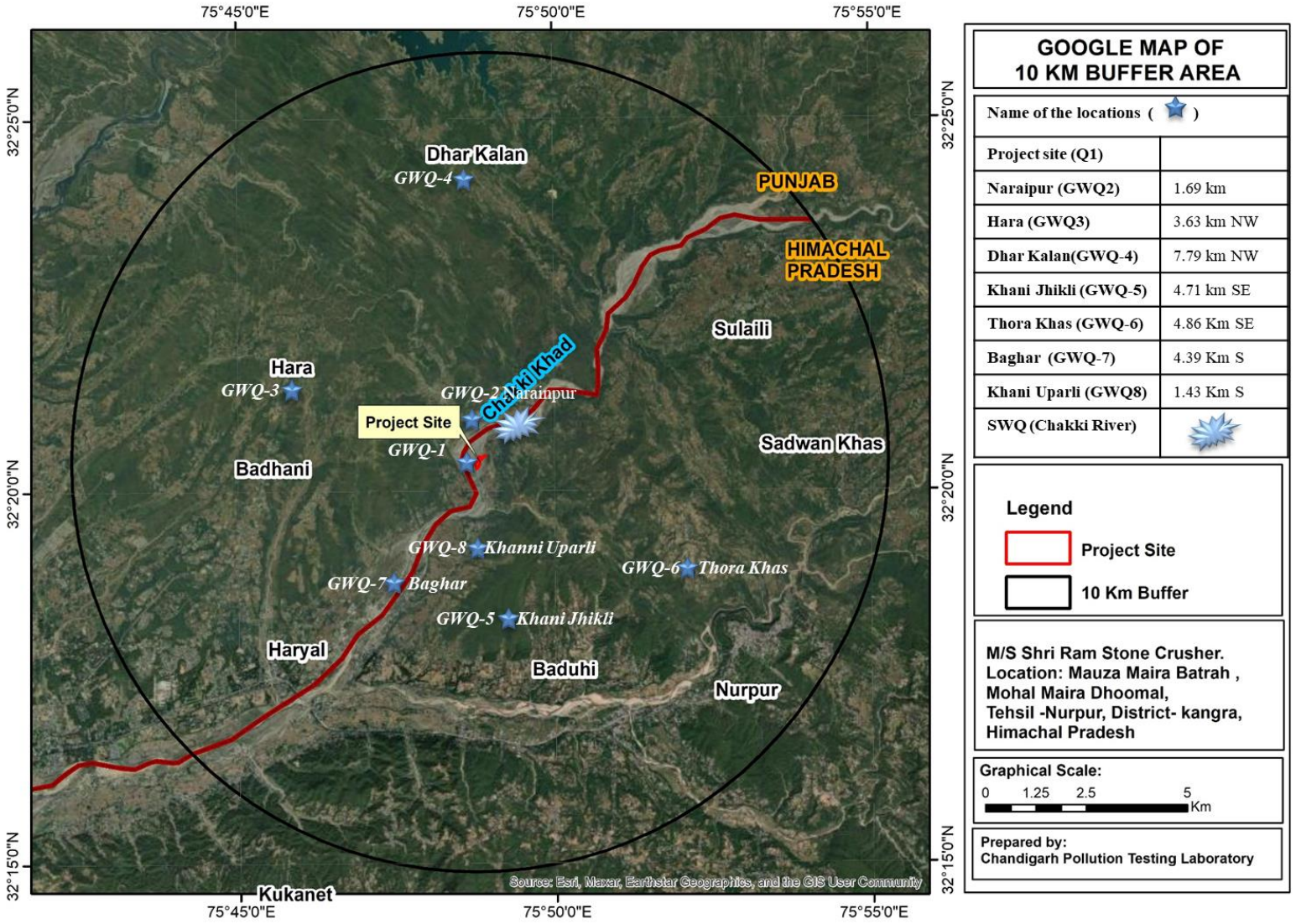


TABLE – 3.13

RESULTS OF GROUND WATER SAMPLES

Parameters	Unit	GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8	Acceptable Limits	Permissible Limit
pH	-	7.15	7.54	7.33	7.48	7.48	7.35	7.24	7.18	6.5-8.5	No relaxation
Colour	Hazen	<5	<5	<5	<5	<5	<5	<5	<5	5	15
Odour	Agreeable	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	268	274	288	288	278	269	294	500 Max.	2000
Total Hardness as CaCO3	mg/l	255	240	250	260	268	272	260	280	200 Max.	600
Calcium as Ca	mg/l	38.8	40.8	36.2	38.6	42.2	38.8	39.8	37.8	75 Max.	200
Magnesium as Mg	mg/l	10.4	12.8	16.4	12.8	12.8	14.6	18.8	14.2	30 Max.	100
Total Alkalinity (as CaCO3), mg/l	mg/l	240	250	240	250	260	270	250	270	200 Max.	600
Chloride (as Cl), mg/l	mg/l	14.8	10.4	12.4	16.2	16.2	14.2	10.2	18.8	250 Max.	1000

Sulphate (as SO4), mg/l	mg/l	16.6	24.8	20.4	16.4	22.2	18.2	16.2	12.6	200 Max.	400
Iron (as Fe), mg/l	mg/l	0.12	0.13	0.10	0.13	0.11	0.10	0.12	0.14	1.0 Max.	No relaxation
Zinc (as Zn), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	5 Max.	15
Nitrate (as NO3), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	45 Max.	No relaxation
Chromium (as Cr), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.05 Max.	No relaxation
Manganese (as Mn), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.1 Max.	0.3
Mercury (as Hg), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.001	No relaxation
Cadmium (as Cd), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	0.003	No relaxation
Fluoride (as F), mg/l	mg/l	ND	ND	ND	ND	ND	ND	ND	ND	1.0	1.5
Residual Chlorine (as Cl2), mg/l	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

3.16.2 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 for drinking water.

3.17 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 comparison of 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 MoEF & CC dated February 14, 2000 on ambient air quality standardshas different noise levels for different zones viz industrial, commercial, and residential and silencezones. 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 3.11.** Details list of noise monitoring stations are shown in **Table 3.14.**

FIGURE -3.11

LOCATIONS OF NOISE MONITORING STATIONS

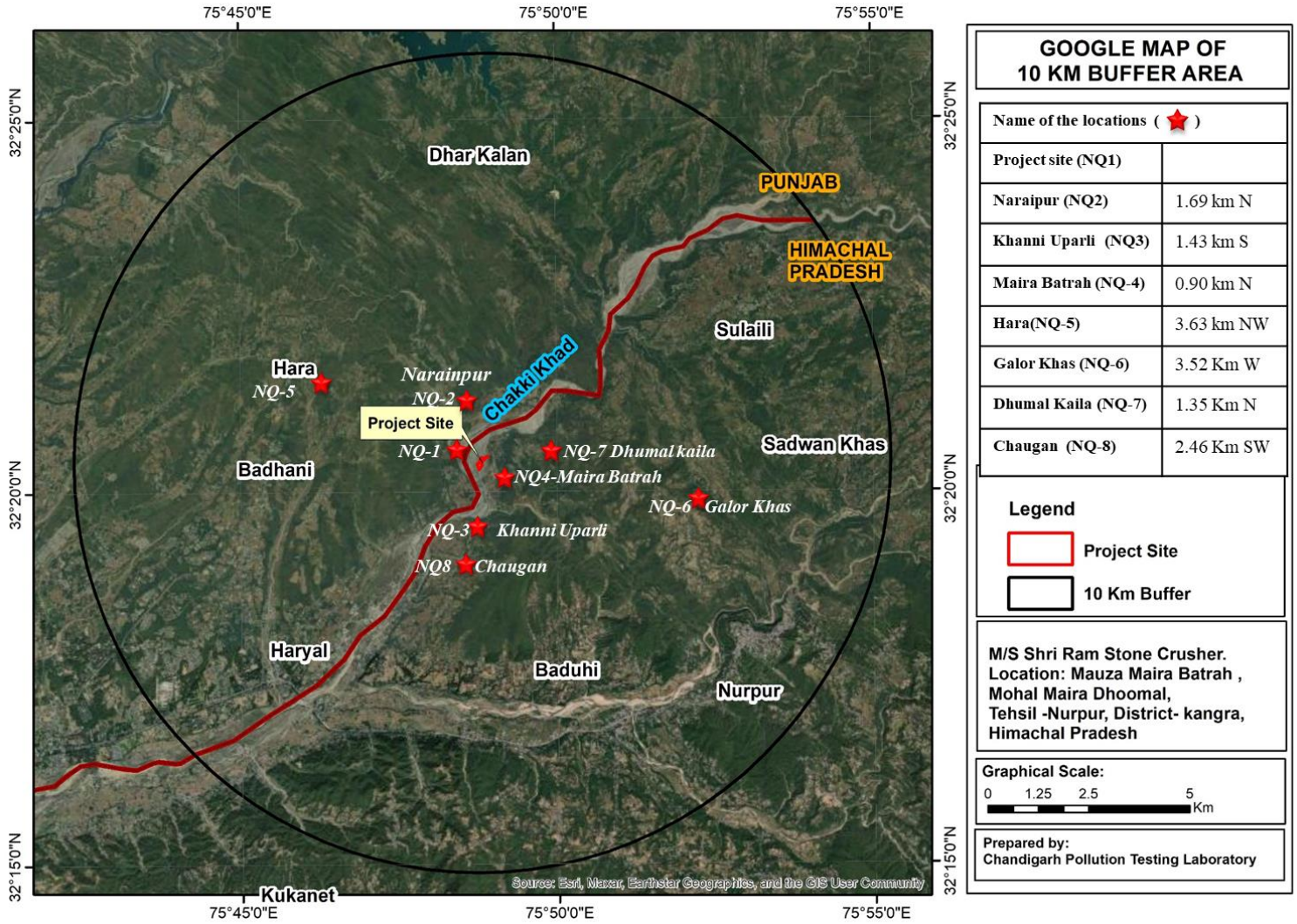


Table 3.14

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**	Industrial	32°20'23.02"N 75°48'44.63"E
2.	NQ-2	Narainpur	1.69 (towards N)	Middle School	32°21'14.17"N 75°49'19.63"E
3.	NQ-3	Khanni Uparli	1.43 (SE)	Residential	32°19'30.68"N 75°48'48.67"E
4.	NQ-4	Maira Batrah	0.90 (N)	Residential	32°20'21.52"N 75°49'17.22"E
5.	NQ-5	Hara	3.63 (NW)	Residential	32°21'29.34"N 75°46'52.20"E
6.	NQ-6	Galor Khas	3.52 (W)	Residential	32°19'15.25"N 75°51'11.94"E
7.	NQ-7	Dhumal Kaila	1.35 (towards N	Residential	32°20'33.69"N 75°49'43.23"E
8.	NQ-8	Chaugan	2.46 (towards SW)	Residential	32°18'58.50"N 75°48'44.55"E

Detailed results of noise levels are shown in **Table 3.15.** Ambient air standards in respect of noise aregiven in **Table 3.16**.

Table 3.15

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	50.5	37.8	IS 9989:1981(Rev.2001)
02.	Narainpur	41.6	31.5	IS 9989:1981(Rev.2001)
03.	Khanni Uparli	41.7	31.9	IS 9989:1981(Rev.2001)
04.	Maira Batrah	43.3	32.2	IS 9989:1981(Rev.2001)
05.	Hara	42.2	32.8	IS 9989:1981(Rev.2001)
06.	Galor Khas	47.5	33.8	IS 9989:1981(Rev.2001)
07.	Dhumal Kaila	45.6	33.9	IS 9989:1981(Rev.2001)
08.	Chaugan	42.2	32.9	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 3.16

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 41.6 to 50.5 dB (A) during day time and 31.5 to 37.8 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.

3.18 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, and to

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 3.17.

Table-3.17

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 3.18.**

Table-3.18

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 flora 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 procedure and 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, and magnifying glass, camera, and GPS unit.

B) FAUNA:

Majority of Kangra 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 bushygrowth 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-3.19

RESULTS OF FLORAL STUDY AND FAUNA STUDY

FLORA

S. No.	Botanical Name	Common Name
1.	*Phoenix sylvestris*	Khajoor
2.	*Calotropis procera*	Aak
3.	*Cryptolepis buchananii*	Jaman khumb
4.	*Ageratum conyzoides*	Gha buti
5.	*Stereospermum chelonoides*	Padal
6.	*Oroxylum indicum*	Tatplanga Simal
7.	*Bombax cieba*	Simbal
8.	*Shorea robust*	Sal
9.	*Diospyros cordifolia*	Kala dhao
10.	*Cordia vestita*	Kumbhi
11.	*Cordia dichotoma*	Lasura
12.	*Ehretia acuminata*	Sakar
13.	*Euphorbia royleana*	Chhun
14.	*Cassia fistula*	Amaltas
15.	*Cassia occidentalis*	Chakunda
16.	*Bauhinia variegata*	Kachnar, Karal
17.	*Urena lobata*	Unga
18	*Melia azedarach*	Drek
19.	*Azadirachta indica*	Neem
20.	*Cayratia trifolia*	Chamar bel

FAUNA

Due to rich forest cover in the buffer zone many fauna is expected to be found in this area and it include mammals, reptiles, birds, etc.

Animals

S. No.	*Zoological Name*	Common English Name
1.	*Boselaphus tragocamelus*	Blue Bull
2.	*Sus scrofa*	Wild boar
3.	*Cervas unicolor*	Sambhar
4.	*Canis aureus*	Jackal
5.	*Herpestes edwardsi*	Common Mongoose
6.	*Macaca mulatta*	Rhesus Monkey
7.	*Felis chaus*	Jungle cat
8.	*Lepus nigricollis ruficaudatus*	Rufous tailed hare
9.	*Presbytis entellus*	Langur
10.	*Funambulus pennant*	Five striped Palm Squirrel
11.	*Mus booduga*	Indian Field Mouse
12.	*Rattus rattus*	Common House Rat
13.	*Mus muscu/us*	House Mouse
14.	*Pteropus giganteus*	Flying Fox
15.	*Rousettus leschenaultia*	Fruit bat

S. No.	*Zoological Name*	Common English name
1	*Lacerta vivipara*	Common lizard
2	*Calotes versicolor*	Garden lizard
3	*Bangarus caeruleus*	Common Indian crait
4	*Ancistrodon himalayanus*	Himalayan pit viper
5	*Naja naja*	Indian Cobra

S. No.	*Zoological Name*	Common English name
1.	*Pycnonotus cafer*	Red vented Bulbul
2.	*Acridotheres ginginianus*	Bank myna
3.	*Dicrurus macrocercus*	Black drango
4.	*Dendrocitta vagabunda*	Indian Treepie
5.	*Corms splendens*	House crow
6.	*Corvus macrorhynchos*	Jungle Crow
7.	*Copsychus saularis*	Oriental Magpie Robin
8.	*Saxicoloides fidicata*	Indian Robin
9.	*Lonchura punctulata*	Spotted munia
10.	*Passer domesticus*	House Sparrow

3.19. 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.

3.19.1 FOREST/ WILD LIFE SANCTUARIES

There are no Notified Wild Life Sanctuaries, Protected and Reserved Forests within the 10Km radius of the study area.

3.19.2 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 3.2**

Table-3.20

DEMOGRAPHY & SOCIO-ECONOMY

Name of villages	No. of House holds	Total Population	Male	Female	Child (0-6)	Literacy (%)		Scheduled Caste	Scheduled Tribe	Total workers	Main workers	Marginal workers
						Male	Female					
Maira Batrah	73	327	164	163	37	93.62	81.88	59	0	106	84	22
Khanni Uparli	181	834	437	397	100	93.42	83.05	108	0	222	160	62
Chaugan	40	208	111	97	33	78.26	71.08	80	60	58	23	35
Dhumal Kaila	58	264	134	130	38	80.17	70.00	75	50	138	99	39
Galor Khas	40	206	105	101	35	77.65	73.26	11	69	131	35	96

Ref: Census of India 2011

3.20 TRAFFIC STUDY:

The applied lease is in the river bed and there is very low to no traffic from the Auctioned Area till the main road. However, for the transportation of the loaded vehicles to the nearest approach road, the vehicles may pass through private as well as govt. land. The project proponent shall made necessary arrangements between landowners (Pvt. & Govt.) and will take care of other issues if any at his own for material transportation to the nearest road.

The site is approachable through a link road originating from a place known as Naga Bari on the Pathankot- Mandi National Highway 154. The site is located at a distance of 10 kms from the Nag Bari Village.

The road is in enough good condition to bear the additional truck/ transport created by the mining operations Only 149 metric tonnes of material shall be transported at an average per day (Total working days 270/year) for which average 9-10 trucks with @15 MT capacity are required.

Total Production for 5 years	201375 MT
Total Production for 1 year	40275 MT
No. of working days	270
Total production for 1 one day	149 MT
Capacity of tipper	15 Ton
No. of required tipper truck	9-10

3.21 HYDROLOGY AND DRAINAGE PATTERN:

	Profile of River Bed:	
1.1	**Name of the River/ Stream Bed on which the mining lease is situated**	The mining lease area lies in the Chakki Khad which is a tributary of the Beas River.
1.2	**Drainage System**	It forms a part of the Beas drainage system.
1.3	**Type of drainage**	The primary tributaries above 430m R.L. exhibit a dendritic type of drainage pattern and then to its downstream side shows a sub-dendritic type of drainage pattern.
1.4	**Origin of river / stream**	The Chakki Khad originates at a height of about 312 Mts. Near Janera village and joins the Beas River after travelling a distance of about 35 kms. in Kangra and 15 Kms in the Chamba district, it joins the Beas River.
1.5	**Altitude of the origin**	About 3212 M.R.L. above mean sea level in Chamba District. The highest point of the applied mining lease area is 459 meters and the lowest is 458 meters above mean sea level.
1.6	**Geometry of the catchment of the Chakki river impacting the replenishment of deposits.**	Total area of catchment = 2000.00 Sq. Km Area of catchment up to mining site = 860.00 Sq. km
	The following are the different ingredients of the Chakki River	
a.)	**Number of tributaries**	7 (on right bank) and 5 (on left bank)
b.)	**Maximum length of the watershed**	68.57 Km
c.)	**Maximum breadth of the watershed**	26.50 Km
d.)	**Elevation at origin**	3212 M

e.)	**Elevation at lease area**	459 meters to 458 meters above MSL
f.)	**Total length of the river**	89.3 Km
g.)	**Total length of river up to the mining lease**	45.93 Km
h.)	**Total elevation of Loss up to mining lease**	2783 M
i.)	**Average Slope**	1.74 % i.e about 1.03°
j.)	**Slope angle at mining lease area**	0.35 i.e about 0.20°

- **Cycle of erosion of Mining site:**

The cycle of erosion at the mining site is old.

- *The Annual Deposition on River /Stream:*

The Chakki Khad has sufficient capacity to replenish almost equivalent to the stress on the mining lease area as this stream carries heavy sediment load and deposits it annually on the river bed. Replenishment of the river bed material is very much dependent on rainfall and run-off from the surrounding watershed area. In contrast to surface erosion, mass movements have always been common on steep slopes. Therefore, minerals excavated in a year shall be replenished during the monsoon season and hence, the whole block shall be exploited every year. The tributaries of this stream have carved a wide flood plain as the banks comprised of soft rocks hence, leading to higher deposition in this area. The stream approximately 700-750 meters wide in the mining lease area which gives a better chance of replenishment in this area.

- *The level of H.F.L*

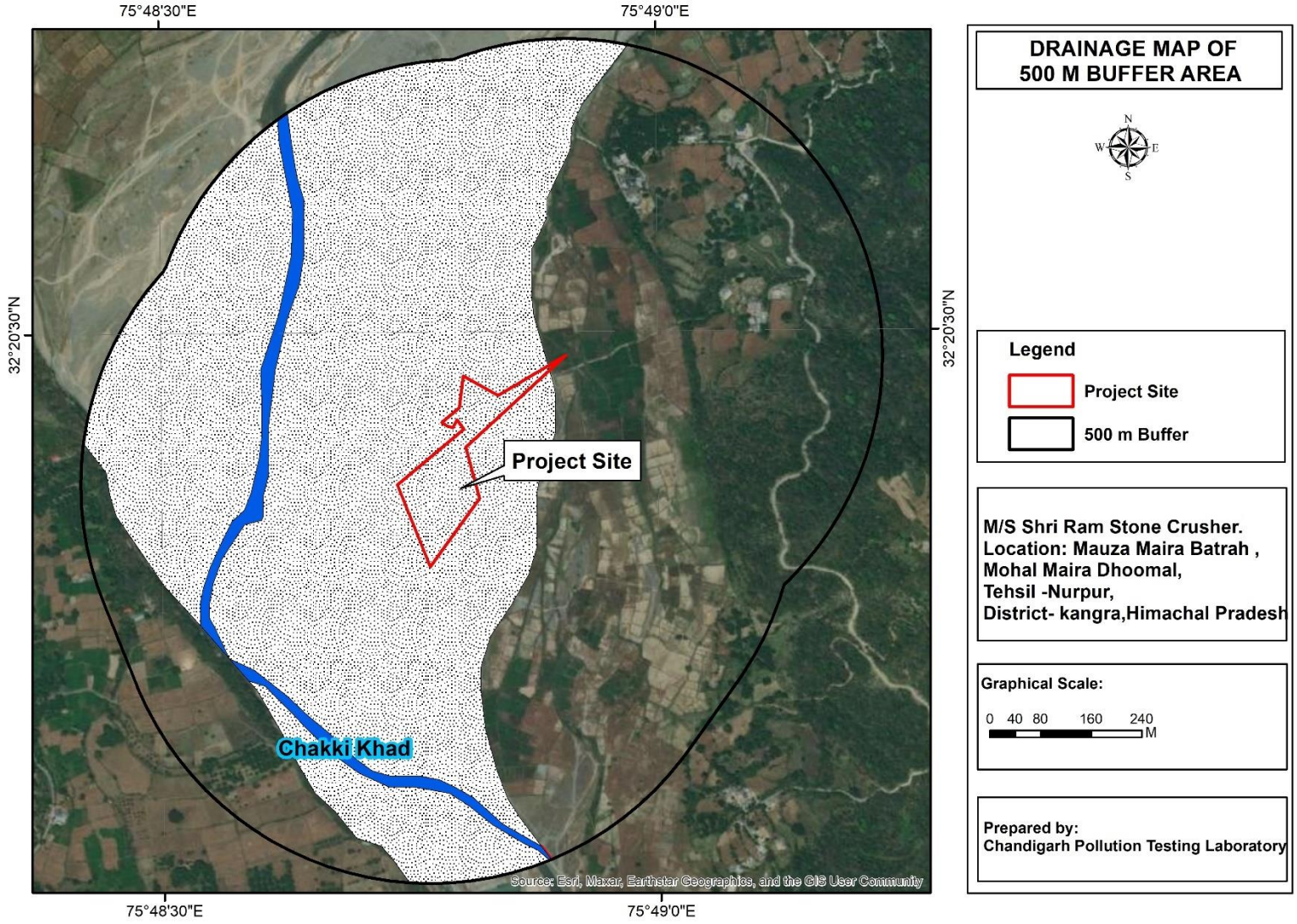
During Monsoon, the flood level raises about 1.50 mts. to 2.00 meters for a short spell of time. The highest flood level is the maximum rise level and the lowest flood level is the river bed level.

- *Description of Ground Water Table in The Mining area before and Post Monsoon.*

The Chakki River in district Kangra carved a wide valley and khad bed is occupied with river borne deposits comprising boulders, cobbles, pebbles, river borne bajri, sand, silt and clay deposits. These rivers borne deposits act as a good aquifer for ground water occurrence. The area is a hilly terrain as such cannot have any regular water table but the percolated water comes out in the shape of spring at those places where there is non- pervious formation to stop the water from further percolation. After the monsoon period, the springs can be seen functional in a number of places but the intensity of discharge start reducing after September and most of the springs go dry after November and the major source of water remain the course of the stream where the water is available along the course of a river where the wells are developed.

Figure- 3.12

DRAINAGE MAP OF THE PROPOSED MINING AREA



CHAPTER 4.0

ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

4.1 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.

4.2 AMBIENT AIR QUALITY

Impacts:

As the mining is proposed in 91,000 sqm area over river bed upto a depth of 1.0 meter by excavating shallow pits manually without any use of blasting. Due to inherent moisture in the minerals, there will be no generation of any dust pollution during mining operation leading to risein suspended particulate matter. However 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 respirableand 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}). The dust liberated in mining and other related operations is injurious to heath if inhaled insufficient quantity.

Mitigation measures

- Emissions inventory for SPM, RSPM, SO_2, NO_x shall be undertaken to satisfy the statuary requirements.
- Dust suppressions shall be done by water sprayers, avoiding overloads of transportedvehicles, water spray on access routes.
- Transportation of material in tarpaulin covered vehicles to crusher site, and shall be carried outin day time only.

- Mining shall be done in a controlled manner.
- Green belt shall be developed in the buffer zone
- The speed of dumpers plying on the haul road should limited to avoid generation of dust.
- Haul road shall be covered with gravels.

Air Pollution Impact Prediction through Modeling:

• Aermod Cloud AERMOD 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	1.1	66.95	68.05

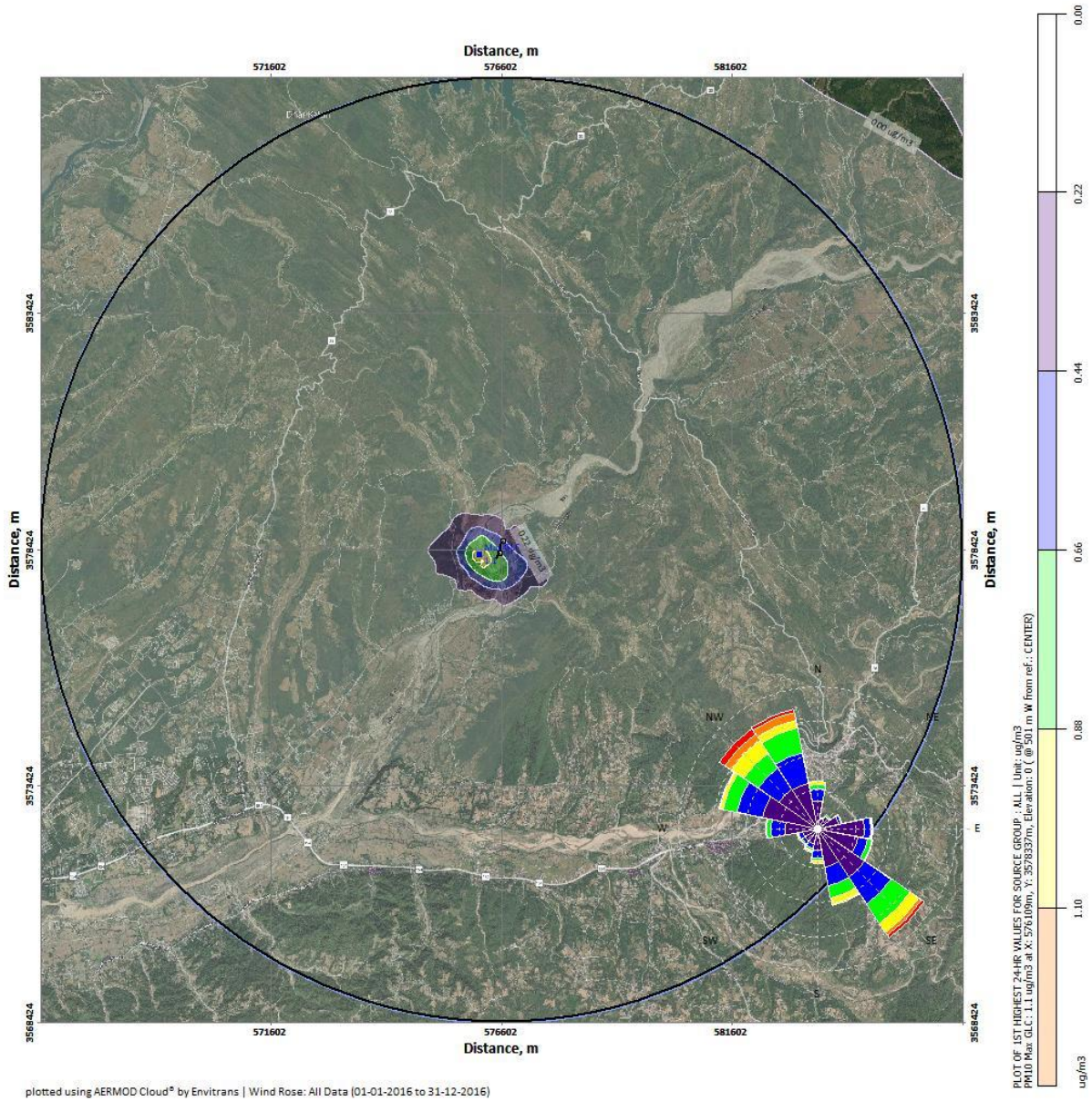
Predicted GLC's of the proposed project:

It is predicted that the maximum contribution in GLC's, with unit's operation will be 68.05 µg/m3 for PM10 at particular elevation from North direction. Since the mining is manual and no blasting is involved 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 76 vehicles per day both ways. The present max PM10 is 68.05 µg/m3 and PM2.5 is 35.55 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/m3 .

Conclusion:

From the figures available and the studies made, it is concluded that with the mining activity, the ambient 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.

Fig 4.1: Isopleths showing 24 hourlies predicted GLC's of PM10



4.3 WATER QUALITY

The project site lies in the riverbed of Chakki River which is perennial in nature, and water flows only during rainy season. The mining activity is carried out except rainy season as per the approved mining plan. So, surface water quality of the khad will not be affected for mining activity.

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 put use for plantation. However, the following safeguards shall be adapted: -

- 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.

4.4 NOISE LEVEL

The project does not involve any blasting and drilling, therefore there will 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
- Vehicular movements will be restricted to day time only.
- Replacement of old trucks or their retrofitting.

4.5 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: -

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

Mitigation measures

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

Soil erosion shall be prevented by constructing gully checks, check dams, water weirs etc.

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 will be done.

4.6 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, Barley and Vegetables. The fugitive emissions from the unit having insignificant pollution load will not be of any threat to the vegetation & soil in this area.

4.7 ECOLOGY & BIODIVERSITY

The area has quite sizable number of forests & local khads having flowing water. These have natural flora & fauna flourishing in the area. 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, the existing ecology & biodiversity of the area shall be maintained & will not be affected.

4.8 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 75 persons. All workers are drawn mostly from the local population. Thus, there is not any appreciable change in population in the nearby villages/towns. In view 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**.

4.9 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.

4.10 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.

4.11 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 in the mine. The people may suffer from occupational diseases or may get injured while working in the 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

5.1 General

This is the river bed mining project, where the material will be lifted manually up to the depth of 1.0 meter as per the State Government mining policy, 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 MONITORIN G 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.

6.4 The objectives of the monitoring will be as follows:

- To verify the results of the Impact Assessment Study with respect to the proposedprojects.
- 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, donot 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, NOX Silica & SO2	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.

6.5 ENVIRONMENT MANAGEMENT CELL

The Environment Management Cell shall include:

- Representative of Management (Head of Environment Cell)
- In charge of Maintenance Department

- A representative of Environmental Consultant.

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 shall be 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.

- 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
- Accident during sand loading, transporting and dumping
- Accident due to vehicular movement.

INUNDATION/FLOODING:

The consequences of flooding/ inundation are catastrophic or fatal. The likelihood of occurrence of 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.

- During monsoon months and heavy rains, the mining operations are ceased.
- 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 truck/ 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 properlymaintained.
- 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 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. The Socio-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.

7.4.1 OBJECTIVES OF SEIAA:

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.

7.4.2 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.

7.5 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 37 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 non-toxic 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.

7.5.1 CONCLUSION

The proposal involves the collection of river-borne minerals from river bed of Chakki Khad. The implementation of proposal is necessary to prevent the widening of river bed and to prevent the flooding of adjoining area & the same is possible only by maintaining the exciting course of river. Widening of river banks leads to bank erosion, damage to flora, agricultural land and the nearby settlements. The project implementation will provide direct and indirect employment, mostly to locals which will improve their social and economic upliftment. The extracted and processed minerals enjoy tremendous market demand. The proposal is therefore recommended for implementation.

CHAPTER – 8.0
PROJECT BENEFIT

8.1 PRELUDE:

The proposed project is mining of sand, stone and bajri mining from the riverbed, which will have no major impact on surrounding environment. It shall help in channelizing the flow of river and prevent flooding in surrounding areas. 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 around 170 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 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.

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 enhanced culture of quality throughout the organization turnover, increased staff accountability.

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 25,00,000/- or Twenty-Five Lakhs.

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 people 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 MANAGEMENTPLAN

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.

10.1 Objectives of EMP:

- Overall conservation of environment.
- Minimization of waste generation and pollution.
- Judicious use of natural resources and water.
- Safety, welfare and good health of the work force and populace.
- Ensure effective operation of all control measures.
- Vigilance against probable disasters and accidents.
- Monitoring of cumulative and long-term impacts.
- Ensure effective operation of all control measures

In order to mitigate the impacts due to the proposed project on various environmental components, the following environmental management measures are recommended:

	Anticipated Impacts	Mitigation Measures
Air Environment	➢ In river bed mining activities, the only source of gaseous emission is the fugitive dust generation during mining and from the engines of vehicles transporting the mined materials.	➢ Periodic air quality survey will be carried out to monitor the changes consequent upon mining activities as per the norms of Sate Pollution Control Board. ➢ To control the emission of harmful gasses regular maintenance of equipment will be carried out on regular basis. ➢ Proper mitigation measures like water sprinkling on haul roads will be adopted to control fugitive dust emission. ➢ Plantation will be carried out in nearby vicinity of river bank. ➢ To control the emissions regular preventive maintenances of vehicles will be done and all transportation vehicles will carry a valid PUC certificate. Over loading of trucks and

		consequent spillage on the roads will be avoided.
Noise Environment	➢ Noise will be produced at mining site due to movement of vehicles only. ➢ The lease area is not inhabited by any wild life, as there is no forest cover. Hence there will not be any effect on migration or extinction of wild life from the lease area as the noise created by the mining operation is insignificant so as to cause any impacts.	➢ Periodical monitoring of noise will be done to adopt corrective actions wherever needed. ➢ Speed of the vehicles in the mining area will be restricted. ➢ Vehicles with good maintenance will be utilized for material transportation. ➢ Proper maintenance of all vehicles & equipments will be carried out which will help in reducing generation of noise during operations. ➢ Plantation will be taken up along the approach roads which will minimize propagation of noise.
Water Environment	➢ There will be only domestic waste water generation from the sand mining operations.	➢ River bed mining will be done up to depth of 1m from the surface as per approved mining plan.

	➢ There is no chance of surface water pollution. The mining will be done away from water course on the river bed only. ➢ Mining in the area will be done well above the water table. Therefore, impact on water regime is not anticipated.	➢ Necessary arrangement shall be made at the stockpiles to prevent silt and sediment flowing in water. ➢ No In-stream mining will be done. ➢ No effluent will be generated due to mining activities. ➢ Plantation is proposed, which will increase the water holding capacity and help in recharging of ground water and promote water conservation.
Land Environment	➢ Deviation from planned mining procedure can lead to bank erosion/cutting and thereby river channel shifting and degradation of land, causing loss of properties. ➢ There is no environmental pollution due to the proposed mining as it is proposed to be a manual scooping of	➢ A well- planned restoration/reclamation of mined out area shall be in place. ➢ The extraction of sand will be restricted within the 100m distance river bank of the river. ➢ The proposed river bed mining is unlikely to change any characteristic of the river bed as the permitted mining volume

	ordinary sand on the river bed. ➢ The land of the mine lease area is Sand Mining & there will be no change in land use after operation.	is based upon annual replenishment.
Solid/Hazardous Waste Management	➢ No solid waste generation is expected from the mining operation. Waste generation from human activities and vehicles usage can occur.	➢ All sand mining machines and trucks should be maintained regularly to prevent oil leakages. ➢ Maintenance and washing of sand mining machines and trucks should be conducted at a suitable site/facility. ➢ Sand mining personnel should be sensitised to dispose of waste in a responsible manner and not to litter. No waste may remain on site after the completion of operations.
Biological Environment	➢ The mining activity will have insignificant effect on the existing flora and fauna.	➢ There is a requirement to establish a stable ecosystem with both ecological and economic returns. Minimization of soil erosion and dust pollution enhances the

		beauty of the core and the buffer zone. ➢ The purpose of the project itself is to save the flora around the project area from river widening, excessive erosion and floods. It was found that the sand mining activity will not have any significant impact on the biological environment of the region. ➢ Minimization of soil erosion and dust pollution enhances the beauty of the core and the buffer zone. To achieve this, it planned to increase plantation activities.
Socio-economic Environment	➢ As such no negative impact will be anticipated there.	➢ For improving the socio-economic environment, proper CER activities will be taken up in vicinity to uplift the condition of people.

Occupational Health & Safety of Workers	➢ The major health hazards in a mining unit are dust & noise.	➢ 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. ➢ Ear plugs will be provided to all workers in the area.

10.2 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 (Rs. InLacs)	Recurring Cost (Rs. In Lacs)/annum	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker through contract supply.	--	1.5	Twice a day & as per requirement
2.	Green belt development. & its maintenance	3.0	0.50	With affect from the first monsoon after the grant of EC & completion within two years.
3.	Waste management.	3.0	0.50	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.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	3.0	0.05	As per mining regulations.
Total		**9.0**	**2.8**	

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. Ravi Verma, Partner M/s Shree Ram Stone Crusher, Village & P.O. Kandwal and Tehsil Nurpur, District-Kangra, Himachal Pradesh has been issued a "Letter of Intent "for grant of mining lease vide letter No. Udyog- Bhu (Khani-4)Laghu-105/2022-12574 on dated 22.03.2023 for the grant of mining lease area for the extraction of Stone, Bajri and Sand over an area situated in Khasra no. 692/1, 693/1 & 745/1 measuring 02-11-20 Ha, (Pvt land, River bed) falling in Mohal Maira Batrah, Mauza Maira Doomal, Tehsil Nurpur, District Kangra, Himachal Pradesh. Based on a mining plan prepared by a registered Geologist and subsequently approved by the Industries Department, the project falls in category B2. However, due to cluster formation (Around 3 mining lease area existing within the 500m radius of the project site) the project is categorized as ***'Cat. B1'***.; hence the Environmental Clearance is to be given by SEIAA, Shimla, H.P

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. Ravi Verma; Partner M/s Shree Ganga Stone Crusher**
2.	**Type of project**	Mining of Minor Minerals i.e. **Sand, Stone and Bajri.**
3.	**Location**	Khasra Nos. 692/1, 693/1 & 745/1, Mohal Maira Batrah, Mauja Maira Dhoomal, Tehsil Nurpur, District Kangra, Himachal Pradesh
4.	**Lease Area Co-ordinates**	

Pillar No.	**Latitude**	**Longitude**
P1	32°20'24.32"N	75°48'50.36"E
P2	32°20'22.90"N	75°48'45.00"E
P3	32°20'19.94"N	75°48'45.41"E
P4	32°20'17.85"N	75°48'39.71"E

		P5	32°20'22.23"N	75°48'34.84"E
		P6	32°20'25.21"N	75°48'46.05"E
	Elevation (Altitude at origin)	Highest 459 meters above MSL. Lowest 458 meters below MSL.		
5.	**Mining Area**	02-11-20 Hectare		
6.	**Products**	Sand, Stone and Bajri		
7.	**Production Capacity**	40275 MT for first year or 201375 MT over a period of five years (including silt/clay)		
8.	**Cost**	Rs. 25 lakhs.		
9.	**Source of Electricity**	Not required		
10.	**Alternative source**	Nil		
11.	**Power Requirement at mining area**	Not required. All operations are manual.		
12.	**Water consumption**	2.0 KLD		
13.	**Source of water supply**	From tubewell		
14.	**Air pollution control at mining site**	Water sprinklers & tree plantations		
15.	**Hazardous chemical**	Nil.		
16.	**Hazardous waste**	Nil.		
17.	**Land Type**	Private Land, Gair Mumkin Khad		
18.	**Manpower requirement**	37 persons		
19.	**Validity of Lease**	As per grant		
20.	**Name of the stream/ River**	The mining lease area lies in the river bed of **Chakki Khad**		
21.	**Method of mining**	Manual		

11.3 METHOD OF MINING:

Mining will be done manually along the river bed keeping both shores unaffected. Drilling and blasting are not proposed.

- Trucks/tractors/trolleys/tippers will be used for the mineral transportation.

- Maximum depth willbe restricted to 1mbgl.
- Bank of the river will be kept untouched.

11.4 ENVIRONMENT MANAGEMENT PLAN:

Degradation of land is not having significant adverse impact of riverbed mining due creation of access roads, mining operations, transportation of mined material. In order to prevent the environmental degradation of leased mine area and its surroundings, the following measures shall be taken.

After leaving 1/10th of the width of the river from both side of the bank as no mining zone, for the stability of the banks, mining only be done in the remaining portion of the lease area and also from the stream. In this activity, the work is proposed to be done manually which will avoid adverse effects associated with heavy machinery and their functioning.

- The mining is planned in non-monsoon seasons only, so that the excavated area gets replenished during the monsoon each year.
- Restoration of bank will be ensured at the end of mine closure every year. Operations during daylight only.
- No foreign material should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.
- There will be minimum numbers of access roads to riverbed, as cutting river banks should be avoided and ramps are to be maintained. Access points to the river bed are to be decided based on the following:
    - Least steepness of river bank;
    - Less damage to riverside vegetation and least human activity;
    - Where steepness cannot be avoided access ramps should be constructed;
    - Haulage roads parallel to the river bank and roads connecting access (ramps) to the river bedshall be away from bank, preferably a minimum of l00m away;

- Access roads from the public roads and up to the river bank should be aligned in such a way thatit would cause least environmental damage;
- For particular operations approaching river bed from both the banks should be avoided.

11.4.1 AIR ENVIRONMENT

Anticipated Impacts:

- In river bed mining activities, the only source of gaseous emission is the fugitive dust generation during mining and from the engines of vehicles transporting the mined materials.

Mitigation Measures:

- Periodic air quality survey will be carried out to monitor the changes consequent upon mining activities as per the norms of Sate Pollution Control Board.
- To control the emission of harmful gasses regular maintenance of equipment will be carried out on regular basis.
- Proper mitigation measures like water sprinkling on haul roads will be adopted to control fugitive dust emission.
- Plantation will be carried out in nearby vicinity of river bank.
- To control the emissions regular preventive maintenances of vehicles will be done and all transportation vehicles will carry a valid PUC certificate. Over loading of trucks and consequent spillage on the roads will be avoided.

11.4.2 NOISE ENVIRONMENT

Anticipated Impacts:

- Noise will be produced at mining site due to movement of vehicles only.
- The lease area is not inhabited by any wild life, as there is no forest cover. Hence there will not be any effect on migration or extinction of wild life from the lease area as the noise created by the mining operation is insignificant so as to cause any impacts.

Mitigation Measures:

- Periodical monitoring of noise will be done to adopt corrective actions wherever needed.
- Speed of the vehicles in the mining area will be restricted.

- Vehicles with good maintenance will be utilized for material transportation.
- Proper maintenance of all vehicles & equipments will be carried out which will help in reducing generation of noise during operations.
- Plantation will be taken up along the approach roads which will minimize propagation of noise.

11.4.3 WATER ENVIRONMENT

Anticipated Impacts:

- There will be only domestic waste water generation from the sand mining operations.
- There is no chance of surface water pollution. The mining will be done away from water course on the river bed only.
- Mining in the area will be done well above the water table. Therefore, impact on water regime is not anticipated.

Mitigation Measures:

- River bed mining will be done up to depth of 1m from the surface as per approved mining plan.
- Necessary arrangement shall be made at the stockpiles to prevent silt and sediment flowing in water.
- No In-stream mining will be done.
- No effluent will be generated due to mining activities.
- Plantation is proposed, which will increase the water holding capacity and help in recharging of ground water and promote water conservation.

11.4.4 LAND ENVIRONMENT

Anticipated Impacts:

- Deviation from planned mining procedure can lead to bank erosion/cutting and thereby river channel shifting and degradation of land, causing loss of properties.
- There is no environmental pollution due to the proposed mining as it is proposed to be a manual scooping of ordinary sand on the river bed.
- The land of the mine lease area is Sand Mining & there will be no change in land use after operation.

Mitigation Measures:

- A well- planned restoration/reclamation of mined out area shall be in place.
- The extraction of sand will be restricted within the 100m distance river bank of the river.

The proposed river bed mining is unlikely to change any characteristic of the river bed as the permitted mining volume is based upon annual replenishment.

11.4.5 SOLID/HAZARDOUS WASTE MANAGEMENT

Anticipated Impacts:

- No solid waste generation is expected from the mining operation. Waste generation from human activities and vehicles usage can occur.

Mitigation Measures:

- All sand mining machines and trucks should be maintained regularly to prevent oil leakages.
- Maintenance and washing of sand mining machines and trucks should be conducted at a suitable site/facility.

11.4.6 BIOLOGICAL ENVIRONMENT

Anticipated Impacts:

- The mining activity will have insignificant effect on the existing flora and fauna.

Mitigation Measures:

- There is a requirement to establish a stable ecosystem with both ecological and economic returns. Minimization of soil erosion and dust pollution enhances the beauty of the core and the buffer zone.
- The purpose of the project itself is to save the flora around the project area from river widening, excessive erosion and floods. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

11.4.7 SOCIO-ECONOMIC ENVIRONMENT

Anticipated Impacts:

- As such no negative impact will be anticipated there.

Mitigation Measures:

- For improving the socio-economic environment, proper CER activities will be taken up in vicinity to uplift the condition of people.

11.4.8 OCCUPATIONAL HEALTH & SAFETY OF WORKERS

Anticipated Impacts:

- 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.

Mitigation Measures:

- 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.
- Ear plugs will be provided to all workers in the area.

11.5 PLANTATION WORK;

Table: 11.2

The year wise plantation plan is given in the table below

S. No	Year	Area in Sq. Mts.	No. of Plants
1.	**1st Year**	1000	100
2.	**2nd Year**	1000	100
3.	**3rd Year**	1000	100
4.	**4th Year**	1000	100
5.	**5th Year**	1000	100
Total		**5000**	**500**

11.6 STRATEGY FOR PROTECTION OF POINT OF PUBLIC UTILITY ETC:

There is no point of public utilities present in and around the proposed area.

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. InLacs)	Recurring Cost (Rs. In Lacs)/annum	Time frame to Implement
1.	Air pollution control- Management of haulage road including water sprinkling with the help of tanker through contract supply.	--	1.5	Twice a day & as per requirement
2.	Green belt development. & its maintenance	3.0	0.50	With affect from the first monsoon after the grant of EC & completion within two years.
3.	Waste management.	3.0	0.50	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.	Occupational health measures- Provision of PPE, first aid and other miscellaneous.	3.0	0.05	As per mining regulations.
Total		**9.0**	**2.8**	

11.8 RECLAMATION PLAN:

The mined area being part of the river course cannot be reclaimed for any other purpose. The mining depth will be up to 1.0 meter or upto water level whichever is less, thus water regime will not be disturbed.

- The entire quarried area will be replenished and reclamation by the river during monsoonfloods.
- The lease area is and shall remain river bed.
- Thus, the topography or land use of the river will not be changed.

11.8.1 WASTE DISPOSAL ARRANGEMENT:

Year wise generation of mine waste during five years is given below:

Table-11.4 Year wise Production of mine waste

Mine Waste (in MT) (SILT/ CLAY)	
1st Year	4027
2nd Year	4027
3rd Year	4027
4th Year	4027
5th Year	4027
TOTAL	**20135**

11.8.2 TOPSOIL UTILIZATION:

There is no top soil available in the river bed.

11.8.3 PREVENTIVE RETAINING STRUCTURES:

As the whole of the mining lease area lies within the HFL of Chakki Khad, no retaining structures can be constructed.

11.9 MANPOWER DEVELOPMENT:

Around 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 boulders shall be used for the manufacturing of grit in the already established stone crusher unit and after screening/washing the stone and bajri shall be used for the manufacturing of grit and M-sand and the sand shall be sold in the open market. The material shall be used for approach road works or plantation work.

11.11 BENEFITS OF MINING:

The proposed activity shall provide raw material to stone crusher there by boosting productionof 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 asgrowth 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, gurudwara, etc.); marriage homes, Bus stations, railway stations, play grounds will be improved.

11.14 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 notbe any increase in population due to the project. However, few people from other area may migratein 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 (C P T L) 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 qualifiedand 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.

12.2 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

QUALITY COUNCIL® OF INDIA
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National Accreditation Board for Education and Training

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.

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

ANNEXURE-I (a)

LETTER OF INTENT

No. Udyog-Bhu (Khai-4)Laghu-105/2022
Government of Himachal Pradesh,
Department of Industries,
"Geological Wing"

Dated; Shimla _ 171001, the 2023

LETTER OF INTENT

M/s Shree Ram Stone Crusher, Partner Sh. Ravi Verma, Village & P. O. Kandwal, Tehsil Nurpur, Distt. Kangra, H. P. has applied for grant of mining lease from Khasra Nos. 692/1, 693/1 & 745/1 measuring 02-11-20 Hect. (Pvt. land, River bed) falling in Mohal Maira Batrah, Mauza Maira Doomal of Tehsil Nurpur, Distt. Kangra, H. P. for collection/extraction of sand, stone & bajri for use in already established stone crusher in the name & style M/s Shree Ram Stone Crusher under the provisions of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining Transportation and Storage) Rules, 2015. The joint inspection committee has recommended the applied area for the grant of mining lease comprising Kh. Nos. 692/1, 693/1 & 745/1 measuring 02-11-20 Hect. On the basis of final recommendations of the Joint Inspection Committee the "Letter of Intent" for an area measuring 02-11-20 Hect. (Pvt. land, River bed) bearing comprising Kh. No. 692/1, 693/1 & 745/1 situated at Mohal Maira Batrah, Mauza Maira Doomal of Tehsil Nurpur, Distt. Kangra, H. P. 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 provisional granted area. A copy of the demarcation report shall also be submitted to the Mining Officer.

2- The Party shall have to submit approved Mining Plan under Rule 35 of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining Transportation and Storage) Rules, 2015.

3- The Party shall have to obtain Environment clearance under the provision of Environment Impact Assessment Notification, 2006 and amendment issued time to time in this regard from the Competent Authority and forest clearance in case of forest land.

4- The party shall submit a certificate from the revenue authority to the effect that Khasra Nos. 692/1, 693/1 & 745/1 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 further subject to any orders passed by the Hon'ble Supreme Court of India/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 Environment Impact Assessment Clearance from the Competent Authority and the applicant shall not resort any mining activities till final grant order in this behalf.

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 serial Nos. 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 activity till getting the final grant order.

M/s Shree Ram Stone Crusher,
Partner Sh. Ravi Verma,
Village & P. O. Kandwal,
Tehsil Nurpur, Distt. Kangra, H. P.

Director of Industres
Himachal Pradesh
Dated: 22/3/ 2023

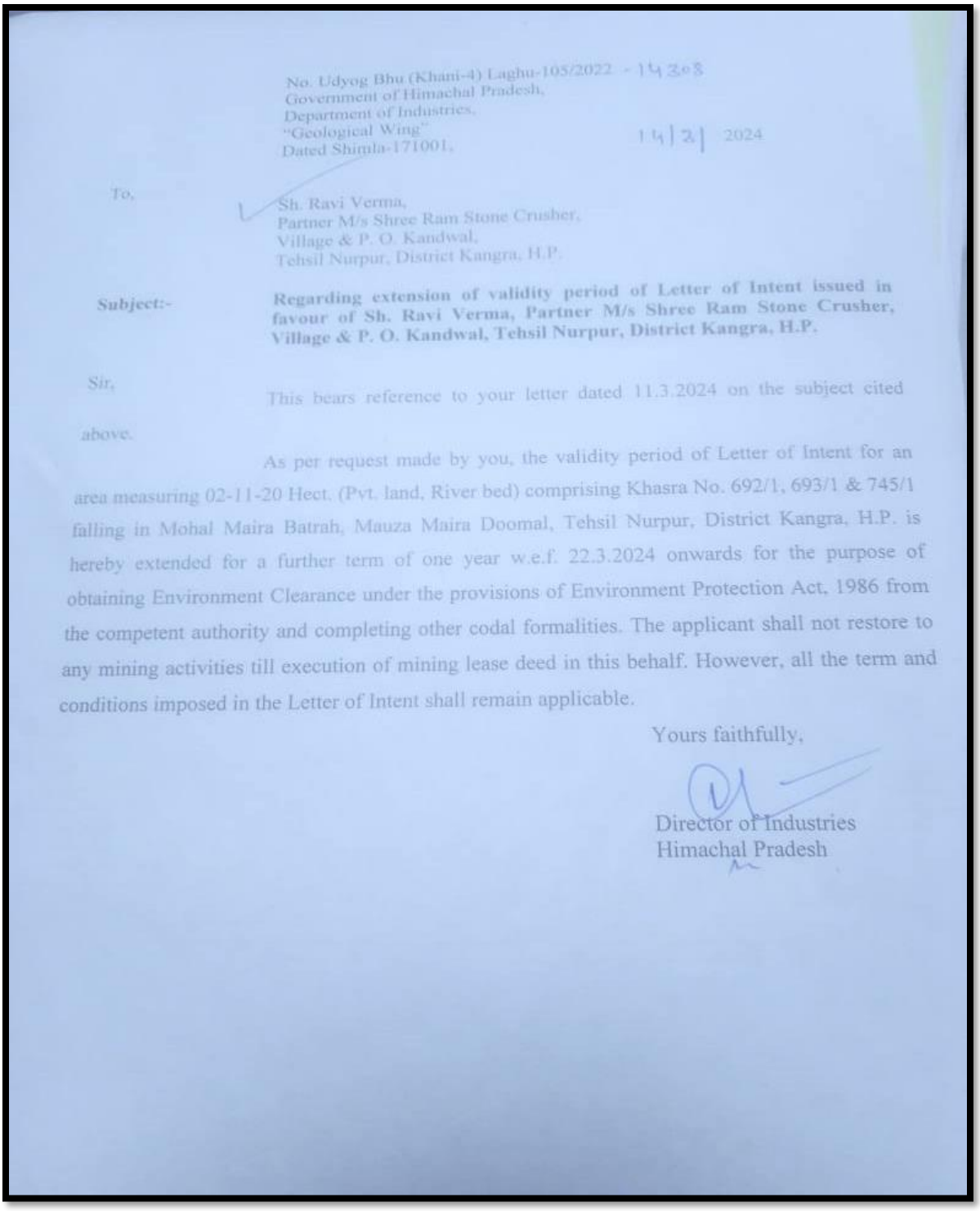
Endst. No. As above. 12574
Copy to the following for information and necessary action:-

1. The Mining Officer, Nurpur, Distt. Kangra, H. P.
2. Sh. Darshan Singh, S/o Sh. Sant Singh and Sh. Prem Singh, S/o Sh. Damodar Singh, Partner M/s Shree Ram Stone Crusher, VPO Kandwal, Tehsil Nurpur, District Kangra, H. P.
3. Sh. Sandeep Kumar, S/o Sh. Kamal Kumar, R/o Village & P. O. Mohtli, Tehsil Indora, Distt.Kangra H.P. w.r.t. partnership deed dated 29.10.2022.
4. Guard file.

Director of Industries
Himachal Pradesh

ANNEXURE- I (b)

EXTENSION OF LOI



No. Udyog Bhu (Khani-4) Laghu-105/2022 - 13308
Government of Himachal Pradesh,
Department of Industries,
"Geological Wing"
Dated Shimla-171001. 14/3/ 2024

To,

Sh. Ravi Verma,
Partner M/s Shree Ram Stone Crusher,
Village & P. O. Kandwal,
Tehsil Nurpur, District Kangra, H.P.

Subject:- **Regarding extension of validity period of Letter of Intent issued in favour of Sh. Ravi Verma, Partner M/s Shree Ram Stone Crusher, Village & P. O. Kandwal, Tehsil Nurpur, District Kangra, H.P.**

Sir,

This bears reference to your letter dated 11.3.2024 on the subject cited above.

As per request made by you, the validity period of Letter of Intent for an area measuring 02-11-20 Hect. (Pvt. land, River bed) comprising Khasra No. 692/1, 693/1 & 745/1 falling in Mohal Maira Batrah, Mauza Maira Doomal, Tehsil Nurpur, District Kangra, H.P. is hereby extended for a further term of one year w.e.f. 22.3.2024 onwards for the purpose of obtaining Environment Clearance under the provisions of Environment Protection Act, 1986 from the competent authority and completing other codal formalities. The applicant shall not restore to any mining activities till execution of mining lease deed in this behalf. However, all the term and conditions imposed in the Letter of Intent shall remain applicable.

Yours faithfully,

Director of Industries
Himachal Pradesh

ANNEXURE-II

APPROVAL OF MINE PLAN

REGISTERED

No. Udyog-Bhu(Khani-4)Laghu-105/2022 - 1365
Government of Himachal Pradesh
Department of Industries
"Geological Wing"
Dated; Shimla- 171001,

20/3/ 2023

To

M/s Shree Ram Stone Crusher,
Partner Sh. Ravi Kumar Verma,
Village & P. O. Kandwal,
Tehsil Nurpur, District Kangra, H. P.

Subject:- **Approval of Mining Plan of area applied for grant of mining lease for collection/extraction of sand, stone & bajri from Khasra No. 692/1, 693/1 & 745/1 measuring 02-11-20 Hect.(Pvt. land, River bed) falling in Mohal Maira batrah, Mauza Maira Doomal, Tehsil Nurpur, District Kangra, H. P. for which Letter of Intent has been issued on 22.3.2023.**

Dear Sir,

In exercise of powers conferred by Rule 36 of Himachal Pradesh Minor Mineral (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 22.3.2023. 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 govt. or any other authority.
2. That this approval of the Mining Plan does not in any way imply the approval of Govt. 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 there under 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 man made, the inspecting officer can recommend necessary amendments in the 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 amendements/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 renewed 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 Environmental Clearance which ever 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 Mineral (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, may 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 if any thing 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

Endst. No. As above. Dated; 2023

Copy for kind information to:-

1. The Mining Officer, Nurpur, Distt. Kangra, H. P. alongwith a copy of Mining Plan for further necessary action.
2. Sh. Arun Dhiman, Village & P. O. Dhaloon(Panchpuli), Tehsil Nagrota Bagwan, Distrit Kangra, H. P.-176056.

Geologist (Zone-II)
Himachal Pradesh

ANNEXURE-III

JOINT INSPECTION REPORT

PERFORMA FOR THE JOINT INSPECTION OF THE AREA APPLIED FOR MINING LEASE

1. General		
1.1 Name of the applicant		*Sh. Ravi Verma M/s Shree Ram Stone Crusher*
1.2 Address of the applicant	*Father's Name*	*Sh. Nanak Chand*
	Village	*Pakka Tala*
	P.O	*Kandwal*
	Tehsil	*Nurpur*
	District	*Kangra*
	Pin No	
1.3 Approach and location of the area	*The area is located at a distance of approx. 17 Km. from Nurpur and can be approached by Nurpur -Pathankot road i.e. NH 20 up to Nagabari and thereafter, by Nagabari-Maira Batrah-Haddal link road up to Maira and the last spell of approx. 1 km can be approached through an unmetelled road developed on the Nallah and bed of Chakki Khad.*	
1.4 Purpose for which lease is applied e.g. For setting up of stone crusher, Hollow block, Screening unit, free sale		*For existing Stone Crusher Unit M/s Shree Ram Stone Crusher*
1.5 Date of Joint Inspection		*05-12-2022*

1.6 Members present during joint inspection

Sr. No	*Name and Designation*	*Particulars*
1	*Sh Anil Bhardwaj S.D.O (Civil) Nurpur*	*Chairman*
2	*Sh Rahul Sharma Asstt Environmental Engineer , HPSPCB, Nurpur*	*Member*
3	*Shri Shashi Pal Range Forest Officer, Nurpur*	*Member*
4	*Sh Anurag Sharma A.E Jal Shakti Vibhag Sub-Div. Nurpur*	*Member*
5	*Sh Kuldeep Sharma AE. HPPWD, Sub-Division Sulyali*	*Member*
6	*Shri J.K. Puri Mining Officer, Nurpur , Distt Kangra*	*Member Secretary*

2.Revenue Department

2.1 Status w.r.t. Demarcation of Applied for area *Conducted on 03.12.2022*

2.2 Detail of area applied

Kh. No	Area (In Hect)	Owner Govt/ private	Kism	Mohal	Mauza	Panchayat	Any other
692/1 693/1 745/1	00-28-31 00-02-35 01-80-54	Pvt. Land	Gair Mumkin Khad	Maira Barah	Maira Doomal	Hadal	
Total	02-11-20						

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.

The area applied for fresh mining lease was shown physically by concerned field Revenue staff. Since the area under reference exists in the form of bed of Chakki Khad, primary tributary to river Beas. Hence no above-mentioned structure of community interest exists with or near the area applied for grant of mining lease.

2.3 Consent of Gram Panchayat

Gram Panchayat Haddal vide its resolution No. 5 dated 30-11-2022 has issued its consent for proposed mining activities in the area under reference, the photocopy of the same as well as "Karyawahi Register" (proceeding book) was found enclosed along with the application form.

2.4 Whether marked on location plan attached with application

If not then please mark

Yes

Any special recommendation with respect to above points]

No

2.5 Any other observation/condition

Haddal
14/12/2022

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

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 nallas/stream etc ,if yes please specify and mark on location plan and what precautions are required

No activities such as soil conservation works, nursery plantation, check dams, taming of nallas/stream etc of the forest department exists in the area applied for grant of mining lease.

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

No property of forest department exists near the area under reference which shall likely to have any adverse effect due to proposed mining activities.

3.5 Any other observation/condition

Since no property or activities of forest exists near the area applied for Grant of mining lease hance the representative of forest department has no objection from the forest point of view w.r.t. proposed mining activities in the area applied for grant of mining lease.

Range Forest Officer
Nurpur Forset Range

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	7Km		100 m	
	State highway	8 Km		25 m	
	Link road	500 mtr		*10 m*	
	Village road	N.A.		10 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, then No. of bridges etc.			N.A.	
Whether marked on location plan		yes	If not, please mark	
	Bridge	Minimum distance required		Any special precaution required
		U/S	D/S	
	Bridge No.1	200 mtr	300 - 500 mtrs	*N.A.*
	Bridge No.2			

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

No

4.5 Any other observation/condition

Since no structures of PWD i.e. road/bridge/building etc. are exist within or near the area applied for grant of mining lease, hence no objection was there from PWD point of view to the representative of PWD w.r.t. proposed mining activities in the area applied for fresh mining lease.

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

NA

Assistant Engineer
Suliali Sub Division
H.P.P.W.D. Suliali

5. Jal Shakti Department

5.1 Whether there exist any water supply scheme within/near the area		Yes	✓ No
Type of Scheme	Scheme	Minimum safe distance required	
		U/S	D/S
	Water supply tank	NA NA	NA
	Water supply bore well		
	Lift Irrigation Scheme		
	Hand Pump		
Whether marked on location plan	*N/A*	If not please mark	

Any special recommendation with respect to above schemes

NA

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

NA

5.3 Any other observation/condition

No objection

Assistant Engineer,
Jal Shakti, Sub-Division

6. Industries Department		
6.1 Location of applied for area (nearest village/important features)		*Maira Bathrah*
6.2 Purpose of Mining Lease.		*To cater the demand of raw material i.e. minor minerals stone/bajri for exiting Stone Crusher unit*
6.3 Overlapping of areas with any other lease/contract	Yes	✓ No *(As per this office record)*
If yes please give detail		*N/A*
6.4 Location of the nearest mining area/quarry *Another three mining leases within one Kilometer*		
6.5 Average daily production anticipated in Metric Tonns		*As per approved mining plan*
If yes, please mark on location plan and suggest precaution		*N.A.*
6.6 Suitability of mineral as per the purpose given above (Give detail)		*The minor mineral is suitable for purpose applied for*

6.7 Feasibility of Mining

(i) Name of Mineral : *Stone/bajri/sand*

(ii) Type of mining Hill slope/River Bed River *bed*

(A)Hill Slope

(i)Average angle of slope: *N/A*

(ii) Nature of rock:

(iii) Scientific mineability considering the orientation of revenue record:

(iv)Availability of mineral w.r.t anticipated production:

(v) Availability of area for disposal of waste:

(vi) Approach to the Mine area:

(vii) Whether areas is prone to land slide if yes then the protection measures needed thereof:

(B) River Bed

(i) Name of river/ stream: *Chakki Khad*

(ii) Width of river bed: *Approx. 100 Mtrs.*

(iii) Approximate length of applied for area: *Approx. 175 mtrs.*

(iv)Availability of mineral w.r.t anticipated Production:

The mineral available can meet out the demand of the existing stone crusher unit under the name and style M/s Shree Ram stone Crusher.

(v) Availability of area for disposal of waste:

The top soil cover needs to be stripped of and stacked systematically so as to use the same for plantation during reclamation of the mined out area.

(vi) Approach to Mining Area

Area can easily be accessible from Nurpur as shown under item No.- 1.3 of this report. The raw material / finished product, however, shall be transported from site to various destinations through Nagabari , Maira Batrah and Khanni.

(vii) Location of

(i) **Habitation along the banks** *Approx. 100 Mtrs.*

(ii) **Agriculture field along the banks:** *Approx. 50 mtrs.*

Any other structure like Transmission Lines, Telephone Lines etc: *No*

(viii) Disposal of waste:

The mining activities shall involve only collection of minor mineral on the river bed as such no waste disposal shall likely to be there during process of mining

(ix) Area proposed for Plantation: *Yes*

(c) Additional information of Mining Lease

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

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

(ii) **Investment on machinery & equipment** **approx. 30 Lacs**

(iii) **Labourer Employed** **NA**

(ii) Production of mineral for the last tenure: **NA**

(iii)Violation of condition mining noticed in the tenure : **Nil**

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

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

The mining activities shall be confined only towards depositional side and the central portion of the river / khad bed and therefore, it shall not pose any threat to private/public property

6.9 Any other special point pertaining to Industries Department

1. **Local Geology of the area**

The mining lease area is situated in the river course of Chakki Khad. The stream course is occupied with river born deposits which comprises of Boulders Cobbles, Pebbles, Sands and silt clay deposits forming channel deposits of annual deposition. The deposits above high flood label are terrace deposits which comprises of Boulders Cobbles, Pebbles, Sands and silt clay. In the catchment area rock of Dharamshala formation are exposed which comprises of alternate sequence of sand stone and clay/silt stone. The following table shows the rocks classification according to age.

Channel Deposits	***Boulders, Cobbles, Pebbles, Sands and silt clay***
Terrace Deposits	***Cobbles, Pebbles, Sands and silt clay***

The mining lease area is covered with river borne deposits which are deposited in Chakki Khad during flood season. The Chakki khad receives its sediment load from the disintegration/erosion of the rocks forming catchment area. The deposits contain sediments of quartzite, granite, sand stone, with fine nature of sand, silt and clay. The colour of the coarse aggregates varies from white, of-white to greyish in colour . The boulders are sub-angular to sub-rounded in shape but the surface is smooth.

2. *The area applied for mining lease forms a compact block.*
3. *The area applied for first time of mining lease by the mining lessee holds sufficient deposits of quartzite / sand fraction of granite, limestone, stone boulders, bajri and sand transported as a result of flash floods during the rainy season.*
4. *The quantum of stone / boulders of varying size easily available in the area can cater the demand of existing stone crusher of the applicant. The area applied for Grant of mining lease is found suitable by the committee for the purpose applied for and keeping in view the annual replenishment of Khad bed it is observed that the minor minerals removed during a particular of time shall be readily replenished during the rainy season*
5. *As on date three mining leases exists within the radius of 1 km of the bed of Chakki Khad and total potential of minor mineral in Chakki Khad as per the Survey document is 27000000 MT minor minerals available with annual replenishment of 810000 MT as per survey document of Kangra Distt.*

It is further informed that the area applied for Grant of mining lease fulfills the conditions and the distance criteria mentioned under Rule 19 (8) of Himachal Pradesh Minor Minerals (Concession) and Minerals (Prevention of Illegal Mining, Transportation and Storage) Rules, 2015.

7. Environment Protection & Pollution control Board Summary of method for Environment Protection

The site of applied mining lease was inspected on dated 05/12/2022.The applied for mining lease for extraction of sand stone bajri by Sh. Ravi Verma S/o Sh. Nanak Chand, Village Pakka Tala, Post Office Kandwal, Tehsil Nurpur,Distt. Kangra for stone crusher M/s Shree Ram Stone Crusher at Kandwal Tehsil Nurpur,Distt. Kangra..The applied mining lease is situated at Chakki Khad,Primary Tributary of River Beas at Mauza Maira Doomal, Mohal Maira Barah, Panchyat Hadal ,Tehsil Nurpur , Distt.Kangra H.P and area is mention as given below.

Sr. No.	Area (Hect.)	Khasra No.	Owner Govt./Pvt Land	Panchyat
1.	00-28-31	692/1	Pvt. Land	Hadal
2.	00-02-35	693/1	Pvt. Land	Hadal
3.	01-80-54	745/1	Pvt. Land	Hadal
Total Area	02-11-20 Hect.			

The mining lease may be issued to the proponent as per the mining policy of the govt. of (H.P) along with the following term & condition please.

- The Mining shall be carried out as per the practices and policies of mining departments.
- The mining lease area is a river bed and situated mining area in Chakki Khad,Primary Tributary of River Beas , So the sand & Bajri should be picked up manually.
- No blasting shall be carried out.
- Natural course of river shall not be disturbed & especially step shall be taken to control the soil erosion.
- No mechanical work/JCB allowed in the mining lease area.
- Any guidelines issued by state Pollution Control Board Shall be binding.
- The Proponent shall obtain the EIA clearance from the competent authority as per the orders of Hon'ble supreme court dt. 27.02.2012 & Hon'ble high court dt. 15.06.2012 & 14.09.2012. & EIA-clearance obtained from the competent authority.
- Water sprinkling shall be carried out on approach road and proper covered the material during transport from mining area.

Asstt. Environmental Engineer,
Sub. Regional Office,
HP State Pollution Control Board
Nurpur, Distt. Kangra (H.P.)

7. H.P. State Pollution Control Board

Summary of method for environmental protection

Contd....9

8.Recommendations		
8.1Whether whole of the area is being recommended for mining	✓ yes	No
If no, please specify the kh. Nos. being recommended.		
N.A.		
Any other recommendation in addition to recommendations given at to		
N.A.		
Final recommondation of the Committee		
Keeping in view the facts given above, the area applied for new mining lease comprising of Khasra No. 692/1, 693/1 and 745/1 measuring to 02-11-20 Hect. Was found suitable by the committee and is being recommended for Mining lease subject to the stipulation made above and completion of all other codal formalities.		

Signatures		
SDO(C) Sub Divisional Officer Nurpur (H.P.) - 176202	ACF/R.O. Range Forest Officer Nurpur Forest Range	Repersentative of P.W.D. Assistant Engineer Suliali Sub Division H.P.P.W.D. Suliali
Repersentative of Jal Shakti Assistant Engineer, Jal Shakti, Sub-Division Nurpur	Repersentative of H.P.S.P.C.B. Environmental Engineer, Regional Office, Pollution Control Board Distt. Kangra (H.P.)	Mining Officer

ANNEXURE-IV.

500 METER DISTANCE CERTIFICATE

REGISTERED

No. Udyog Bhu (Khani-4.)Laghu-105/2022 - 2454
Government of Himachal Pradesh,
Department of Industries,
"Geological Wing"

Dated Shimla-171001, 14-6- 2023

To

Sh. Ravi Verma,
Partner M/s Shri Ram Stone Crusher,
Village & P. O. Kandwal,
Tehsil Nurpur, Distt. Kangra, H. P.

Subject:- **Regarding issuance of Distance Certificate.**

Sir,

Please find enclosed herewith countersigned distance certificate by the undersigned issued by the Mining Officer, Nurpur, District Kangra, H. P. on the report of Halqa Patwari in favour of Sh. Ravi Verma, Partner M/s Shri Ram Stone Crusher, Village & P. O. Kandwal, Tehsil Nurpur, Distt. Kangra, H. P. for information.

Enclosed:- As above.

Yours Faithfully,

Geologist (Zone-II)
Himachal Pradesh

Endst. No. As above. Dated; 2023

Copy to:-The Mining Officer, Nurpur, Distt. Kangra, H. P. w.r.t. his letter No. Udyog (Bhu) NPR-Shri Ram SCU-366 dated 31.5.2023 for information and further necessary action.

Geologist (Zone-II)
Himachal Pradesh

No.: Udyog (Bhu) NPR- Shri Ram SCU -
Office of the Mining Officer,
Nurpur, Distt Kangra (H.P.)
Nurpur

Dated: 31/May/2023

TO WHOM IT MAY CONCERN

Certified that as per certificate received from Halqa Patwari Hadal three mining leases exists/ granted within radius of 500 meters from the area applied for grant of mining lease in favour of Sh. Ravi Verma Part. M/s Shri Ram stone Crusher, VPO Kandwal, Tehsil Nurpur, Distt Kangra (H.P), over an area comprising khasra no. 692/1, 693/1 and 745/1 measuring 02-11-20 hect. in mohal/ mauza Majra Batrah / Maira Doomal, Tehsil Nurpur Distt. Kangra (H.P.) is as under : .

Sr.No.	Name & Address	Mahal/ Mauza	Khasra No.	Area	Remarks
1	M/s New Shiva Stone Crusher, VPO Kandwal, Tehsil Nurpur Distt. Kangra (H.P.)	Maira Batrah / Maira Doomal	700,731/2/2	04-97-93	
2	M/s Shiva Stone Crusher VPO Kandwal, Tehsil Nurpur Distt. Kangra (H.P.)	Maira Batrah / Maira Doomal	731/1 and 732	03-87-70	
3	M/s Mahadev Stone Crusher, VPO Kandwal, Tehsil Nurpur Distt. Kangra (H.P.)	Maira Batrah / Maira Doomal	731/3	05-40-07	

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

Mining Officer
Nurpur, Distt. Kangra (H.P.)

श्रीमान जी,

रिपोर्ट की जाती है। कि खसरा नं० 692-693-745 वाक्या महाल मैरा बलाह मौजा मैरा टूमल तह० नूरपुर जिला कांगड़ा (हि०प्र०) उक्त खसरा नं० प्रेम सिंह पुत्र दमोदर व रणवीर सिंह पुत्र खैदशा सिंह द्वारा रवि पुत्र नानक चन्द पुत्र साई दास को पट्टा पर दी गई है।

खसरा नं०

732 से 692-693-745 की दूरी 310 मीटर है।

700-731 से 692-693-745 की दूरी 300 मीटर है

154 से 692-693-745 की दूरी 500 मीटर से काफी दूर है।

पटवारी Hadal
तहसील Nurpur
दिनांक 29/5/23 हस्ताक्षर

ANNEXURE-V

LIST OF FLORA AND FAUNA

APPENDIX-XV
LIST OF COMMON TREES , SHRUBS, AND CLIMBERS ETC. FUND IN THE NURPUR FOREST DIVISION

Family	Name	Local Name
1	2	3
Rannunculaceae	Clematis gouriana	Jhol
	Clematis Nutans	Chibru Machrun
Menispermaceae	Coeculus laurifolium	Paror
Capparidaceae	Capparis sepiaria	Hiun Garna
	Crataeva religiosa	Barna
Bixaceae	Flacourtia Indica	Kangu Kakor
	Xylosma longifolium	Chririndi
Ternstroemiaceae	Saurauja nepualensis	Bhakara
malvaceae	Kydia calycina	Pula
	Bombax malabaricum	Simal
Sterculiaceae	Helicteres isora	Maror Phali
	Pterospennuma cerifolium	Later Champa
Tiliaceae	Grewia oppositifolia	Dhaman Phali
	Grewia elastivaver	Phalsa.Pheru*
	Grewia laevugata*	Dhamriana*
	Grewia populifolia	-
	Grewia hainesiana	Dhaman
Linaceae	Reinwardtia trigyna	Basant
Malpighiaceae*	Hiptage madabloda	Want
	Aspideterys Wallichii	Dhur Bel*
Rutaceae	Santhozylum alatum	Tirmar,Timar
	Skimmia laureola	Kali* Nehra
	Limonia crenulata	Barhahi, Bilan
	Murraya exotica	Nargan
	Murraya Koenigii	Gandla
	Citrus medica	-
	Aegle marmelos	Sangtara
		Bil*

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Family 1	Name 2	Local Name 3
Meliaceae	Azadirachta indica	Nim
	Melia azadarach	Bakain,Drek
	Cedrela toona	Tun
Celastraceae	Celastus paniculata	Sand hren
	Cymnosparia royleana	Bhadrun
	Elaeodendron glacum	Morindu, Mirgu*
Rhamnaceae*	Zyzyphus mauratiana	Ber*
	Zyzyphus Oenoplia	Kokal Ber
	Rhmanus triguetra	Galodan
	Sageretia threezans	Phax
	Helinus laceolatus	Murian*
Vitaceae	Vitis Lanata	-
	Vitis trifolia	Gidar dakh
	Vitis latifolia	Chamar Bel*
	Leeaaspera	Basant Jari
Spindaceae	Sapindus Mukorossi	Retha
	Dodonea Viscosa	Mendru*
	Nephelium	Lichi
Sbiaceae	Meliosma Pungens	Larandu
Anacardiceae	Rush continus	Tung
	Pistacia integerrima	Kakrain
	Mangifera Indica	Am
	Lannea coromandelica	Kehmal
	Spondian mangnifera	Ambara
Coriariceae	Coriaria nepalensis	Nachhar
Moringaceae	Moringa pterygosperma	Suhanjna
Leguminosae	Fleminga semialata	Ban Chola
	Dalbergia sisoo	Tahli
	Indigofera genardiane	Kathi
	Indigofera ;ulchella	Kathi

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Family 1	Name 2	Local Name 3
	Millettiasuriculata	Solangen
	Arbus precatorius	Rattak
	Ougeinia dalbergiodes	Sannan
	Desmodium concennum	
	Desmodium latifolium	Jajra
	Desmodium gyrana	-
	Erythrina suberosa	Grelu,Parjaru
	Pueraria tuberosa	Salorh
	Caesalpinia sepiara	Relan
	Cassia fistula	Kaniar
	Cassia Occidentglis	-
	Cassia obtusifolia	-
	Cassia tora	-
	Bauhinia malabarica	Karal
	Bauhinia racemosa	Karal
	Bauhinia vahlii	Taur
	Bauhinia purpyrea	Karal
	Bauhinia variegata	Kachnar
	Parkingonia aculeata	-
	Mimosa rubicaulis	Dadrar
	Acacia arabica	Kiker
	Acacia farnesiana	-
	Acacia leucophlaeaa	Reru,Karer
	Acacia catechu	Khair
	Acacia modesta	Phulai
	Acacia caesia	Relan, Dhangar
	Albizzia-lebbak	Sarin
	Albizzia odoratissima	Karmaru
	Albizzia stipulata	Ohi
Rasaceae	Prunus cera-soides	Paja
	Prunus cerasoides	Jamu
	Prinsepia utilis	Bhekal
	Rubus paniculatus	Akha
	Rubus ellipticus	Akha

223

Family 1	Name 2	Local Name 3
Combretaceae	Terminalia belerica	Bahera
	Terminalia chebula	Harar
	Terminalia fomentosa	Aisan
	Anogeissus latifolia	Dhao
Mytraceae	Eugenia Jambulana	Jaman*
	Eugenia Jamblanavar	
	Caruophylifolia	Kathmam
	Eucalyphus crebra	Safeda
	Cereya arborea	Handbahera
Lythraceae	Woodfordia fruiticosa	Dhawin
	Punica granatum	Daran
	Lagerstroemia indica	-
Samydaceae	Caseria tomentosa	Chilla
	Caseria graveoleus	Chilla
Rubiaceae	Stephegyne parvifolia	Kalam
	Hymenodictyon excelsum	Barthuan
	Wendlendia puberula	
	Wendlendis exerta	Pansara
	Randia tetrasoerma	Jindru
	Randia dumetorum	Rara
	Hamiltonia suaveoles	Guilhain
Myrsinaceae	Maesa indica	Burkain
	Myrsine africana	Chhota mendru
	Embelia robusta	Baobring
	Ardistia solanacea	-
Sapotaceae	Bassaia latifolia	Mawa
Ebenaceae	Diospyros cordifolia	Kundu
	Diospyros montana	Kala dhao
	Diospyros tomentosa	Kinu
Oleaceae	Jasminum pubescens	Banmalti
	Jasminum arborescens	Dhurmalti
	Jasminum dispermum	Sarain
	Jasminim grandifirum	Malti
	Olea cuspidata	Kao
	Ligustrum compactum	Lalaun

224

Family 1	Name 2	Local Name 3
Apocynaceae	Carissa opaca	Garna
	Holarrhena antidysentrica	Keor
	Tabernaemontana Coronaria	Tagar
	Vallaris heynei	Dudh Khal
	Wrightia tomentosa	Khalwa
	Nerium odorum	Ghanira
	Irachelospermumfragrabs	Barora,Dudhi
	Ichnocarpus frutescens	Bakkar Bel*
Asclpiadaceae	Cryptolepis	Jaman Khumb
	Periploca calophyalla	Spari
	Calotropis procera	Akh
	Dregea Volubilis	Murud bel
Laganiaceae	Buddleia Paniculata	Durpa siaru
	Buddleia asiatic	Dhurbana
Boraginaceae	Cordia Myxa	Lasura
	Cordia vestita	Lasuri
	Cordia macleodii	Kluhman
	Ehretia acuminate	Puna
Convolviuaceae	Porana Pauicuiculata	Faindal Jhol
Solanaceae	Solanaceae verbascifclium	Ulah
	Dataur stramonium	Datura
Bignoniaceae	Oroxylum indicum	Tat Palanga
	Stereospermum Suaveolens	Padal
Acanthaceae	Daedalacanthus nervosus	-
	Phlogocanthus thyisiflours	-
	Barleria Cristata	-
	Adhatoda vsica	Basuti
	Lepidagathis cuspidata	-
	Strobilanthes auriculatus	Kapur mingar
	Premna mucroara	Gin, Bhankar
	Premna Barbata	Ginani
	Gmelina arberea	Ban
	Vitex nughndo	Bana

225

Family 1	Name 2	Local Name 3
	Clerodendron phlomidis	Dhakkari
	Caryopteris Vallichinana	Ban Basuti
	Holmskiodia Sangninea	-
	Lantana Camera	-
	Duranta Plumieri	-
Labiatae	Pogostemon plectranthoides	Kali Basuti
	Colebrokkea oppositifolia	Dusen
	Roylea calycina	-
	Plectranthus rugosus	-
	Salvia officianalia	-
Amarantaceae	Deeringia celosiodes	Bhirang
Lauraceae	Litseaa Polyantha	Ghian
	Litsaea umbrosa	Chirindi
Loranthaceae	Loranthus ligustrinus	Parand
Santalacea	Osyris aiborea	Sanson
	Euphorbia royleana	Thor
	Brindelia retusa	Gadi Kuri
	Bridelia verrucosa	-
	Emblica officinate	Aonla
	Glochidion velutrum	Saman
	Flueggea microcarpa	Girthan
	Putranjiva roxburghii	Putajan
	Bischoofia javanica	Marak
	Mallotus Philippinensis	Kamal
	Antidesma diennarum	Amblu
	Jatropha cureas	Japota
Urticasceae	Holoptellea integrifolia	Rajain
	celtis australis	Khirk
	Triema politoria	Kasa Kuri
	Morus alba	Tut
	Morus indica	Sia tut
	Morus laevigata	Shah tut
	Morus serrata	Karun

226

Family	Name	Local Name
1	2	3
	Ficus bengalensis	Barh
	Ficus religiosa	Pipal
	Ficus clavata	Kharandal
	Ficus hispida	Dagur
	Ficus cunia	Kandrol
	Ficus foveolata	Ruddar
	Ficus palmata	Dhura
	Ficus roburghii	Trembal
	Ficus glomerata	Rumbal
Jugiandacea	Engelhardtia Colebrookianna	Samma
Myricaceae	Myrica nagi	Kaphal
Cupuliferea	Quercus incana	Ban
	Quercus glauca	Banni
Salieaceae	Salix tetrasperma	Badhia
	Salix pyrina	-
	Populus ciliata	Pialash
	Populus nigra	-
Karyllidaceae	Agave caulata	-
	Agave wightii	-
Liaceae	Similax aspera	-
	Asparagusracemosus	-
Palmae	Phoenix syvestris	Khajur
	Phoenix humilis	-
Gramineae	Bambusa nutans	Nal
	Bambusa arundinacea	Magar
	Dandrocalamus Strictus Bans	
Coniferae	Pinus roxburghii	Chil

Range Forest Officer
Nurpur Forest Range

227

ANNEXURE-VI

JAMABANDI

राजस्व विभाग, हिमाचल प्रदेश - नकल जमाबंदी

एस.सी.ए रसीद संख्या: 3135125220444893

जिला : कांगड़ा
तहसील : नूरपुर
कानूनगोवृत : नूरपुर
पटवार वृत : हडल
हदबस्त न. : 64 मोहाल : मैरा बटराह

नाम : A
पिता/पति : AA

साल : 2020-2021

नकल शुल्क : 2.00
सेवा शुल्क : 30
कुल शुल्क : 32

रकबा ईकाई: है-आ-सै

खेवट नं. / नाम पत्ती या तरफ मय नाम नम्बरदार / मुताबलों 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
41	81	कुल भाग (75899) रणवीर सिहं	काश्त व कब्जा स्वंय		53	00-08-54	कब्जा व पड़ता	न.ई. कि.ई.
36	77	(15180) भाग पुत्र व धर्म				बंजर कदीम	बशरह खेवट न.	266 वरास्त
.....	.....	वीर सिहं (4040) भाग पुत्र		चक्की	71	00-19-19	(1)	310 आड रहन
बशरहा		स्वदेश सिंह पुत्र केसर		कूहल		कुहली अव्वल		329 बै
खेवट न.		सिंह करनैल सिंह उपनाम			72	00-00-71		नोट- वरुए ई० न० 310
(1)		कृपाल सिंह पुत्र जगतो				गै.मु.नाला		आड रहन दवा खाता
.....		पुत्र गोकल (7099) भाग		चक्की	92	00-45-54		हजा मे पैमा सिंह
24.62		सुरिन्दर सिंह पुत्र व		कूहल		कुहली अव्वल		पुत्र दमोदर का
साल		श्रीमति अंजना देवी,		चक्की	96	00-43-46		हिस्सा बकदर 01-51-
14.92		श्रीमति पुष्पा देवी		कूहल		कुहली अव्वल		79 खसक HGB शाखा
स्वाई		पुत्रियां व श्रीमति			121	00-01-98		वरन्डा के पास बदले
9.70		शकुंतला देवी विध्वा सागर				बंजर कदीम		मु0 20,00,000 मे आड
		सिंह पुत्र जगतो भाग बराबर			122	00-04-87		रहन है।
		(15180) भाग श्रीमति				बंजर कदीम		
		इच्छिया देवी विध्वा तरसेम		चक्की	124	01-11-89		
		सिंह पुत्र जगतो (15180)		कूहल		कुहली अव्वल		
		भाग प्रेम सिंह पुत्र दमोदर			136	00-32-96		
		सिंह पुत्र भाऊ (19220) भाग				गै.मु.खड्ड		
		स्थानिय वासी			141	00-26-32		
						गै.मु.खड्ड		
					246	00-12-30		
						वारानी अव्वल		
					246/1	00-04-24		

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 15-May-2023 पृष्ठ संख्या: 1

नोट = बरूये इ०न० 346 पट्टा नामा द्वारा खाता 36 मिन खतौनी 77 मिन 692-693-745 किता
= 3 रकबा तदादी 04-04-00 ह.म. प्रेम सिंह पुत्र दमोदर सिंह पुत्र आऊ ($\frac{10100}{400400}$) भाग व
रणबीर सिंह पुत्र स्वेपश सिंह पुत्र कैलर ($\frac{11020}{400400}$) भाग दर ($\frac{21120}{400400}$) भाग पट्टा दाहिलगान
रवि पुत्र जानक चन्द पुत्र सई दास ($\frac{21120}{400400}$) भाग पट्टा गाहिलगान

प्रिया मन्हास
हस्त
15/5/23
24/5/23

1	2	3	4	5	6	7	8	9
						बंजर कदीम		
				चक्की	330	00-06-60		
				कूहल		कुहली अव्वल		
				चक्की	343	00-00-28		
				कूहल		कुहली अव्वल		
					414	00-30-45		
						बंजर कदीम		
					692	00-76-29		
						गै.मु.खड्ड		
					693	00-29-16		
						गै.मु.खड्ड		
					745	02-98-55		
						गै.मु.खड्ड		
						किता 07-53-33		
					18			
					बटा 1			
					कृष्ट	अकृष्ट		
					02-39-26	05-14-07		
					कुहली अव्वल	बंजर कदीम		
					02-26-96	00-50-08		
					वारानी अव्वल	गैर मुमकिन।		
					00-12-30	04-63-99		
	82		कब्जा आबपाश कुन्निदगान		61	00-01-84		
	78					गै.मु.कुहल		
					120	00-01-36		
						गै.मु.कुहल		
					123	00-01-42		
						गै.मु.कुहल		
					338	00-01-04		
						गै.मु.कुहल		

निकनेट : हिमाचल प्रदेश - शिमला दिनाँक: 15-May-2023 पृष्ठ संख्या: 2

1	2	3	4	5	6	7	8	9
					किता 4	00-05-66 अकृष्ट गैर मुमकिन। 00-05-66		
		जोड़ भू-सम्पति			किता 22 बटा 1	07-58-99		
					कृष्ट 02-39-26 कुहली अव्वल 02-26-96 वारानी अव्वल 00-12-30	अकृष्ट 05-19-73 बंजर कदीम 00-50-08 गैर मुमकिन। 04-69-65		

Rajat Mahajan
LnK
Block Nerpur

Certified that this copy has been generated from the database of Revenue Department at Central Server- HP as accessed by the Lok Mitra Kendra 354567640013 on 15-May-2023

To Verify; enter the Copy No above Bar Code at https://himbhoomilmk.nic.in
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निकनेट : हिमाचल प्रदेश - शिमला

दिनाँक: 15-May-2023

पृष्ठ संख्या: 3

ANNEXURE-VII

NOC FROM GRAM PANCHAYAT

कार्यालय ग्राम पंचायत, हड़ल
विकास खण्ड नूरपुर, जिला कांगड़ा (हि.प्र.)

प्रस्ताव संख्या ......5...... दिनांक ...30/11/22...

अध्यक्ष .... उपस्थिति ....

विषय 1– प्र०सं० 8 दिनांक 12/8/22 को पुनः समीक्षा/स्पष्टीकरण बारे।

अध्यक्ष महोदय द्वारा पंचायत बैठक में प्रस्ताव रखा गया कि दिनांक 12/8/22 की पंचायत बैठक में प्र०सं० 8 के अंतर्गत जो प्रस्ताव डाला गया था जिसमें सामग्री शब्द का पूर्ण विवरण नहीं किया गया था अतः उपरोक्त तथ्य के दृष्टिगत इस प्रस्ताव की पुनः समीक्षा की जाती है जो निम्न है।

अध्यक्ष महोदय द्वारा बैठक में प्रस्ताव रखा गया कि रवि वर्मा S/O नानक चंद गांव पक्का टल्ला ने पंचायत में आवेदन किया है कि इन्दौरा/मैरा में खसरा न० 692, 693, 745 की जमीन पट्टे पर ली है व इनके [illegible] जो कि पुराना है इसके लिए वह अपनी मलकीत भूमि से सामग्री (रेत, बजरी, पत्थर, बोल्डर etc) उठाना चाहते हैं व इस जमीन पर सामग्री (रेत, बजरी, पत्थर, बोल्डर etc) उठाने हेतु अनापत्ति प्रमाण पत्र चाहते हैं। बैठक में चर्चा हुई व सर्व सहमति से प्रस्ताव पारित हुआ कि इस बारे किसी भी सदस्य को आपत्ति नहीं है व यह मुद्दा आगामी ग्राम सभा में

जारी ---

कार्यालय ग्राम पंचायत, हड़ल

विकास खण्ड नूरपुर, जिला कांगड़ा (हि.प्र.)

प्रस्ताव संख्या ..... दिनांक .....

अध्यक्ष ..... उपस्थिति .....

रखा जायेगा यह भी निर्णय लिया गया कि संबंधित जोन्ट सरकारी दरों पर पंचायत में सप्लाई किया करवाना सुनिश्चित करें।

उपरोक्त पुर्नसमीक्षा/संपुष्टिकरण समस्त सदस्यों द्वारा सर्व सहमति से पारित किया गया। व इस पर किसी को कोई आपत्ति नहीं है।

ग्राम पंचायत हड़ल विकास खण्ड नूरपुर, कांगड़ा

हस्ताक्षर .....

दिनांक 30.11.2022

ANNEXURE-VIII

WATER PERMISSION

कार्यालय ग्राम पंचायत, हड़ल

विकास खण्ड नूरपुर, जिला कांगड़ा (हि.प्र.)

प्रस्ताव संख्या .... दिनांक 03/06/23

अध्यक्ष .... उपस्थिति ....

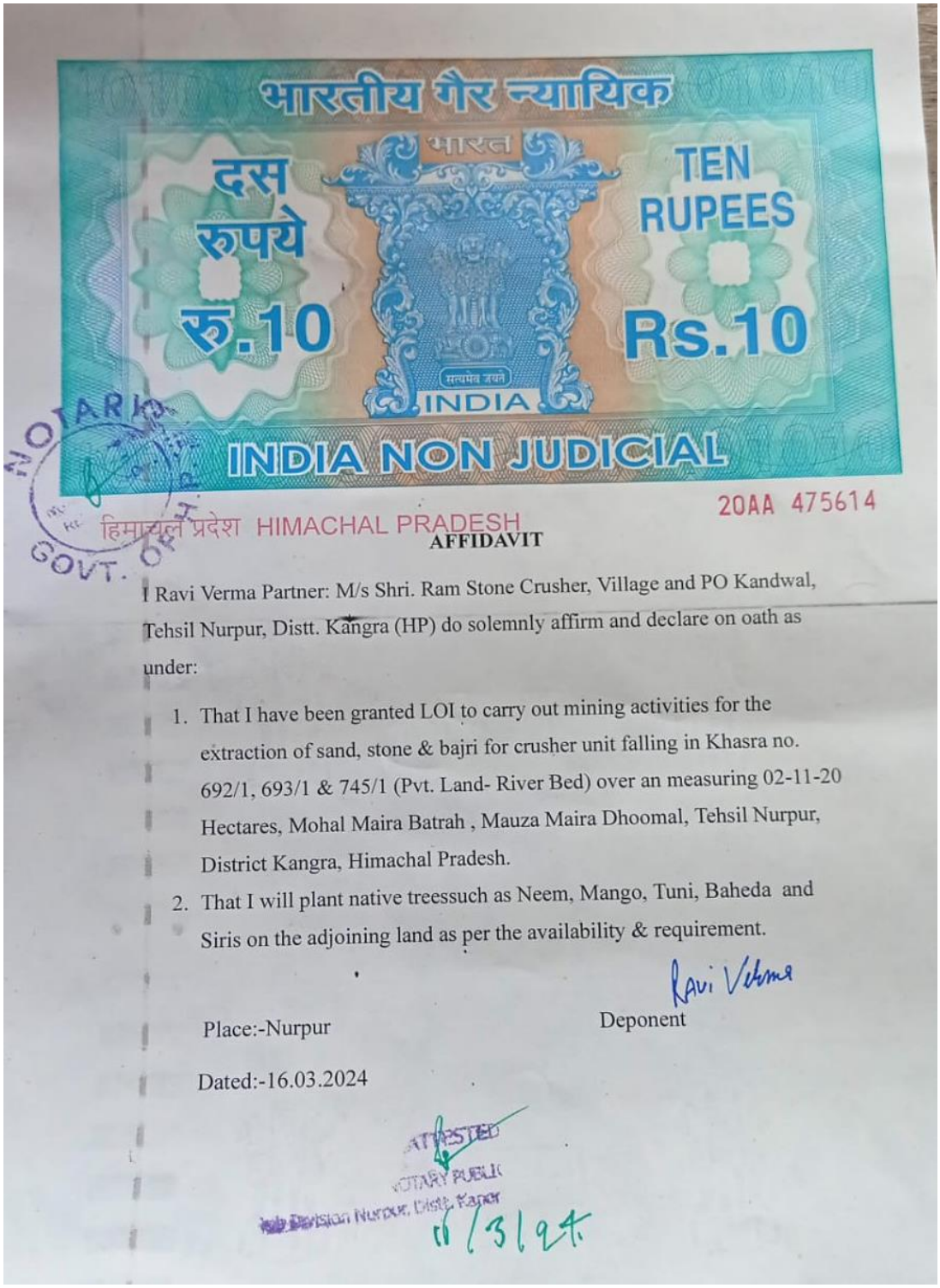
अनापत्ति प्रमाण पत्र

प्रमाणित किया जाता है कि रवि वर्मा सुपुत्र श्री नानक चन्द अपने खनन क्षेत्र श्री राम स्टोन क्रेशर रीवर बेड रेत, बजरी व पत्थर खसरा नं० 745/692/, 693/, रकबा तेदादी 2-11-20 हैं. मी. वाक्या महाल मैरा, डूमल मौजा मैरा बहराद तहसील नूरपुर जिला कांगड़ा (हि. प्र.) में स्थित हैं। इस माइन में पौधारोपण, धूल नियंत्रण के लिए पानी का छिड़काव और पीने के लिए उपयोग में लाए जाने वाला पानी ग्राम पंचायत के अधिकार क्षेत्र में स्थित पानी के स्रोत में से किए जाने पर पंचायत समिति को कोई आपत्ति नहीं हैं।

प्रधान
ग्राम पंचायत हड़ल
वि ख नूरपुर कांगड़ा हि.प्र

ANNEXURE-IX

PLANTATION AFFIDAVIT



भारतीय गैर न्यायिक

दस रुपये

रु.10

भारत

TEN RUPEES

Rs.10

INDIA

INDIA NON JUDICIAL

हिमाचल प्रदेश HIMACHAL PRADESH

20AA 475614

NOTARIO GOVT. OF H.P.

AFFIDAVIT

I Ravi Verma Partner: M/s Shri. Ram Stone Crusher, Village and PO Kandwal, Tehsil Nurpur, Distt. Kangra (HP) do solemnly affirm and declare on oath as under:

1. That I have been granted LOI to carry out mining activities for the extraction of sand, stone & bajri for crusher unit falling in Khasra no. 692/1, 693/1 & 745/1 (Pvt. Land- River Bed) over an measuring 02-11-20 Hectares, Mohal Maira Batrah , Mauza Maira Dhoomal, Tehsil Nurpur, District Kangra, Himachal Pradesh.
2. That I will plant native treessuch as Neem, Mango, Tuni, Baheda and Siris on the adjoining land as per the availability & requirement.

Ravi Verma

Deponent

Place:-Nurpur

Dated:-16.03.2024

ATTESTED

NOTARY PUBLIC

Sub Division Nurpur, Distt. Kangra

15/3/24