**GOVERNMENT OF ASSAM**
**ENVIRONMENT, FOREST AND CLIMATE CHANGE DEPARTMENT**
**JANATA BHAWAN, DISPUR, GUWAHATI-6**

No. 288519/I/1177603/2025 Dated Dispur, 25-07-2025

To : The Assistant Inspector General of Forests (FC),
Ministry of Environment, Forest & Climate Change,
Government of India, New Delhi.

Sub : Submission of holistic study report for the Mineral Concession areas in the forest. - reg.

Ref : Letter No. FG.27/FCA/Proposal/Aie Valley/MCMPL dtd. 15.07.2025.

Madam/Sir,

With reference to the subject cited above, I am directed to forward herewith the letter under reference, along with its enclosures, as received from the Chief Conservator of Forests & Nodal Officer (FC Act), o/o PCCF & HoFF, Assam for favour of your kind perusal and necessary action.

Enclo : As stated

Yours faithfully

Digitally signed by
RAMEN CHANDRA MALAKAR
Date: 25-07-2025 17:07:39

Commissioner & Secretary to the Govt. of Assam,
Environment, Forest and Climate Change Department

Memo No. 288519/I/1177603/2025-A Dated Dispur, 25-07-2025

Copy forwarded to:

1. The Chief Conservator of Forests & Nodal Officer (FC Act), o/o PCCF & HoFF, Assam, Panjabari, Guwahati-37.
2. P.S. to the Special Chief Secretary to the Govt. of Assam (Forest), Environment, Forest & Climate Change for kind appraisal of the Spl. Chief Secretary.

e-signed
Commissioner & Secretary to the Govt. of Assam,
Environment, Forest and Climate Change Department

**By E-Mail**

**GOVERNMENT OF ASSAM**
**OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS AND HEAD OF FOREST FORCE, ASSAM**
**ARANYA BHAWAN, PANJABARI, GUWAHATI-37**
***

*No. . FG.27/FCA/Proposal/Aie Valley/MCMPL* *Date: 15.07.2025*

**To**

**The Special Chief Secretary (Forests) to the Government of Assam,**
**Environment, Forest and Climate Change Department,**
**Dispur, Guwahati-6.**

**Sub:- Submission of holistic study report for the Mineral Concession areas in the forest.**

**Ref:-** 1. Government of India EDS for proposal Nos. (i) FP/AS/MIN/QRY/445606/2023 dated 23.07.2024, (ii) FP/AS/MIN/QRY/444664/2023 dated 23.07.2024, (iii) FP/AS/MIN/QRY/423446/2023 dated15.07.2024, (iv) FP/AS/MIN/QRY/483053/2024 dated.09.09.2024
2. Government of India letter Nos: (i) 3-AS C/246/2024/GHY/338-39 dated 02.08.2024 and (ii) 3-AS C/173/2023/GHY/324-25 dated 23.07.2024

Sir,

Reference is invited to the subject and letters cited above. In this context, as desired by the Ministry of Environment, Forest & Climate Change, Government of India, New Delhi, a holistic study report pertaining to the following Mineral Concession Areas (MCA) proposals is submitted herewith for kind information.

1. Nakkati Hill Stone Quarry No.2. area 5.21 ha (Proposal No. FP/AS/MIN/QRY/445606/2023),
2. Nakkati Hill Stone Quarry No.3 area 5.34 ha (Proposal No. FP/AS/MIN/QRY/444664/2023)
3. Kumnagar Stone Quarry Block area 10.73 ha (Proposal No. FP/AS/MIN/QRY/422446/2023),
4. Gopeswar East Stone Quarry No.1 area 5.47 ha (Proposal No. FP/AS/MIN/QRY/423446/2023),
5. Gopeswar Stone Quarry & Mining Zone area 5.40 ha ( Proposal No. FP/AS/QRY/37021/2018)
6. Gopeswar Stone Quarry No.4 area 5.73 ha (Proposal No. FP/AS/MIN/QRY/483053/2024)

2. It is requested that the holistic report pertaining to the above proposals may kindly be forwarded to the MoEF&CC, Government of India, New Delhi, for further processing of the proposal

**Encl: As stated.**

Yours faithfully,

Rajendra G Garawad
Approved
Digitally signed by Rajendra G Garawad
Date: 2025.07.15 11:33:58 +0530

**Chief Conservator of Forests &**
**Nodal Officer (FC Act)**
Email: addlpccf.nodal@gmail.com

# Report of the Committee on Holistic Study of Proposed Diversion and Associated Quarry Impacts

## 1. INTRODUCTION

Six proposals for the diversion of forest land for stone quarrying were submitted viz, Nakkati Hill Stone Quarry No. 2 (Proposal No. FP/AS/MIN/QRY/445606/2023), Nakkati Hill Stone Quarry No. 3 (Proposal No. FP/AS/MIN/QRY/444664/2023), Kumnagar Stone Quarry Block (Proposal No. FP/AS/MIN/QRY/422446/2023), Gopeshwar East Stone Quarry No. 1 (Proposal No. FP/AS/MIN/QRY/423446/2023), Gopeshwar Stone Quarry & Mining Zone Area (Proposal Number: FP/AS/QRY/37021/2018) and Gopeshwar Stone Quarry No.4 (Proposal Number: FP/AS/MIN/QRY/483053/2024) to the Ministry of Environment, Forest & Climate Change (MoEF&CC), Government of India (GoI), seeking forest clearance.

The MoEF&CC sought holistic report from the Government of Assam and suggested to form a committee comprising of an officer from Regional office, MoEF&CC, Nodal Officer (FC Act), Circle officer concerned and officer from Mining department to carry out a holistic study of the projects along with the other proposed diversions within 1 km of the extant project and also to examine the ecological impact of proposed quarries being in close proximity. Accordingly, the Government of Assam, through a notification dated 10.09.2024, has constituted a committee. A copy of the government notification is enclosed as **Annexure 1.** The committee held meetings on 24.10.2024, 01.04.2025 and 05.07.2025.

## 2. OVERVIEW OF PROPOSALS

As desired by the MoEF&CC, the following proposals were considered by the committee for holistic study:

a. Name of Project: **NAKKATI HILL STONE QUARRY NO.2.**
- User Agency: M/s Marle Construction & Marketing Pvt. Ltd
- Proposal Number: FP/AS/MIN/QRY/445606/2023
- Type of Project (e.g. road, mining, irrigation): Stone Quarry
- Forest Area Proposed for Diversion (ha): 5.21 Ha
- Location: Nakkati Hills area under Aie Valley Forest Division, District: Bongaigaon, Assam

b. Name of Project: **NAKKATI HILL STONE QUARRY NO.3.**
- User Agency: M/s Marle Construction & Marketing Pvt. Ltd
- Proposal Number: FP/AS/MIN/QRY/444664/2023
- Type of Project (e.g. road, mining, irrigation): Stone Quarry
- Forest Area Proposed for Diversion (ha): 5.34 Ha

- Location: Nakkati Hills area under Aie Valley Forest Division, District: Bongaigaon, Assam

c. Name of Project: **KUMNAGAR STONE QUARRY BLOCK**
- User Agency: M/s Bhartia Infra Projects Ltd
- Proposal Number FP/AS/MIN/QRY/422446/2023
- Type of Project (e.g. road, mining, irrigation): Stone Quarry
- Forest Area Proposed for Diversion (ha): 10.73 Ha
- Location: Kumnagar village under Sila Range, North Kamrup Forest Division, Rangia District: Kamrup, Assam

d. Name of Project: **GOPESWAR EAST STONE QUARRY NO.1**
- User Agency: M/s Bhartia Infra Projects Ltd
- Proposal Number: FP/AS/MIN/QRY/423446/2023
- Type of Project (e.g. road, mining, irrigation): Stone Quarry
- Forest Area Proposed for Diversion (ha): 5.47 Ha
- Location: Gopeshwar village, District under Sila Range, North Kamrup Forest Division, Rangia District: Kamrup, Assam.

e. Name of Project: **GOPESWAR STONE QUARRY & MINING ZONE AREA**
- User Agency: Fatik Das
- Proposal Number: FP/AS/QRY/37021/2018
- Type of Project (e.g. road, mining, irrigation): Stone Quarry
- Forest Area Proposed for Diversion (ha): 5.40 Ha
- Location: Gopeshwar village, District under Sila Range, North Kamrup Forest Division, Rangia District: Kamrup, Assam.

f. Name of Project: **GOPESWAR STONE QUARRY NO.4**
- User Agency: Priyashi Aashi Developers Pvt Ltd
- Proposal Number: FP/AS/MIN/QRY/483053/2024
- Type of Project (e.g. road, mining, irrigation): Stone Quarry
- Forest Area Proposed for Diversion (ha): 5.73 Ha
- Location: Gopeshwar village, District under Sila Range, North Kamrup Forest Division, Rangia District: Kamrup, Assam.

## 3. FIELD VISIT

The Committee undertook a field visit on 9th April 2025 and visited all the proposed stone quarry areas namely the Kumnagar and Gopeshwar Mining zone of North Kamrup Division and Nakkati stone quarry under Aie Valley Division, Bongaigaon. During the field visit, the committee members also interacted with the Divisional Forest Officers of the forest division concerned. The photographs of the field visits are enclosed as **Annexure 2.**

Prior to the field visit, the committee had held a meeting and a draft outline of the holistic report was shared with the user agencies with a request to submit the report for

the consideration of the committee. The reports received from the User Agencies were shared with the committee members prior to the field visit.

Following the field visit, secondary information such as stone quarries operating in the forest divisions, impact of proposed quarries on the forest and surrounding area were collected. The GIS analysis was undertaken to ascertain the presence of other diversion proposals within the 1 km buffer zone of the proposed mines and understand the topography and landscape surrounding the proposed mines.

It is reiterated that basic details of proposals, the flora and fauna present in the proposed diversion area, mining related details are already given in the documents submitted by the project proponents. This report basically focuses on the objective suggested by the MoEF&CC.

## 4. OBSERVATIONS

Guwahati is tier 2 city which is experiencing rapid growth and development in the last few years. There has been an increase in the construction of residential buildings, commercial buildings, roads and highways, flyovers and bridges, drainage and retaining structures. Based on the information available from different sources such as planning norms, construction area data, road and infrastructure project needs, it is estimated that annually there is a demand for 75,000-95,000 metric tonnes/ year (approx).

Most of the demand for stone aggregates is met from stone quarries located in Assam and Meghalaya. Considering the increasing demand, the Forest Department of Assam had conducted e-auction of stone quarries and Letter of Intent (LOI) were issued to preferred bidders.

### 4.1 Kumnagar Mining Area

The Kumnagar proposed mine in North Kamrup forest division is located in the Unclassed Reserve Forest (USF) having an area of approximately 30 ha. The USF is covered with secondary vegetation consisting of mixed species and the species richness of the USF may be lower (**Plate no:2.1 of Annexure-2**).

The area of the USF is approximately 30 ha and the proposed stone quarries which involve two blocks of 10.73 ha separated by 60 meters (approx) cover 1/3rd of the USF area (Figure 1). As per the approved mining plan, the production capacity of the stone quarry is 2,28,570 cubic meters/ year. The method of mining will be a semi-mechanised opencast mine. The blast hole drilling will be carried out by compressed air operated drills and blasting will be done by gelatin and detonators.

During the field visit, past mining activity in the eastern edge of the Kumnagar USF (**Plate no:2.1 of Annexure-2**). The elevation in the proposed mining area varies from 70 meters to 130 meters (**Figure 1** ).

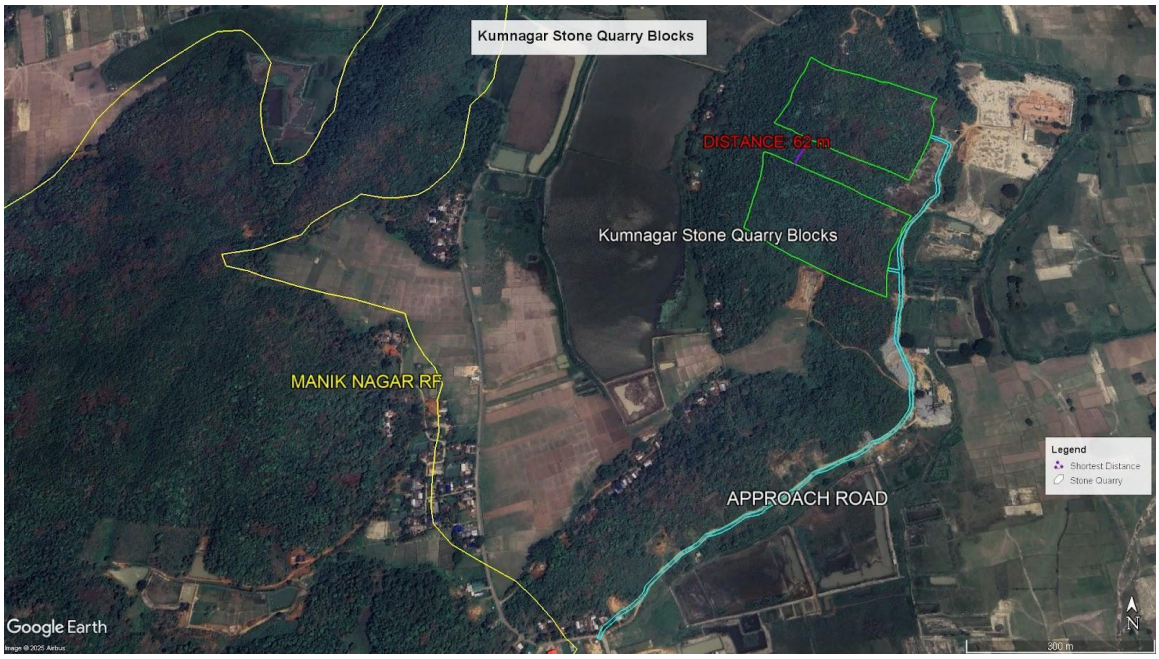



**Figure 1- Proposed blocks of Kumnagar Stone Quarry and the distance between the mining blocks**

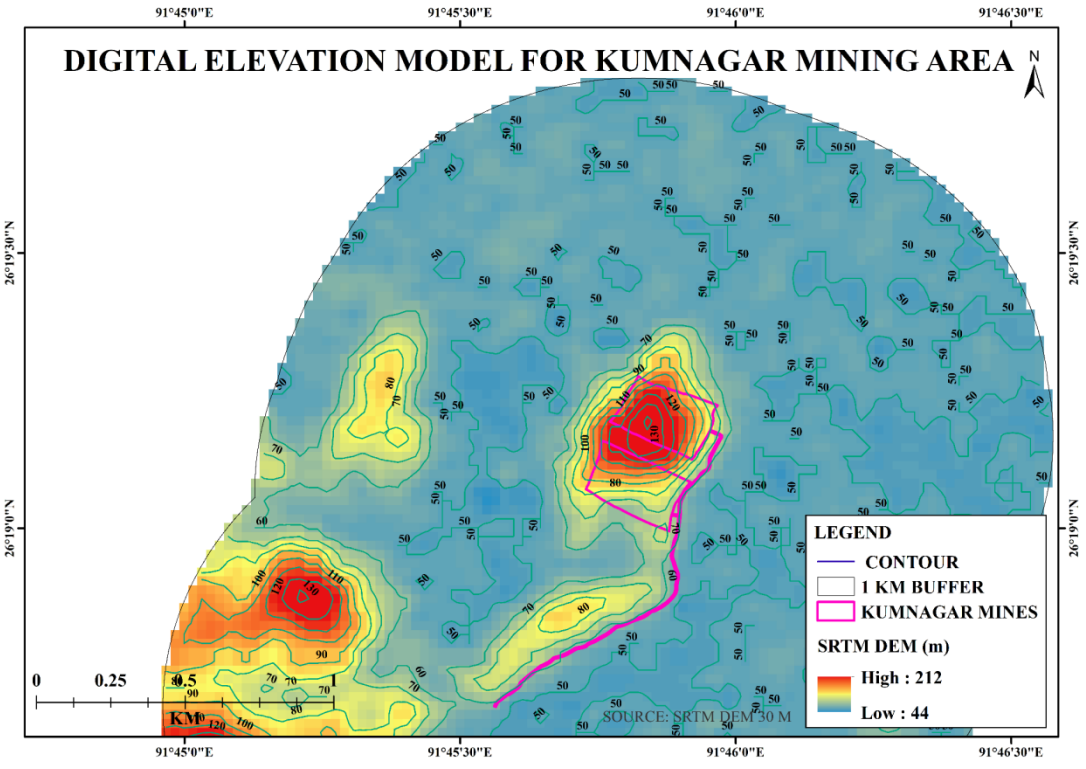



**Figure 2: Digital elevation profile of Kumnagar mining blocks and surrounding area**

Once mining is initiated in these blocks, all the stone material available in the hillock will be removed and the USF may not retain its conservation values due to reduced size and the disturbances caused by mining activities.

Within the 1 km buffer there are no other proposed diversion areas (**Figure 3**). However, as per the Google Earth imagery, the boundary of the 1 km buffer touches another quarry having an area of 1.15 ha (approx) towards the east namely Mandakata Stone Quarry, covering an area of 5 hectares located in the revenue area, is currently non-operational. Additionally, the Mandakata Mining Permit Area, with an area of 1 ha within the revenue area, is scheduled to be closed on 18.07.2025.

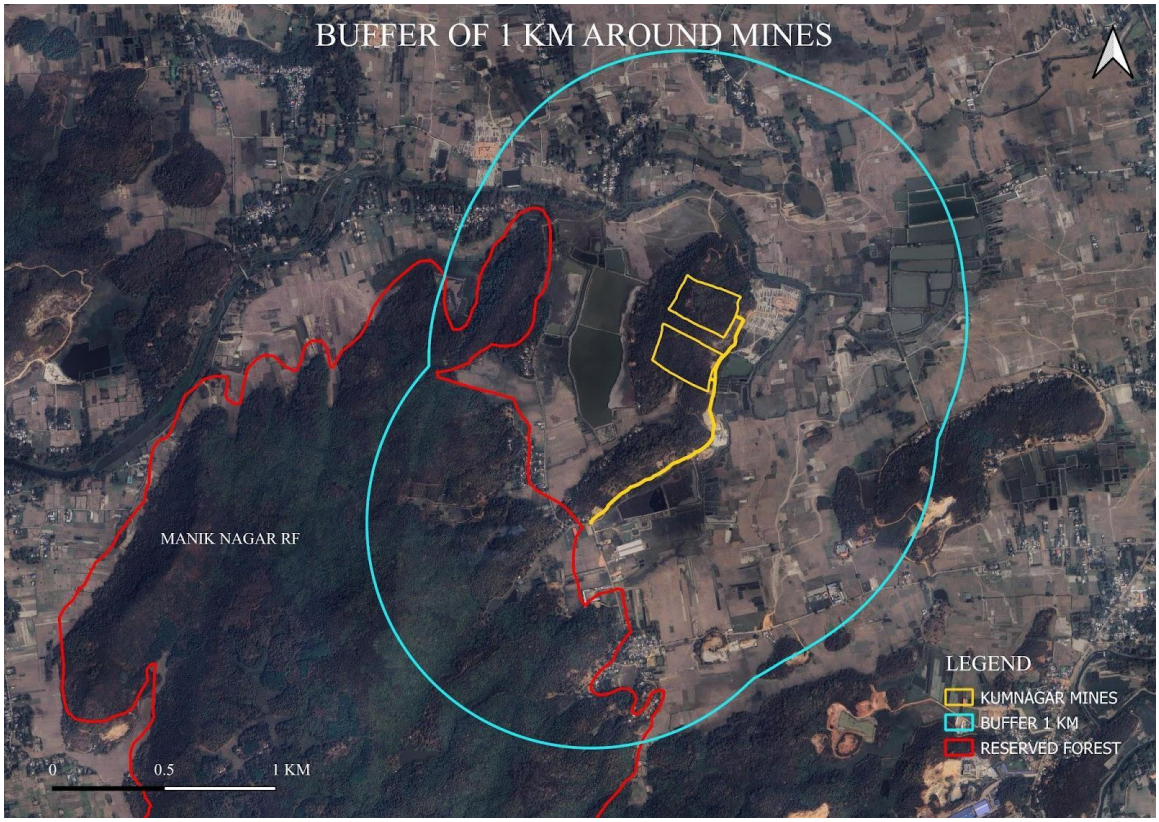



**Figure 3- Buffer of 1 km around the Kumnagar Stone Quarry Block**

### 4.2 Gopeshwar Mine Area

In the Gopeshwar Reserved Forest under North Kamrup Division, there are 3 proposals namely, Gopeshwar Stone Quarry & Mining Zone, Gopeshwar East Stone Quarry 1, and Gopeshwar Stone Quarry No 4. These proposed mine areas are located at an aerial distance of 3 -4 km (approx) from the Kumnagar USF mining area. The area of the Gopeshwar RF is 249 ha (approx) and total area of the proposed mining sites within the RF is 16.6 ha, which is approximately 6.6 % of the RF area.

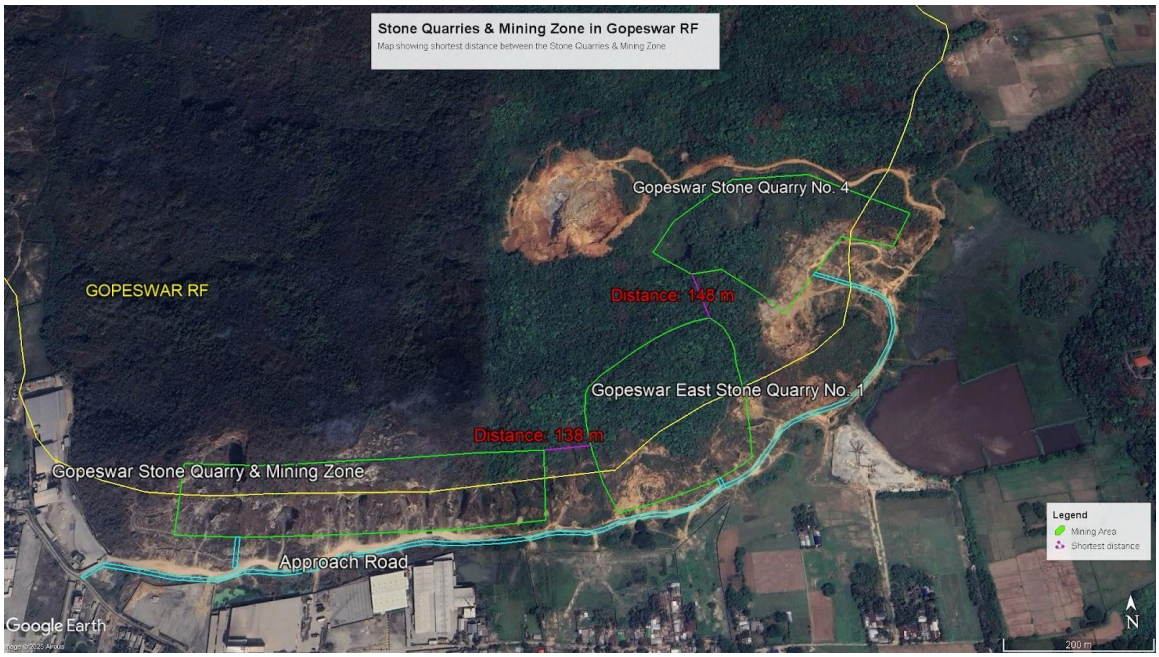



**Figure 4: Proposed stone quarries in Gopeshwar mine area and the distance between the mining blocks**

In the Gopeshwar stone quarry & mining zone of 5.38 ha which is rectangular in shape, approximately 20% of the area is covered with secondary vegetation and remaining area is covered with grasses and shrubs post the stopping of mining activities. Other two quarries namely Gopeshwar East quarry no 1 and Gopeshwar quarry no 4 have the vegetation cover between 60-70% of the area.

The distance between Gopeshwar Stone quarry no 4 and Gopeshwar East Stone quarry no 1 is approximately 148 meters. The distance between Gopeshwar East Stone quarry no 1 and Gopeshwar Stone quarry and mining zone is 138 meters approximately (**Figure-4**). To the west of proposed Gopeshwar Stone quarry no 4 at an approximate distance of 100 meters, there is an old quarry site namely Gopeshwar Stone Quarry no.3 which was closed on 25-02-2022.

From the Gopeshwar Stone Quarry No 4 boundary, at a distance of approximately 500 meters there is Madan Kamdev temple as well as Madan Kamdev archaeological site, a cluster of stone and brick temples which dates back to 9th-12the century. The archaeological site Further, there is a water body (3 - 4 ha area approx) within 200 meters from the stone quarry boundary and water stream at a distance of 500 meters (approx). Further, within the 1 km buffer, there are industries and human habitations as well (**Figure 5**).

The elevation profile of the proposed mining area and 1 km buffer indicates that the elevation varies from 47 meters to 169 meters. Within the proposed mining zone, elevation ranges from 50 meters to 160 meters (**Figure 6**)

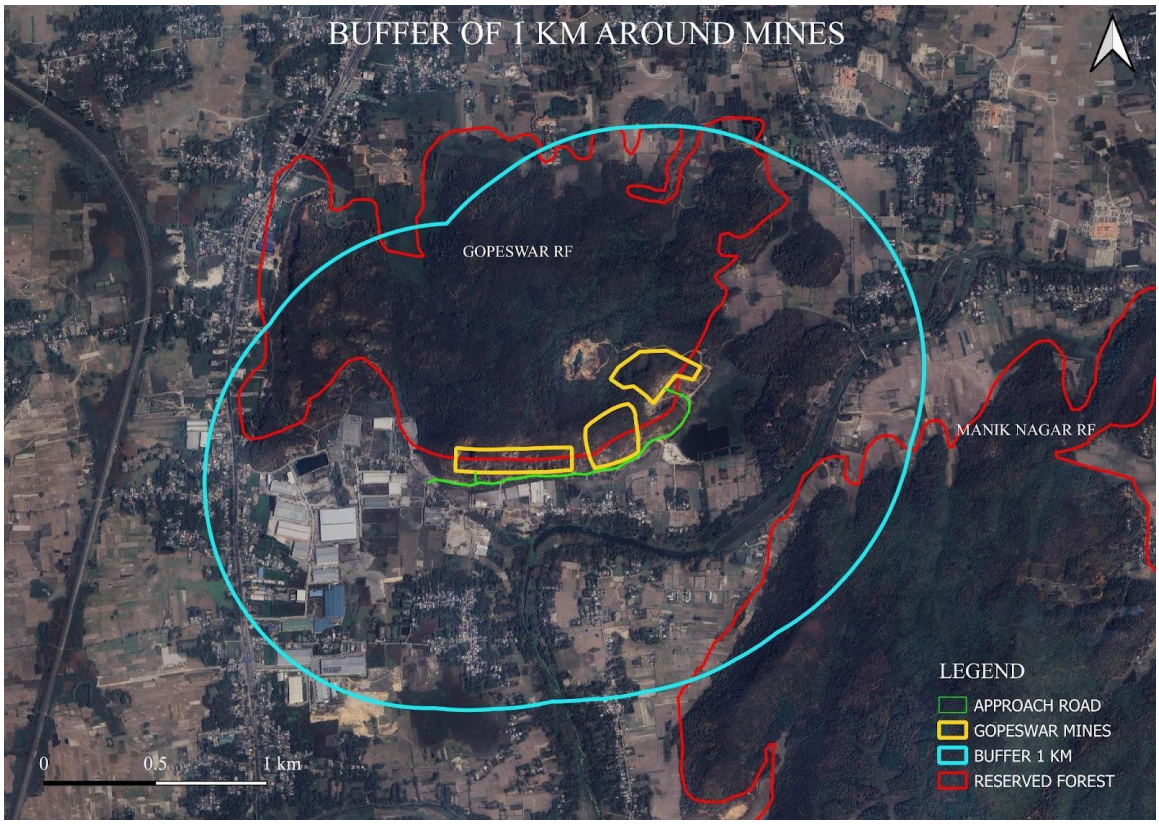



**Figure 5: Buffer of 1 km around the mines located in Gopeshwar mining zone**

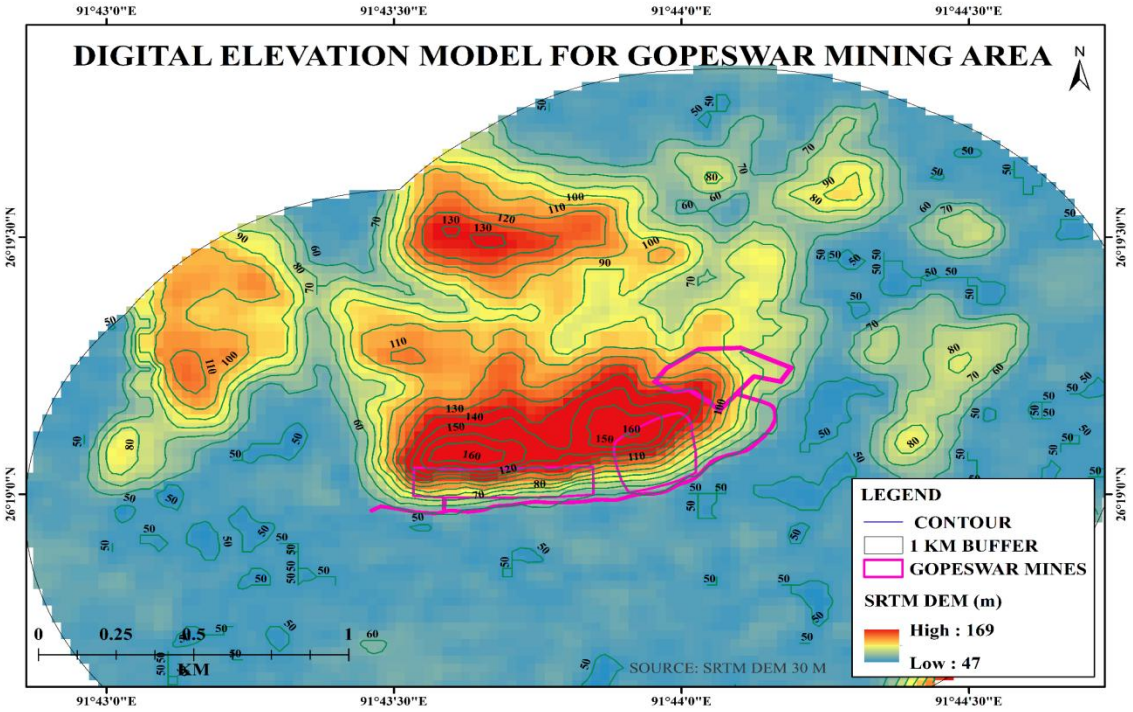



**Figure 6: Digital elevation model of Gopeshwar Mining Zone/ area**

During the field visit, it was observed that the edges of proposed mine areas were previously mined/ minerals extracted. As per the information received from DFO, North Kamrup Division, the following stone quarries were operating in the past which were closed after the lease period was over.

As per the information received from the DFO, North Kamrup Division, the following stone quarries were operating earlier in the division and these were closed following the lapse of lease period.

| Sl no. | Name of Mining Contract/ Permit/mahal | Name of Range/Beat | Area (in ha.) | Period | | RF/ Revenue area | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | From | To | | |
| 1 | Gopeswar Stone Quarry no.3 | Sila Range | 1 | 18-11-2008 | 17-11-2013 | Reserved Forest | Closed after lease period. |
| 2 | Gopeswar Stone Quarry no.1 | Do | 1 | 14.08.2008 | 13.08.2013 | Reserved Forest | Closed after lease period. |
| 3 | Agyathuri Stone Quarry no. 2 | Do | 1 | 23-12-2013 | 22-12-2018 | Reserved Forest | Closed after lease period. |

However, the following 7 Mining Permit Areas (MPA) operate in the private patta land within the North Kamrup Division.

| Sila Range, Amingaon | | | | |
|---|---|---|---|---|
| **Sl No** | **Name of MPA** | **Name of Minor Mineral** | **Name of permit Holder** | **Remarks** |
| 1 | Sila P.P. Land Stone & Ordinary Earth MPA | Stone | Alakesh Boro | Running |
| 2 | Mandakata FC Grant P.P. Land ordinary Earth MPA | Stone | Runumi G Momin | Running |
| 3 | Katamur (Sila Sindurighopa) Stone & Earth MPA | Stone | Ratanlal Bhati | Running |
| 4 | Sila P.P. Land ordinary Earth & Stone MPA | Stone | Ranjit Boro | Running |
| 5 | Sila P.P. Land Earth & Stone MPA | Stone | Hriday Jyoti Nath | Running |
| 6 | Satgaon P.P. Land stone MPA | Stone | M/S Bharitia Infra Project Ltd | Running |
| 7 | Mandakata Stone MPA (Govt Land) | Stone | M/S SP Singla Construction Pvt lts. | Running |

### 4.3 Nakkati Hill Stone Quarries

Nakkati Hill Stone Quarry No 2 and No 3 are located within the Nakkati Reserved Forest of Aie Valley Division, Bongaigaon **(Figure 7**). The total area of the Nakkati RF is 3144 ha. These quarries are proposed in the same area where the mining activity was undertaken earlier.

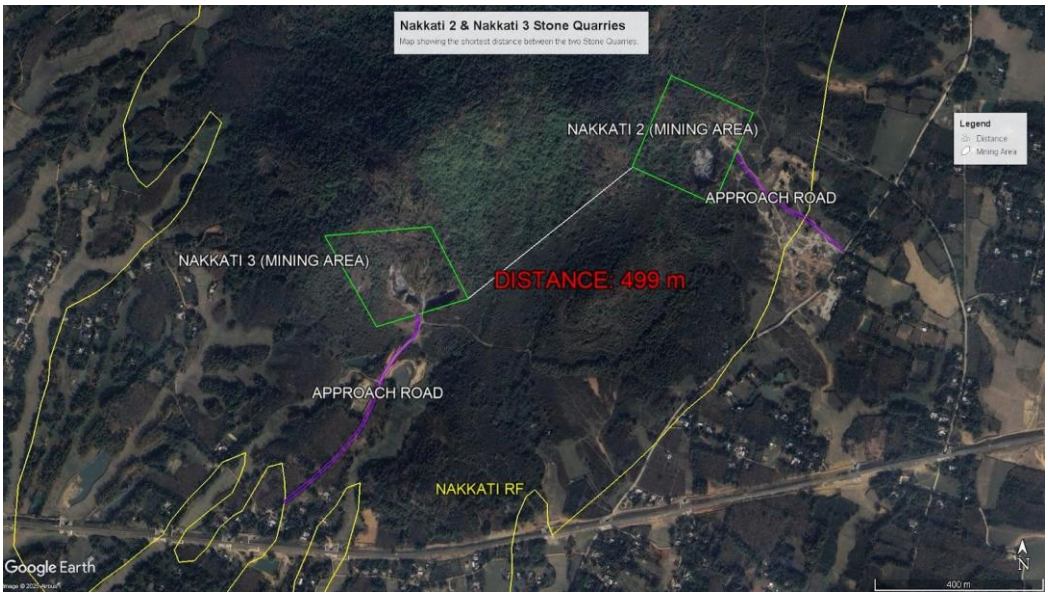



**Figure 7: Distance between Nakkati Hill Stone Quarry No.2 and 3**

Nakkati 2 stone quarry has about 50% of the proposed mine area covered with secondary vegetation. Part of the remaining area appears to be previously mined and the rest is covered with grass and small shrubs. Within the proposed Nakkati 3 stone quarry, an area of 0.9 - 1 ha has been previously mined and the remaining area is covered with secondary vegetation.

The GIS analysis revealed that there were no quarries or other diversion proposals within a 1 km buffer from the boundary of proposed stone quarries. The distance between Nakkati Hill Stone quarry no 2 and 3 is approximately 500 meters (**Figure 8)**.

The representative of the Directorate of Geology & Mining was of the view that the black granite found in Nakkati 3 proposed mine area is not easily available in any places within Assam and suggested that proper geological survey has to be undertaken to ascertain the total area and resource available. The member was of the opinion that the block is very much useful for making granite slabs and the rate of royalty of black granite is Rs 4,000 per cubic meter whereas the rate of royalty of ordinary stone is Rs 200 per cubic meter. Based on the analysis done on the sample stone collected during the field visit, the unit compressive strength of Nakkati stone is 112 newton per cc and bulk density is 2.6. In the petrographic report, it is ascertained that the rock is an amphibole which can be commercially turned as black granite. Post detailed study, the granite

mining may be considered by adhering to the rule ‘Granite Development and Regulation Rule 1999’ of Ministry of Mines, Government of India.

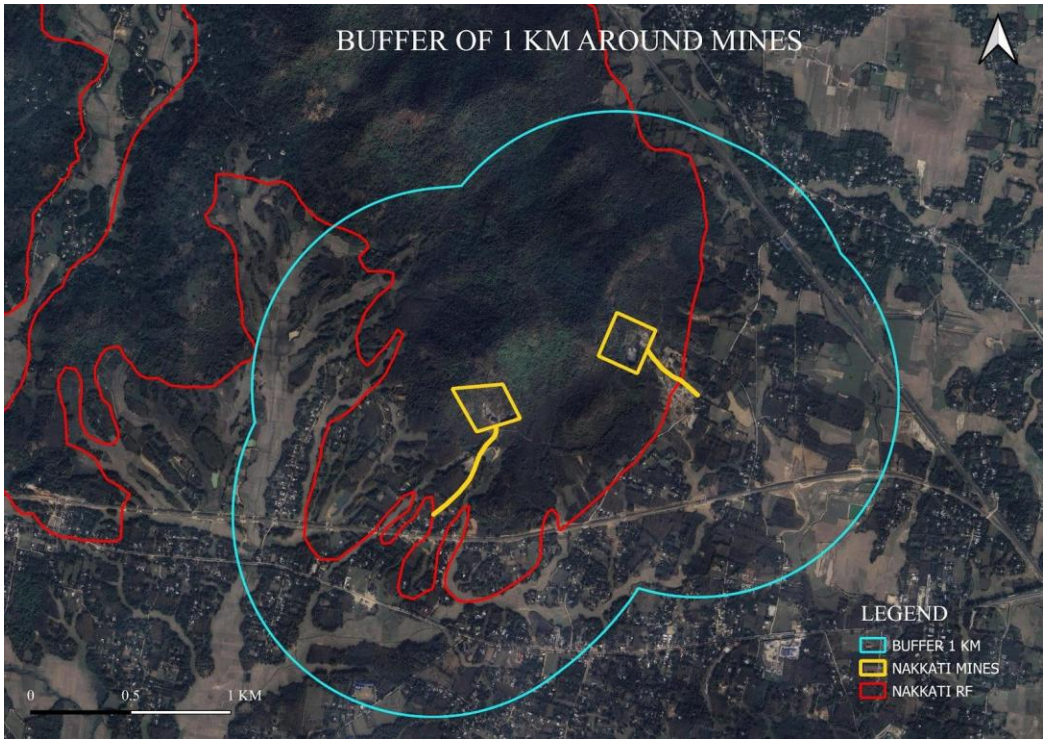



**Figure 8: Buffer of 1 km around Nakkati Hill Stone Quarry No.2 and 3**

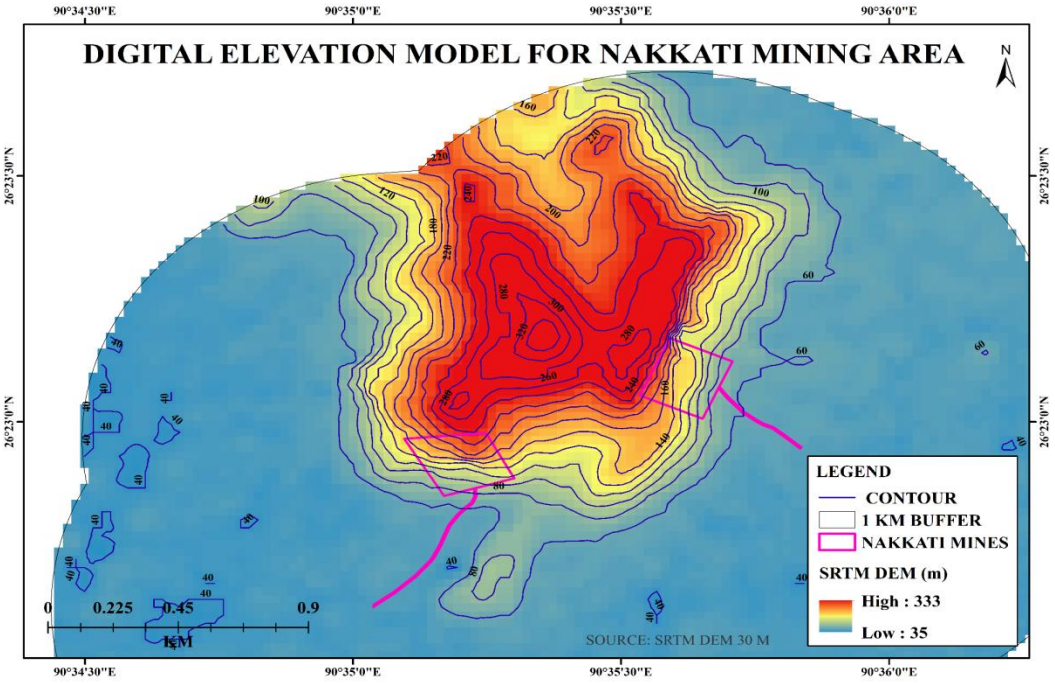



**Figure 9: Digital elevation model of Nakkati stone quarries proposed in Nakkati RF.**

The elevation profile of both Nakkati 2 and 3 stone quarries range from 80-200 meters (**Figure 9**).

As per the details received from DFO, Aie Valley Division, Bongaigaon, the following mines were operating in the past within the same area under the Aie Valley division. Out of the two mohals, Nakkati stone quarry no 2 was renewed in the year 2012 for five years. After the lapse of lease period, the mohal was closed. Similarly, the Nakkati stone quarry no 3 was closed in 2010 after the lease period was over.

| Sl no. | Name of Mining Contract/ Permit/ mahal | Name of Range /Beat | Area (in ha.) | Period | | RF/ Revenue area | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | From | To | | |
| 1 | Nakkati Hill Stone Quarry No.2 | Abhay puri | 0.5 | 18-11-2005 | 17-11-2010 | Reserved Forest | Renewal approval has been granted on 13.09.2012 which has been valid till 12.09.2017. Currently the mahal is closed |
| 2 | Nakkati Hill Stone Quarry No.3 | Abhay puri | 1.0 | 18.11.2005 | 17.11.2010 | Reserved Forest | The mahal was closed after the lease period was over. |

## 5. ECOLOGICAL AND ENVIRONMENTAL IMPACTS

By the very nature of the activity, stone mining in forest areas in general will have the following ecological and environmental impacts. Here a brief description of possible impacts has been considered and further details have been given in the respective environment management plan, mining plan and other project related documents submitted by the User Agencies.

**5.1 Habitat destruction/ disruption**: For mining of stone, the surface vegetation, undergrowth and topsoil has to be removed followed by the blasting of the rocks. This results in destruction of habitat. Depending upon the size of the mining area, the destruction of the forest area may cause loss of habitat for wildlife and fragment the landscape.

**5.2 Biodiversity loss**: Forest areas act as the refuge/ home for all kinds of flora and fauna. The destruction of the habitat due to mining activity leads to loss of local flora and lesser known fauna existing within the area prior to the mining activity. The buffer zones between closely situated quarries often experience reduced vegetation quality due to dust deposition, altered drainage patterns, and fragmentation effects. This degradation diminishes the ecological value of remaining vegetation patches.

**5.3 Soil erosion and land degradation**: Mining can cause extensive land disturbance, including the removal of vegetation, topsoil, and other natural resources. This can lead to soil erosion, reduced soil fertility, and habitat loss for wildlife.

Removal of surface vegetation and topsoil for mining/ quarrying may cause localized soil erosion and degradation of the land. The exposed soil becomes highly susceptible to being washed away during rainfall events. The waste generated during the mining activity may lead to sedimentation of river/stream/ nalas flowing through the forest area. The creation of steep slopes during extraction increases runoff velocity and volume, exacerbating erosion potential both within the quarry boundaries and in surrounding areas. Given the nature of stone mining which involves blasting of hard rock, the mining area within the forest may become prone for landslides during monsoon season. Quarrying operations significantly alter natural landscapes, creating conditions that accelerate erosion processes. When multiple quarries operate in close proximity, these effects can be compounded in several ways

- Surface mining requires vegetation clearance and topsoil stripping, which removes natural erosion protection and increases soil vulnerability to both wind and water erosion.
- Gully erosion can develop rapidly in these conditions, progressing headward and expanding the affected area.
- Closely situated quarries can create cumulative drainage pattern alterations, concentrating water flows and intensifying erosion in certain corridors between operations. These concentrated flows often exceed the landscape's natural capacity to resist erosion.

**5.4 Air and water pollution**: Erosion from quarries introduces significant sediment loads into local watersheds, affecting water quality and aquatic habitats downstream. This sedimentation can smother aquatic vegetation, reduce dissolved oxygen levels, and impair fish spawning grounds. This sedimentation can smother aquatic vegetation, reduce dissolved oxygen levels, and impair fish spawning grounds.

**5.5 Noise and dust pollution**: Dust from excavation, crushing, screening, and transportation affects air quality and settles on surrounding vegetation thereby reducing photosynthesis and plant productivity. When quarries operate in proximity, dust effects can be additive and cover larger areas.

Noise from machinery, blasting, and transportation activity causes disturbance to the local community. Cumulative noise from multiple quarry operations expands the affected area and may exceed tolerance thresholds.

Air pollutants from diesel equipment, processing plants, and increased vehicular traffic impact surrounding areas. These emissions may affect the area surrounding the mines through soil and water contamination.

**5.6 Edge effect**: Presence of mines at the periphery of the Reserved Forest creates edge effect and extends the zone of disturbance to the interior of the Reserved Forest. The disturbed edge areas may become prone for invasive species such as Lantana, Parthenium and Chromolaena and facilitate their proliferation into the interior areas of Reserved Forest.

**5.7 Cumulative Impact of All Nearby Diversions/Quarris:** At the site level, stone mining would result in destruction of forest habitat, loss of top soil, alteration in the micro climate in the mining area, besides noise, dust pollution, water pollution, soil erosion which will have varying degrees of impact on the adjoining flora, fauna and the human habitations. With simultaneous operation of stone quarries in adjoining areas, the aforementioned impacts would have a magnifying effect on the surrounding forests, agricultural lands and human habitations.

## 6. Compliance and Legal Aspects

All the proposals have been included in the District Survey Report (DSR) and the process of approval of DSR for North Kamrup division and Aie valley division by the State Level Environment Impact Assessment Authority (SEIAA) is underway. The Supreme Court directives in Deepak Kumar vs Union of India, 2012 will be followed by the User Agencies and the process of obtaining the Environmental Clearance (EC) has been initiated. Cluster mining guidelines issued by the MoEF&CC will be followed for the mines where it will be applicable.

## 7. Mitigation Measures Suggested

The Environment Management Plan (EMP) and the mining plan will have provision for detailed strategies and management interventions for dealing with negative effects of mining. The following mitigation measures are suggested in addition to the prescriptions given in the EMP and mining plans and any other interventions imposed by the SIEAA and MoEF&CC.

**7.1 Mitigation measures for Air Pollution:** In a mining area, operations like line drilling, excavation, dressing, loading, transportation, and dumping are major sources of air pollution due to the generation of dust, particulate matter and emissions from transport vehicles. The mitigation measures suggested are for control air pollution are:

- Sprinkling of water on haul roads, dump yards for dust suppression.
- Enforcing speed limits for vehicles used in the mine area to reduce airborne fugitive dust from vehicular traffic
- Covering of tarpaulin over the trucks carrying mined material to prevent spillage
- Regular maintenance of vehicles and machinery to reduce exhaust emissions.
- Wet drilling methods to be employed based on the nature of the soil strata.

- If a DG set is used for mining related activities, then appropriate stack height to be ensured for proper dispersion of emissions.
- Tree planting to be carried out along with the mine boundary.
- To mitigate the environmental impacts of mining, - Using Green Technologies: Mining companies can adopt more sustainable technologies, such as renewable energy sources and electric vehicles, to reduce their carbon footprint and minimize their impact on the environment.

**7.2 Mitigation measures for Noise Pollution:** In a mining area, drilling operations, blasting activities, dressing processes and the continuous use of heavy machinery will generate significant noise pollution, adversely affecting the surrounding environment and nearby human habitations. Suggested mitigation measures prescribed for controlling the noise pollution in mining areas are as follows:

- Hearing protection devices, such as earplugs and earmuffs, will be provided to drill machine operators and dumper drivers.
- A greenbelt to be developed around the perimeter of the mine to act as a barrier between the core and buffer zones.
- Installation of noise barriers, silencers, and enclosures for high noise-emitting equipment.
- Restriction of high-noise operations to daytime hours to avoid disturbance during night.
- Regular maintenance and lubrication of machinery to be carried out to minimize noise levels.

**7.3 Mitigation measures for Water Pollution:** Although there is no adverse impact on groundwater yet domestic wastewater, siltation from the dump yard and runoff generated by quarrying activities are major sources of water pollution. In this context, the following mitigation measures are suggested for preventing water pollution:

- Proper management of domestic wastewater by directing it to a septic tank, followed by a soak pit to ensure proper treatment and prevent contamination of nearby water bodies.
- Proper dump yard management which involves compacting and vegetating dump slopes, providing toe walls and garland drains
- Use of sediment traps and check dams for capturing sediments and to slow runoff
- Use of erosion control blankets or geo-textiles for slopes that are vulnerable to erosion
- Reclamation of quarried areas with vegetation.

**7.4 Limitations on quarrying hours or intensity**: To ensure minimal disturbance to the surrounding environment and local wildlife, especially during sensitive hours, it is recommended to impose restrictions on quarrying operations. Limiting quarrying activities to daylight hours—preferably between 8:00 AM and 5:00 PM—can help reduce

noise and vibration impacts during early mornings and evenings when wildlife activity tends to be higher. Additionally, regulating the intensity of operations by controlling the volume of daily extraction, optimizing the use of machinery, and avoiding simultaneous high-impact activities can significantly reduce cumulative stress on the ecosystem. These time-bound and intensity-based controls, combined with regular environmental monitoring, will contribute to a more balanced and sustainable quarrying approach.

**7.5 Buffer zones or no-go areas:** To safeguard ecologically sensitive regions and minimize the impact of quarrying activities, the establishment of buffer zones and designated no-go areas is strongly recommended. A 7.5-meter-wide safety zone has already been proposed around the boundary of the mine, which will serve as an initial protective barrier reducing the direct influence of dust, noise, and human activity on critical habitats. These zones may be strengthened with native vegetation to support biodiversity and improve ecological connectivity. These spatial safeguards are essential for conserving key environmental features while promoting responsible and sustainable quarry operations.

**7.6 Site-specific restoration plan:** A well-designed site-specific restoration plan is a key component of responsible quarry management, ensuring that post-extraction landscapes are rehabilitated in an ecologically meaningful way. The plan should include phased restoration activities aligned with the progress of mining, focusing on landform stabilization, soil regeneration, and revegetation using native species. Priority should be given to restoring ecological functions, improving habitat quality, and enhancing biodiversity. The inclusion of water harvesting structures, green cover development, and soil erosion control measures will further support the long-term resilience of the site. By integrating local ecological conditions and community inputs, the restoration plan can transform disturbed areas into productive ecosystems, contributing positively to environmental sustainability and local livelihoods.

## 8. Committee's Recommendations

In view of the above, the committee recommends the following:

- Considering the demand for stone aggregates of the greater Guwahati city, the proposals may be considered by the MoEF&CC for forest clearance subject to the fulfillment of all regulatory and procedural requirements by the User Agencies.

- In view of the black granite reserve noticed in the proposed Nakkati 3 stone quarry, further scientific survey to be undertaken by the User Agency/ DFO, Aie valley division as per the direction of Directorate of Geology & Mines, Government of Assam.

- Cluster mining guidelines of MoEF&CC may be considered for proposed mines in Gopeshwar RF since the distance between proposed mines is less than 500

meters.

- Establish an independent monitoring mechanism under Regional office, MoEF&CC to ensure compliance of conditions/ mitigation measures post the approval of mining by the MoEF&CC

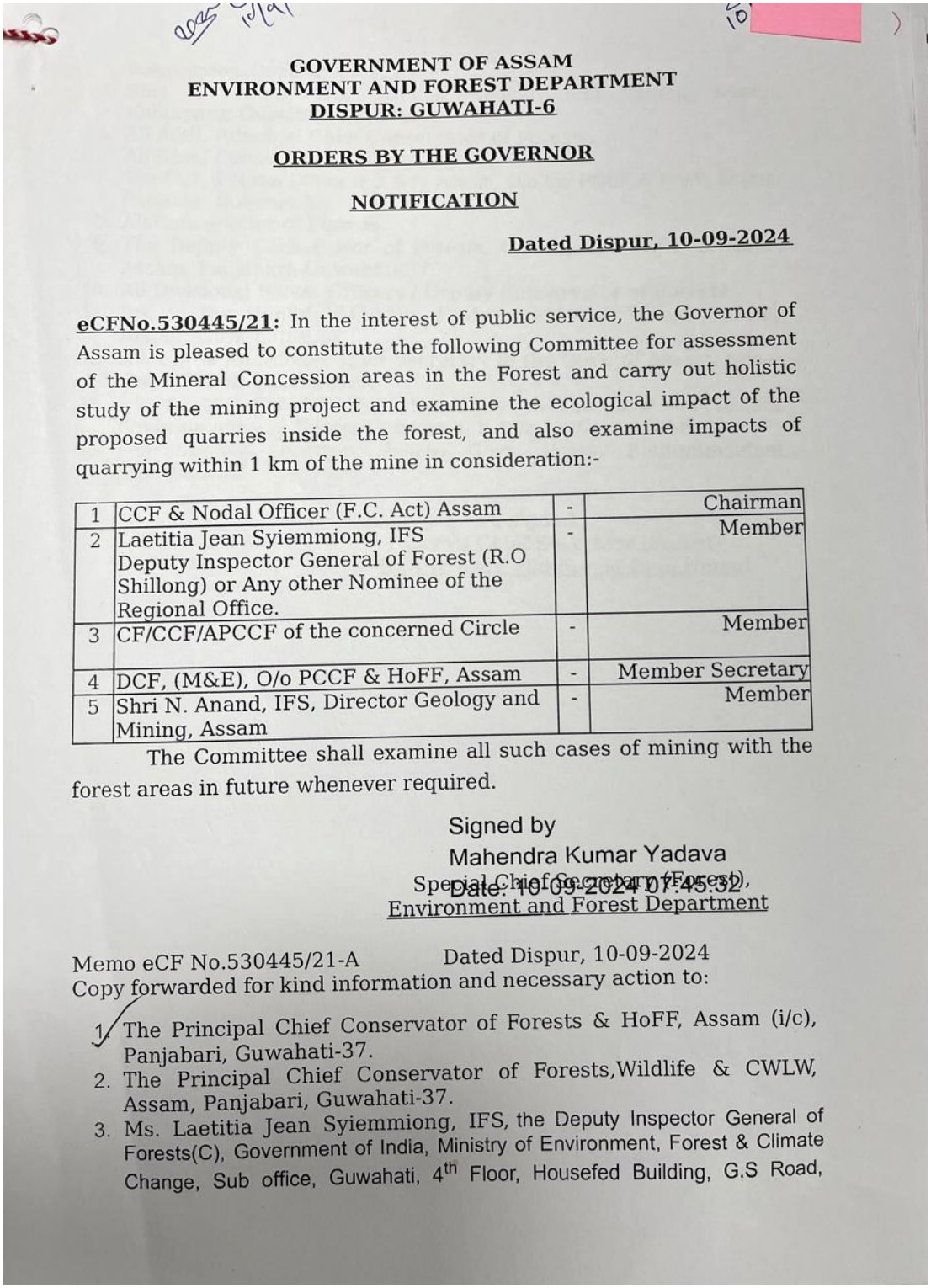
- In case of Gopeshwar stone quarry no 4, the clearance of Archaeological Society of India for mining to be obtained since the Madan Kamdev archaeological site is located at about 500 meters from the proposed quarry.

Submitted on behalf of the committee

**(Rajendra G Garawad)**
**CCF & Nodal officer (FC Act)**
**Chairman**
**Holistic study committee**
Date: 14-07-2025

## 9. Annexure

**Annexure 1**: Government of Assam notification related to committee



**GOVERNMENT OF ASSAM**
**ENVIRONMENT AND FOREST DEPARTMENT**
**DISPUR: GUWAHATI-6**

**ORDERS BY THE GOVERNOR**

**NOTIFICATION**

**Dated Dispur, 10-09-2024**

**eCFNo.530445/21:** In the interest of public service, the Governor of Assam is pleased to constitute the following Committee for assessment of the Mineral Concession areas in the Forest and carry out holistic study of the mining project and examine the ecological impact of the proposed quarries inside the forest, and also examine impacts of quarrying within 1 km of the mine in consideration:-

| | | | |
|---|---|---|---|
| 1 | CCF & Nodal Officer (F.C. Act) Assam | - | Chairman |
| 2 | Laetitia Jean Syiemmiong, IFS Deputy Inspector General of Forest (R.O Shillong) or Any other Nominee of the Regional Office. | - | Member |
| 3 | CF/CCF/APCCF of the concerned Circle | - | Member |
| 4 | DCF, (M&E), O/o PCCF & HoFF, Assam | - | Member Secretary |
| 5 | Shri N. Anand, IFS, Director Geology and Mining, Assam | - | Member |

The Committee shall examine all such cases of mining with the forest areas in future whenever required.

Signed by
Mahendra Kumar Yadava
Special Chief Secretary (Forest),
Date: 10-09-2024 07:45:32
Environment and Forest Department

Memo eCF No.530445/21-A Dated Dispur, 10-09-2024
Copy forwarded for kind information and necessary action to:

1. The Principal Chief Conservator of Forests & HoFF, Assam (i/c), Panjabari, Guwahati-37.
2. The Principal Chief Conservator of Forests,Wildlife & CWLW, Assam, Panjabari, Guwahati-37.
3. Ms. Laetitia Jean Syiemmiong, IFS, the Deputy Inspector General of Forests(C), Government of India, Ministry of Environment, Forest & Climate Change, Sub office, Guwahati, 4th Floor, Housefed Building, G.S Road,

**Annexure 2: Photographs of field visits**

**2.1 Kumnagar**

Previously mined area in Kumnagar

Vegetation cover in proposed mining area

Vegetation cover in proposed mining area

## 2.2 Gopeshwar proposed mine zone

Gopeshwar Stone Quarry and Mining Zone

Gopeshwar Stone Quarry No 1

Gopeshwar Stone Quarry No 4

## 2.3 Nakkati Stone Quarry No 3 area

Nakkati stone quarry No 3

Black granite seen in the mine area

Committee visiting the proposed stone quarry area

## 2.4 Nakkati Stone Quarry No 2 area