

**MITIGATIVE MEASURES PLAN**  
**For Protection of Forest, Located adjacent to the Proposed**  
**Quarry Lease of Black Granite**  
Over an extent of 4.98 Ha, in Compartment No. 456 of Basivipalli Exten.R.F,  
Bommasamudram Beat, Chittoor East Range and Chittoor East (WL) Division, A.P.

Applicant

M/s Sai Sonu Granites,  
Proprietor: Sri Parthasarathi Naidu,  
D. No.4/1888, Balaji Nagar Colony,  
Greampet,  
CHITTOOR-517002,  
A.P.

PREPARED BY

**Y.THIMMAIAH,**  
Cell:9440053509  
Consultant Mining Geologist  
(RQP/ DMG/ AP/11/2020)  
61205, Indu Fortune Fields Gardenia,  
13<sup>th</sup> Phase, K.P.H.B. Colony  
HYDERABAD - 500085.

*Under Points 3 & 5 of CF*

## MITIGATIVE MEASURES PLAN

For Protection of Forest, Located adjacent to the Proposed  
Quarry Lease of Black Granite

Over an extent of 3.98 Ha, in Compartment No. 456 of Basivipalli Exten. R.F,  
Bommasamudram Beat, Chittoor East Range and Chittoor East (WL) Division, A.P.

Applicant M/s Sai Sonu Granites.

### 1.0 INTRODUCTION:

Sri Parthasarathi Naidu, proprietor of M/s Sai Sonu Granites is having a quarry lease in Forest area for Black Granite over an extent of 5.67 Ha (4.62 Ha for Mining + 0.84 Safety Zone + 0.21 Approach Road) in Compartment No. 456 of Basivipalli Exten. R.F, Bommasamudram Beat of Chittoor East Range and Chittoor East (WL) Division, A.P. In continuation of the quarry operations, Sri Parthasarathi Naidu, proprietor of M/s Sai Sonu Granites has also applied for grant of quarry lease, adjacent to the existing lease, over an extent of 3.98 Ha i.e. 3.56 Ha for Mining and 0.42 Ha for Safety Zone in Compartment No. After due inspection of the proposed quarry site by the Officers of the Forest Department, the applicant is requested to submit the Mitigative Measures plan to protect the forest area, located adjacent to the proposed quarry lease area of 3.98 Ha. Hence this report is prepared under 3 & 5 of CF.

### 2.0 GENERAL:

- 2.1 Name & Address of the Applicant: M/s Sai Sonu Granites,  
Proprietor: Sri Parthasarathi Naidu,  
D. No.4/1888, Balaji Nagar Colony,  
Greampet, Chittoor-517002
- 2.2 Status of the Applicant: Proprietary Firm
- 2.3 Minerals: Black Granite (Dolerite)
- 2.4 Name & Address of RQP: Y. Thimmaiah (RQP/DMG/ AP/11/2020),  
(Registration as Qualified Person)  
F. No. 61205, Indu Fortune Fields Gardenia,  
13<sup>th</sup> Phase, K.P.H.B. Colony  
HYDERABAD - 85, Cell: 9440053509
- 2.5 Details of the Applied Q.L. Area:
- |                    |  |
|--------------------|--|
| 1) State           | : Andhra Pradesh                         |
| 2) District        | : Chittoor                               |
| 3) Division        | : Chittoor East (WL)                     |
| 4) Range           | : Chittoor East,                         |
| 5) Beat            | : Bommasamudram                          |
| 6) R. F.           | : Basivipalli Exten.                     |
| 6) Compartment No. | : 456                                    |
| 7) Extent          | : 3.98 Ha<br>(Mining: 3.56+S.Zone: 0.42) |
| 8) Ownership       | : Forest Land                            |

The applied quarry lease (Q.L.) area and the existing lease area are located side by side in the forest, adjacent to the revenue land of Basivipalli Village, Gudipala Mandal in Chittoor Dist, located on Indian Topo Sheet No. 57 O/4. The applied area is located between the Latitude of 13° 6' 27.94" to 13° 6' 33.93" and Longitude of 79° 9' 34.92" to 79° 9' 45.48" on Indian Topo Sheet No. 57 O/8. The applied area is also located at a distance of 1.0 km from the B.T. Road passing between the villages of Narayaripet - Thimmaiahpalle due North. The village Narayaripet is located at a distance of 13 km from Chittoor town due South. The applied area can be approached by a B.T. road from Chittoor town up to the village pasumanda village limits and then a cart track of 1.0 km length is connecting to the existing from B.T. Road. About 350m length and 6 m width of the Forest land (0.21 Ha) has been acquired for approach road purpose from revenue land to the existing Quarry leased area. The same existing road will be used for the applied lease area because the applied area and the existing lease is located side by side. Narayaripet (4.5 km) is the main village located close to the Q.L. area for primary facilities like electricity, primary school, post office and Bus services. Chittoor (18 km) is the district headquarters for other facilities like Market, Higher Education, Hospitals and Railway Station. The nearest airport is located at Thirupati (104km) and the nearest seaport is located at Chennai (152km) from the applied area.

### 3.0 GEOLOGY :

3.1 Topography: The applied quarry lease area, Safety zone and existing quarry lease area belongs to hilly terrain. Applied Quarry lease area is elevated on SE (315 m max) and sloping towards NW sides of the area. The lowest level i.e. 299 (MSL) is located on NW side. The quarry lease is gradually sloping towards from SE to NW. There is a maximum relief of 17 mts within applied area. Due to Granite intrusion, the mining area is rising to a height of 17 mts from normal ground level. Even though, the applied quarry lease area and the existing quarry lease areas are belong to R.F, it do not have much vegetation except scattered trees and bushes on the slopes. There are no prominent natural drainage channels within the applied area. But the seasonal watercourse is running across the applied lease on NW corner. The surface rain water of the area will joins to the seasonal nalas and the nalas join to local tank, located at 0.4 km from the area on Northern side.

3.2 Regional Geology: The Chittoor District forms with part of Indian Peninsular gneiss, which has remained stable since formation of the crust. The Peninsular gneiss is exposed in the most of the district.

3.3 Local Geology: The area represents a peninsular gneissic complex comprising grey granites with a Dolerite dyke intrusions. The Dolerite is intruded through the gneiss as a dyke in NE-SW direction in the applied area. No shear zone or faults are noticed in this area. The Dolerite (Black Granite) dyke is well exposed, over a length of 300 m, to an average width of 22 m in applied area to a height of 5m (max). Float material mixed with soil is covering on slopes of the applied area on either sides of the dyke formation. Dolerite (Black Granite) is fine to medium grain size. It is hard and compact and Steel grey to black in colour.

#### 4.0 MINING:

4.1 Method of Mining: Granite Mining will be carried out by open cast method with the help of Machinery like, an excavator, tippers, Jackhammer Drilling and wire saw cutting Machines. The Excavator will be used to remove overburden consisting of small boulders and scree from surface of the quarry area and this waste will be loaded in to trucks and it will be shifted to proposed dump yard, marked on Southern side of the applied quarry lease, over an extent of 1.4218 Ha. After removal the overburden from the surface, the sheet rock of black granite will be cut in to blocks with the help of wire saw cutting machine and these primary blocks will be cut into secondary blocks to perfect sizes with the help of jackhammer drilling and wedge cutting. These dimensional blocks will be loaded in to the trucks with the help of excavator and the same will be transported to the market or to the cutting and polishing units, located in A.P., Karnataka and Tamilnadu. It is proposed to excavate the granite in single pit, over an extent of 1.165 Ha after leaving 7.5m width of safety zone (0.42 Ha) on four sides the lease area during the life of the quarry.

#### 5.0 IMPACT ASSESSMENT OF MINING:

- 5.1 Soil Erosion & Float: The quarry lease area is covered by the Granite (both Black & Gray) rock. Thin pockets of soil filling are seen along the joints planes of the granite. As the mining area is sloping towards North, there are chances for roll down of the surface material from workings and waste dumps to outside the boundaries of Quarry Lease. Due to float material, there are chances for damage of plants & trees of adjacent forest, located around the quarry lease.
- 5.2 Dust Generation: There are chances for dust generation from quarry workings and haulage of Granite Blocks & Waste material with the help of heavy machinery. The dust generates from quarry workings will spread to adjacent forest due to windblown. This dust generates from quarry workings will hamper the growth of the plant & tree of adjacent forest.
- 5.3 Sound & Noise pollution: For Granite mining, heavy machinery like excavators, tippers/ dumpers, compressor and jackhammers will be used. There will be chances for pollution of noise, generates from mining equipment. Due to noise pollution, the fauna of the adjacent forest will be disturbed.

#### 6.0 MITIGATIVE MEASURES TO BE TAKEN BY THE MANAGEMNT/ LEASSEE.

- 6.1 Arrest of Soil Erosion & Float Material from Quarry: It is already furnished that elevated lease area is covered by the granite rock and the thin pockets of soil and gravel is available along slopes of the applied quarry lease. Because the mining will be carried out at higher altitudes, the soil erosion from the slopes of the lease area is negligible. However, the weathered rock mixed with soil will be excavated from the surface of the quarry area and same is stocked in proposed waste dump yards on Southern side.

It is proposed to build up a retaining wall around the proposed workings and dumping areas on Northern and Easter sides for stabilization of dump and to arrest the float material. The retaining wall will be constructed over a length of 460 m, to a width of 2m and to a height of 1m with the waste generates from the quarry. To stop the pollution of the surface water of the quarry area, it is proposed to cut a garland drain, on outside of the retaining wall, over a length of 460 m, to a width of 1.0m and to a depth of 0.5 m and the excavated gravel or muck will be used for construction of retaining wall. The retaining wall and garland drain will cover an area of 0.2050 Ha. A silting tank will be dug at the end of the garland drainage on Northern & Southern sides. The silting tank will be cleaned at regular intervals. Due to retaining wall, trench cutting and silting tanks, the float material coming from quarry workings & Dumps will be arrested within the lease area and the adjacent forest will be protected from float material.

- 6.2 Suppression of Dust: The dust generates from quarry workings shall be suppressed by water spraying on mine roads at regular intervals before transportation of Granite blocks from quarry site. The dust generation shall also be suppressed by green belt development on either side of approach road, located in forest area. The safety zone, which has to be maintained around the quarry workings will be planted over an extent of 0.42 Ha as per the guide lines of MOEF.
- 6.3 Control of Sound / Noise Pollution: If all the mining machineries are operated together at one place at the same time, the noise generation from mining equipments will be more than the permissible limits. So, the applicant is advised to operate the equipments at different timings at different places of the quarrying to control the noise pollution and to maintain the sound pollution within the permissible limits.

ENCLOSURES:

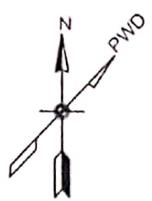
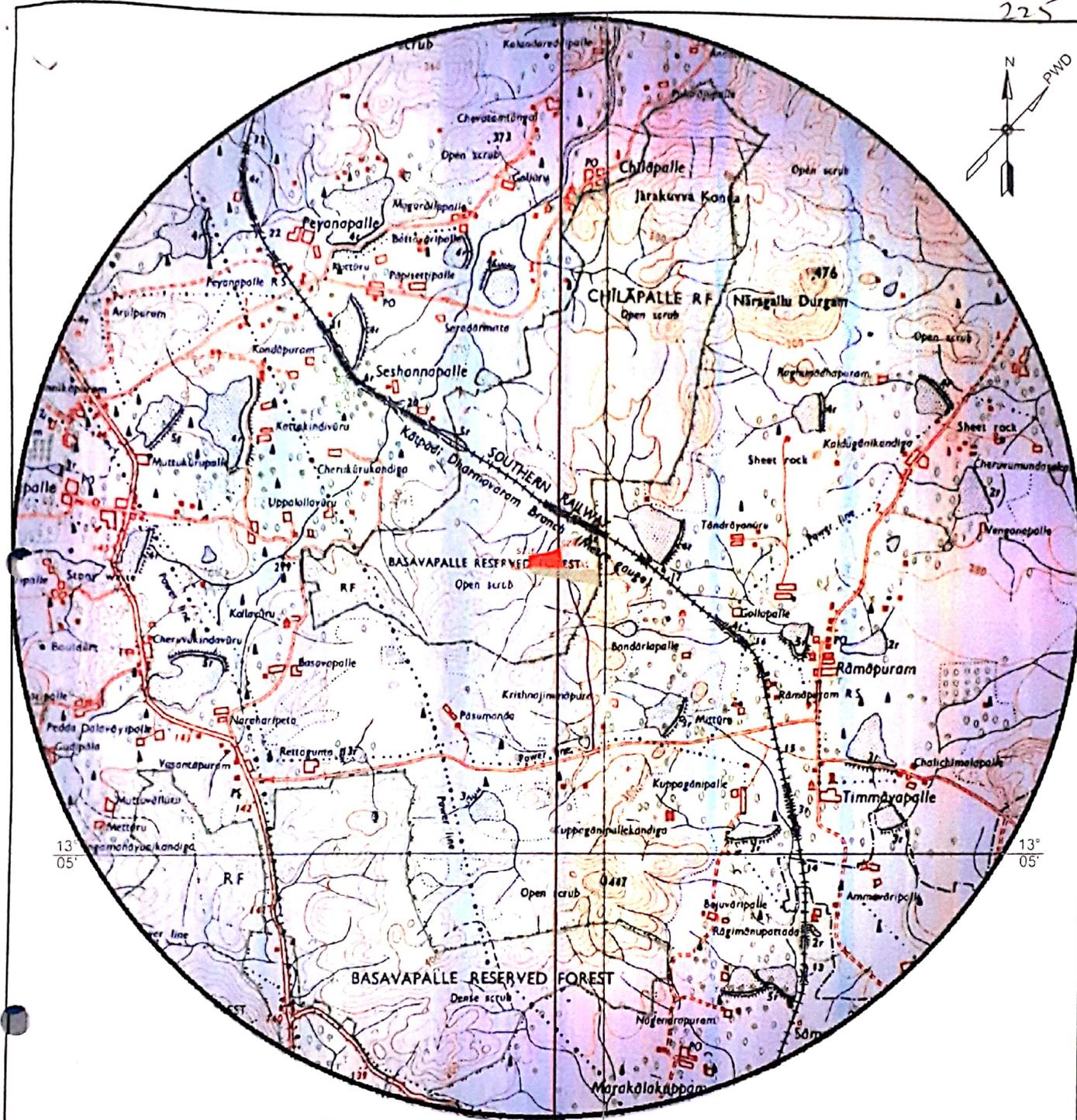
Plat-1 : Location plan (1:50,000)

Plate-2 : DGPS Survey Map for Diversion of Forest Land for Quarry Lease

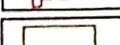
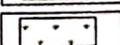
Plate-3 : Plan showing the Mitigative mitigation Measures, to protect adjacent forest from Proposed Quarry Workings (1: 2,000 Scale).



(Y. THIMMAIAH)  
R.Q.P



**INDEX**

-  APPLIED Q. L. AREA IN R.F.
-  EXISTING Q. L. AREA
-  CONTOUR LINE
-  PUBLIC ROAD
-  WATER COURSE
-  TANKS
-  VILLAGES
-  FOREST LAND
-  CULTIVATION LANDS
-  5Km RADIUS

CERTIFIED THAT THE PLAN IS CORRECT

SIGNATURE OF APPLICANT

*[Handwritten Signature]*  
SIGNATURE OF THE R. Q. P

**MITIGATIVE MEASURES PLAN**

In Compartment No.456 of Basivipalli Exten. R.F, Bommasamudram Beat  
Chittoor East Range & Chittoor East (WL) Division, A.P. Extent of 3.98 Ha

**LOCATION CUM KEY PLAN**

Applicant : M/s Sai Sonu Granites

SCALE : 1 : 50,000    T.SHEET No. 57 / O / 4    PLATE - 1

**Map Showing the Diversion of Forest Land in Comp.No-456 of Basivipalli Extn RF,Pachigunta Beat, Chittoor Range,Chittoor East Division.In favour of M/s.Sai Sonu Granites.**

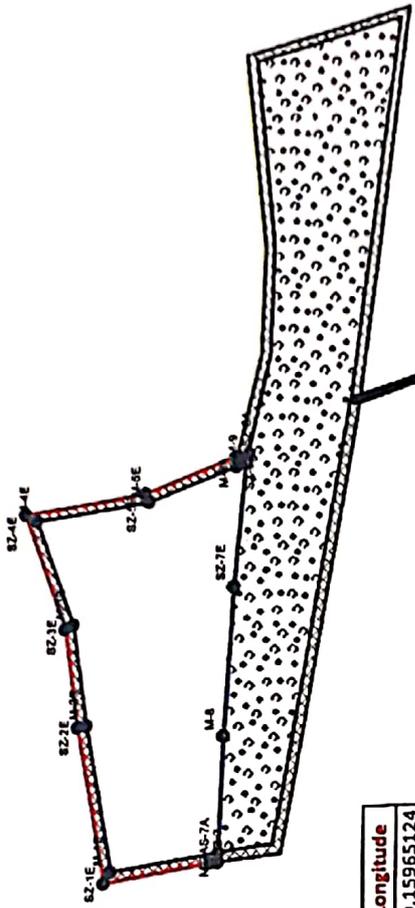
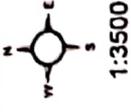


plate: 2

**Legend**

- DGPS Points
- Proposed Mining Area
- ▨ Proposed Safety Zone Area
- ▤ Existing Mining Area
- ▥ Existing Safety Zone Area
- ▧ Existing Road Area

S no	Name	Area(Ha)
1	Proposed Mining Area	3.56
2	Proposed Safety Zone Area	0.42
<b>Total Area</b>		<b>3.98</b>

S no	Name	Easting	Northing	Elevation	Latued	Longitude
1	M-1E	300486.322	1449886.430	299.479	13.10872746	79.15965124
2	M-2E	300501.435	1449908.393	299.662	13.10893355	79.16071120
3	M-3E	300681.399	1449920.749	302.386	13.10905048	79.16144771
4	M-4E	300764.436	1449951.659	300.499	13.10933531	79.16221131
5	M-5E	300775.113	1449858.488	307.471	13.10849393	79.16231601
6	M-6A	300799.339	1449785.982	315.822	13.10784023	79.16254425
7	M-7A	300491.056	1449798.737	302.659	13.10793522	79.15970078
8	M-8	300589.163	1449795.842	305.859	13.10791551	79.16060560
9	M-9	300801.758	1449778.670	317.404	13.10777430	79.16256706
10	SZ-1E	300477.580	1449892.277	300.171	13.10877973	79.15957024
11	SZ-2E	300600.238	1449915.764	299.523	13.10900009	79.16069967
12	SZ-3E	300678.397	1449927.842	301.926	13.10911439	79.16141956
13	SZ-4E	300770.263	1449961.576	300.341	13.10942533	79.16226437
14	SZ-5E	300781.714	1449861.919	307.266	13.10852538	79.16237665
15	SZ-6A	300808.860	1449777.020	315.742	13.10775985	79.16263266
16	SZ-6A1	300806.907	1449786.220	315.869	13.10784287	79.16261403
17	S-7A	300498.459	1449798.889	302.125	13.10793708	79.15976904
18	SZ-7	300490.321	1449806.395	302.812	13.10800438	79.15969350
19	SZ-7E	300705.697	1449788.131	308.430	13.10785348	79.16168066

Divisional Forest Officer,  
Chittoor East (WL) Division  
Chittoor

Assistant Conservator of Forests (P.M.U.)  
O/o Principal Chief Conservator of Forests  
Aranya Bhavan, Guntur, A.P.

The DGPS/GNSS/ETS data is only verified, the absolute locations of Points shall be verified by the concerned field officers.

Aranya Bhavan, Guntur.

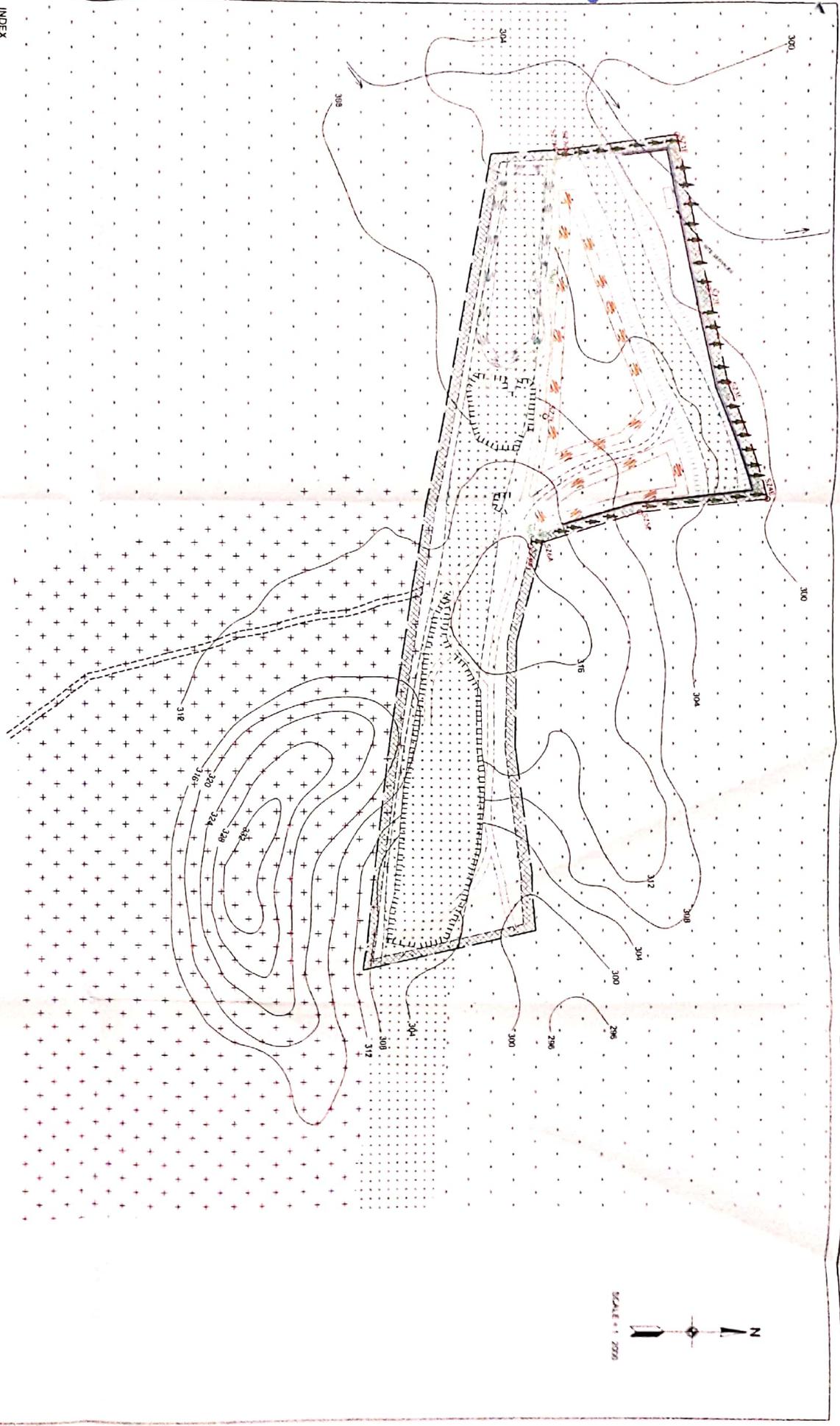
Scale: 0 75 150 300 450 Meters

Aranya Bhavan, Guntur.

Aranya Bhavan, Guntur.

Aranya Bhavan, Guntur.

Scanned with CamScanner



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Details of the Existing Quarry Lease

	Safety Zone Area = 0.64 Ha
	Mining Area = 4.02 Ha
	Approach Road = 0.21 Ha
Total Existing Q.L. Area = 5.67 Ha	

Existing Land Use Pattern

	Quarry workings = 1.5948 Ha
	Existing W Dumps = 0.7200 Ha
	Internal Roads = 0.4235 Ha
Total Land Usage = 2.7433 Ha	

Details of Applied For Quarry Lease Area

	Safety Zone Area = 0.42 Ha
	Mining Area = 3.56 Ha
Total Applied Area = 3.98 Ha	

Proposed Land Use Pattern in Applied Q.L.

	Quarry workings = 1.1650 Ha
	Proposed W Dump = 1.4218 Ha
	Retaining Wall & Carland Drain = 0.2050 Ha
	Internal Roads = 0.0825 Ha
	Site Services = 0.0100 Ha
Total Land Usage = 2.9843 Ha	

Surface Features

	Panulation
	1/10 Contour
	Soil With Stone
	Black Granite
	Grey Granite
	Seasonal Nail

R. Sullivan  
 Sited  
 FOREST SECTION OFFICER  
 CHITTOOK

FOREST RANGE OFFICER  
 CHITTOOK EAST

DEPARTMENT OF FORESTRY  
 1000 - 1000

MITIGATIVE MEASURES PLAN TO PROTECT THE FOREST  
 ADJACENT TO THE PROPOSED QUARRY LEASE OF BLACK GRANITE  
 IN COMPARTMENT No. 486 of Sitka Forest Division, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

SCALE 1:2000