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No. SG/GSDA/Pune/Tech/LGW/1024 / 2024

Date- 10 OCT 2024

To,  
Vishwa Landmarks through  
Shri.Navnath D Gaikwad,  
Talegaon Dhamdhere Bk, Shirur  
District Pune

Subject- Regarding Hydrogeological Survey at Gat no.3526 of Village Talegaon Dhamdhere,  
Taluka Shirur, District Pune

Reference - 1.Your Letter dated 25/09/2024

2.Hydrogeological Survey Challan dated 25/09/2024

With reference to the above subject, hydrogeological survey was carried out at Gat no.3526 of Village Talegaon Dhamdhere, Taluka Shirur, District Pune.

The details of Proposed site are as follows:

|                              |                                              |
|------------------------------|----------------------------------------------|
| Name Of Village              | Talegaon Dhamdhere                           |
| Co-Ordinates                 | 18°40'00" N and 74°09'15" E                  |
| Elevation                    | 562.86 m                                     |
| Toposheet & Morpho Unit      | 47 J/2                                       |
| Watershed No.                | BM 19                                        |
| Category                     | Semicritical (As per GW Assessment 2022-23)  |
| Rock Type                    | Basalt                                       |
| Aquifer (Water Bearing Zone) | Shallow Aquifer (Jointed / Fractured Basalt) |

#### Location

The village Talegaon Dhamdhere is in the Northeast Direction of Pune City at 14.00 km. The area under study i.e., said Gat no. 3526 are located in Village Talegaon Dhamdhere.

**Geomorphology-** The topography is plane to moderately dissected plateau. A gentle to medium slope is in the Northeast direction. A major drainage Welu is observed in the North direction at 300 mt and a Lineament at 100 mt is present in the North direction of the site.

**Geology-** The area of village Talegaon Dhamdhere consists of different layers of Basalt and the thickness varies from 2.00 to 10.00 mt which are formed during the Upper Cretaceous to Lower Eocene period of Geological time scale.

The basalt is dark grey to black in color, fine to medium grained and medium jointed and fractured in nature. The geological/lithological data as per field observations in the surveyed area is as below.

|           |                                                                                  |                 |
|-----------|----------------------------------------------------------------------------------|-----------------|
| Lithology | Brownish coarse-grained soil                                                     | 0.00 – 1.00 mt  |
|           | Highly to moderately weathered basalt                                            | 1.00 – 3.00 mt  |
|           | Greyish black colored, fine to medium grained jointed fractured vesicular basalt | 3.00 – 10.00 mt |
|           | Greyish black colored compact Massive Basalt                                     | Below 10.00 mt  |

**Hydrogeological Conditions** – At the surveyed area the soil thickness ranges from 0.00 to 1.00 mt, the weathered basalt thickness varies from 1.00 to 3.00 mt, jointed and fractured basalt from 3.00 to 10.00 mt and from 10.00 followed by massive basalt. The entire area of the studied Gat no. 3526 is underlain by the basaltic flows of Upper Cretaceous to Lower Eocene. Groundwater in the Deccan Trap occurs mostly in the weathered and fractured, jointed vesicular parts till 8.00 mt bgl under unconfined conditions. The water bearing strata at deeper depths exists under semi confined to confined conditions at the depth of about 20-30 mt. From the groundwater availability point of view, the area has moderate groundwater yielding potential zone.

The availability of groundwater depends largely on surface and subsurface geology, geomorphology, natural drainage pattern, depth of weathering and the fractures present. Actual annual rainfall, groundwater extraction from other sources in the surrounding area is also the factor which controls and affects the availability of groundwater.

**Observations** - At the time of survey 1 bore well was observed in applicant's Gat no. 3526. The existing borewell is perennial in nature. Groundwater which is obtained from the existing bore well can be used for drinking and domestic purposes and can meet the water requirement which is 40,000 lt/day for drinking and domestic demand of the Gat no. 3526

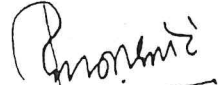
| Sr. no | Source    | Location<br>Sr.no/Gat.no | Dimensions   |               | SWL<br>(summer) | Pump                | Water<br>availability  |
|--------|-----------|--------------------------|--------------|---------------|-----------------|---------------------|------------------------|
|        |           |                          | Depth        | Dia           |                 |                     |                        |
| 1      | Bore well | Gat no. 3526             | 76 mt<br>(R) | 150 mm<br>(R) | 15 mt(R)        | 2 HP<br>two<br>pump | Approx<br>40,000lt/day |

#### Recommendations -

1. The category of the area as per the groundwater assessment 2022-23 is Safe, the available water should be strictly used for drinking and domestic purposes.
2. The groundwater quality should be analyzed twice in a year (pre and post monsoon) by the applicant from the water testing laboratory at his own cost. Also, water quality to be maintained hence RO is recommended.



3. To have sustainable groundwater, groundwater recharge from rainwater harvesting to the existing sources should be implanted so that groundwater will be available perennially.
4. The topographical, hydrogeological conditions and rainfall play an important role in fulfilling the requirement of drinking, domestic use. In view of sustainable groundwater for the drinking and domestic purpose the groundwater recharge through surface runoff and rainwater harvesting measures in a quantity equal to the extraction of groundwater from the existing sources is mandatory to the applicant.
5. In view of sufficient water requirements for drinking, domestic and irrigation use, it is strongly recommended that a minimum of 70% of the extracted ground water must be recycled and reused for further usage.
6. The rainwater harvesting structures should be implemented under the technical guidance of this office (GSDA Pune)
7. During the Scarcity period the Scarcity Rule of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.

  
(Diwakar Dhote)

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