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Groundwater Surveys and Development Agency, GoM.
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23 MAR 2026

To,
Shri. Narendra Shantikumar Firodiya
Gat no 116
Village Parwadi. Tal. Maval.
Dist – Pune

Sub: Regarding Hydrogeological Survey at Gat no.116 Village- **Parwadi**,
Tal Maval Dist Pune

Ref: Your application dated 20/03/2026

With reference to the above subject hydro-geological survey was carried out in the presence of concern personnel/s at the Gat no. 116 area of Village Parwadi, Tal Maval. Dist Pune. At the time of Hydrogeological survey, the concern personnel Shri. Pankaj Bhadakwad was present.

The details of the proposed site are as below.

Name of Village	Kanhe, Tal Maval. Dist Pune
Co-ordinates	Lat - 18°46'37.9"N Long -73°35'28.5"E
Elevation (msl)	600 m
Toposheet& Quadrant No	47F/09 and 3B
Watershed No.	BM-38; 6/7
Morphozone	A ; Ab
Category	Safe (As per Groundwater Assessment 2022-23)
Rock Type	Basalt
Aquifer (Water bearing Zone)	Shallow Aquifer (Jointed and Fractured Basalt)

Location:

Village Parwadi, Tal. Maval. Dist. Pune is located along the Northern Metropolitan corridor of Pune, just off the old Pune - Mumbai highway. The area under study i.e. said Gat no.116 area is located towards South direction of Village Parwadi, Tal. Maval. Dist. Pune.

Geomorphology:

The village area has undulating topography with gentle slope towards NE direction where Indrayani River -is flowing. The drainage of Village Parwadi, Tal. Maval. Dist. Pune village shows dendritic drainage pattern.

Geology:

The area of the village Parwadi, Tal. Maval. Dist. Pune consists of solidified layers of basalt and thickness of each layer varies from 10.00 to 15.00 meters and formed during upper Cretaceous to lower Eocene period of Geological time scale. The basalts are dark grey to black in color, fine to medium grained, medium jointed and fractured in nature. For the proposed area the geological as well as lithological data is considered as per field observations and reported data.

Lithology	Greyish to brownish coarse-grained soil	0.50 -2.00 m
	Highly to moderately weathered Basalt.	2.00 - 5.50 m
	Greyish black coloured, fine to medium grained, jointed and fractured Basalt.	5.50 - 10.00 m
	Greyish black coloured partly jointed and fractured Massive Basalt	10.00 - 12.00 m
	Greyish black coloured compact Massive Basalt	Below 12.00 m.

Rainfall: - Parwadi, Tal. Maval. Dist. Pune village receives rain from south-west Monsoon. On an average moderate to high rainfall. The average mean annual rainfall in the district is 1180.00 mm.

Hydrogeological Conditions:

At the proposed area the Soil thickness is up to 2.00 m, the weathered basalt thickness ranges 2.00 to 5.50 m, jointed and fractured basalt ranges 5.50 -10.00 m, greyish black coloured partly jointed and fractured massive basalt ranges 10.00 - 12.00 m and below 12.00 m the greyish black coloured compact massive basalt is



present. The entire area of the studied Gat no. 116 area is underlain by the basaltic lava flows of upper Cretaceous to lower Eocene age. Geologically the area is covered by jointed and fractured basalt.

Ground water in Deccan trap basalt occurs mostly in the upper weathered and fractured parts down to 1.00 - 12.00 m bgl under unconfined conditions. The water bearing strata at deeper depth exists under semi confined to confined conditions at a depth of about 30-45 m and 50-55 m. From the groundwater availability point of view, the area is moderate yielding groundwater potential zone.

The availability of groundwater as a source depends largely upon surface and subsurface geology, geomorphology, natural drainage pattern, depth of weathering and fractures present. Actual annual rainfall, groundwater extraction from other sources in the surrounding area, urbanization, topography modification are also the factors which control and affect the availability of groundwater.

Presently, at the said Gat no.116 area there are two groundwater sources, present in Gat no 116 area which belongs to the applicant. The details of existing groundwater source are given as below.

Sr.N o	Source	Location Gat No.	Details of GW Source				b	Water availability
			Dimensions /Diameter in mm	Depth in m	Water Level in m.			
					Winter	Summer		
1	Bore Well	116	150 mm	150.0 (R)	6.60 m (R)	Moderate yield	3 hp	30-40 Cum/ day
2	Bore Well		150mm	180.00 ®	6.50 ®	Moderate yield	3 hp	40-50 Cum/ day

Observations:

Based on Hydrogeological survey done by this office, two groundwater sources (bore well) are present Gat no 116 and is currently used to supply domestic water. From the groundwater availability point of view, the surveyed area is moderate yielding groundwater potential zone. By considering the existing source and the sources in the adjoining area 30-50 Cum/Day water may be available presently from the existing source seasonally (PLM Plateau Moderately



Dissected (PLM) and Plateau Weathered (PLWS) area indicating Moderate yield expected, recharge structures near source would enhance the yield. Large diameter dug wells are suitable

Nevertheless, deficit in normal rainfall, increase in population density, excess groundwater extraction from surrounding areas and lack of groundwater recharge may create stress on the availability of groundwater. Following measures are recommended and are mandatory to the applicant.

Recommendations:

1. According to the application it is proposed to develop the area for residential plots at Gat No. 116 area, Village Parwadi, Tal Maval.
2. At the time of any development process the applicant /company /every holder of a said land shall take all possible precautions to avoid the disturbance of the natural drainage system and aquifer system available.
3. The available groundwater should be strictly used for drinking and domestic purpose only. For future development of infrastructure, the requirement of water should be fulfilled by tanker water/untreated raw water so that extraction/utilization of groundwater is controlled.
4. If in future the additional water required for the drinking and domestic purpose, the water requirement should be fulfilled by the water supply connections of local authority and is mandatory to the applicant.
5. For the sustainable availability of groundwater, Roof Top Rainwater Harvesting measures to the existing/new groundwater sources is mandatory.
6. The rainwater harvesting structures should be implemented under the technical guidance of this office (G.S.D.A. Pune) and checked it from time to time.
7. The water quality of existing source should be analyzed regularly by the applicant/firm on its own cost from the water quality laboratory. For drinking purpose treated water should be used.
8. The topographical, hydro-geological conditions and rainfall play very important role for fulfilling the requirement of drinking and domestic water. In view of sustainable groundwater for the drinking and domestic use, the groundwater recharge through rainwater harvesting measures in a quantity equal to the extraction of groundwater from the existing sources is mandatory to the applicant.

9. In view of water requirement for the drinking and domestic use, it is strongly recommended that minimum 70 % of the extracted groundwater must be recycled and reused for further usage.
10. During the Scarcity period the rules of Maharashtra Groundwater (Development and Management) Act 2009 are mandatory to the applicant.



(Diwakar Dhote)

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Dist. Pune.

