

Summary of Decisions of the Structural Engineering Committee
SEC Meeting 7/2025 held on 12.8.2025

Case 8/2025

Issue: Enhanced Presumed Values referring to GEO Technical Guidance Note Nos. 26 and 53

Recommendation: (1) To accept the enhanced presumed allowable vertical bearing pressure for foundations in Scheduled Area Nos. 2 and 4 on marble bedrock and the enhanced presumed allowable bond or friction between rock and concrete or grout for piles, which are same as those given in the GEO Technical Guidance Note No. 26 (TGN 26)

(2) To accept the enhanced presumed allowable bond or friction between category 1(c) or better igneous rock and concrete or grout for piles under permanent tension, which are same as those given in the GEO Technical Guidance Note No. 53 (TGN 53)

Decision: Having noted the background information, members endorsed the recommendations subject to the following conditions:

(A) For Recommendation (1)

- (1) The enhanced presumed allowable values are not applicable to marble and marble-bearing rocks found within the Designated Area of Northshore Lantau.
- (2) No cavities should exist within the zone below the pile base to a depth equal to 1.5 times the diameter of the pile base.
- (3) Settlement analysis of the foundation should be performed to take due account of the as-constructed pile lengths/founding levels and the soil-structure interaction.
- (4) Assessment of the structures supported by the foundation should be carried out to confirm that the structures can tolerate the settlements determined at (3) above.
- (5) Upon completion of the foundation works, a report containing the analysis and assessment conducted in (3) and (4) above should be submitted.

- (6) The performance of the foundations should be monitored during the construction of the superstructure works. A monitoring scheme should be submitted for agreement before the commencement of pile cap/superstructure works.
- (7) A final performance review report on the settlement behaviour of the building structure with consideration of settlement records is to be submitted for consideration and agreement prior to the application for an occupation permit.
- (8) The conditions in (3), (4), (5), (6) and (7) are not applicable to minor or temporary structures with shallow foundations on rock, such as raft and footing.
- (9) In addition to the compression proof test, if the tension capacity of a pile exceeds 50% of the compression capacity based on the bond or friction between marble rock and concrete or grout under permanent tension, at least 2% of the total number of tension piles should be selected for tension proof test and found satisfactory. Any fraction so calculated should be construed as one additional pile for testing. The test load should be two times the allowable tension pile capacity.

(B) For Recommendation (2)

- (1) In addition to the compression proof test, if the tension capacity of a pile exceeds 50% of the compression capacity based on the bond or friction between igneous rock and concrete or grout under permanent tension, at least 2% of the total number of tension piles should be selected for tension proof test and found satisfactory. Any fraction so calculated should be construed as one additional pile for testing. The test load should be two times the allowable tension pile capacity.

(C) Such requirement would be reviewed when more settlement performance review results were received and adequate data was collected for review/consideration.

(D) Members agreed that foundation submissions adopting the presumed allowable values accepted in this paper could be processed within district sections. It is not necessary to submit the case to SEC for discussion so as to speed up the processing of plans.