

### Dewatering in Foundation and Basement Excavation Works

Dewatering may result from works or may be part of the method for constructing foundations and basement excavations. The procedures for dewatering activities and precautionary measures against impairing the stability and causing undue settlement of any adjoining buildings, streets and land should be to the satisfaction of the Building Authority (BA).

2. The following information should be included **on** the plans for submission to the Building Authority :

- (a) the foundation details of adjoining buildings and details of nearby underground utilities (e.g. fresh water pipe, gas main, sewer and the like);
- (b) details of the dewatering proposals including ground treatment, if any (e.g. grouting and recharging);
- (c) the method and sequence of construction; and
- (d) the location and details of instrumentation for monitoring the effects of the works on adjoining buildings, streets and land (including the change in ground water conditions in the adjoining ground) during construction, together with information on --
  - (i) criteria for limiting movements and groundwater pressures and action to be taken if these limiting values are reached;
  - (ii) intervals between readings; and
  - (iii) availability of monitoring records.

3. The following information should be submitted **with** the plans :

(a) **A site investigation report**

This report should include adequate information on groundwater and geological conditions including permeability, compressibility and consolidation characteristics of the various soil strata, particle size analyses and other test results relevant to consideration of the dewatering activities and preventive measures against settlement;

/(b) A report ....

(b) **A report on the conditions of adjoining buildings**

This report should give information on the structure and conditions of all adjoining buildings that may be adversely affected by the proposed works;

(c) **Shoring/Underpinning details**

These details are to be submitted if any adjoining building need shoring/underpinning precautions; and

(d) **Assessment of excavation and dewatering effects**

This assessment on the adjoining buildings, streets and land should include the criteria for limiting movements and the like, as mentioned in paragraph 2(d)(i) above.

4. During the foundation and basement construction works, the authorized person/registered structural engineer appointed for the works should supervise and inspect as necessary:

- (a) to ensure that such works are being carried out in accordance with the provisions of the Buildings Ordinance and Regulations and with the approved plans; and
- (b) to verify the design assumptions throughout the process of construction. A suitably experienced full-time supervisor should be employed where necessary.

5. Piezometric and settlement monitoring records should be made available at all times and copies submitted to the BA periodically.

6. These requirements are not exhaustive. Please also refer to the relevant sections on groundwater and drawdown control in the General Specification for Civil Engineering Works published by the Civil Engineering Department and to BS 8004:1986 British Standard Code of Practice for Foundations.

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