TASKS OF ACCREDITED CHECKERS OF GEOTECHNICAL WORKS

The Accredited Checker (Geotechnical) shall check on the suitability and adequacy of the consultant's designs on all geotechnical engineering works with particular reference to technical adequacy, constructability, short term and long term safety and serviceability including that of the adjacent properties, and compliance to the relevant legislation, acceptable codes of practice, standards and guidelines. It should also include independent interpretations and calculations for critical elements of the project.

The tasks for Accredited Checkers shall include, but not limited to the following:

a) Check the site mapping and topography, geomorphology of the site and adjacent areas.

b) Check the geological implication on the design.

c) Check the adequacy of the subsurface investigation (S.I.) and laboratory tests carried out for the proposed development.

d) Check interpretation of subsurface investigation (S.I.) and subsoil profiles.

e) Check all the assumptions, interpreted and selected design soil/rock parameters and groundwater conditions.

f) Check the geotechnical analyses and designs of Slopes :

(i) Slope terrain classification
- Zoning of slopes at the site and adjacent sites (if there is an influence on the site) into different class in accordance to authorities' requirements.

(ii) Slope stability analyses of existing, natural and engineered cut & fill slopes. Various failure modes shall be checked including relevant surcharge loads etc.

(iii) Exposed rock slopes should include detailed rock mapping and kinematic analyses.

(iv) Detailed analyses and design of strengthening works for soil and rock slopes with regular maintenance manual (e.g. soil nails, rock bolt, dowel, etc.)

(v) Effect of surface and ground water and the provision of adequate drainage measures.

(vi) Effect to the adjacent properties if the proposed works have influence on the safety and serviceability of the adjacent properties (e.g. dewatering, excavation, rock blasting, etc.). Check on proposed mitigating measures.

g) Check the geotechnical analyses and designs of Foundations :

(i) Suitability of the types of foundation systems proposed.

(ii) Detailed analyses and designs of the foundation including bearing capacity and deformation predictions.

(iii) Proposed testing programme

h) Check the geotechnical analyses and designs of Retaining Walls :

(i) Suitability of the types of retaining wall systems proposed.

(ii) Detailed analyses and designs of the retaining walls including internal and external stability of the wall.

(iii) Deformation prediction and its influence to the surrounding structures, services and slopes

i) Check the Specifications for all geotechnical works.

j) Check the construction control measures to be implemented at site. (e.g. monitoring scheme, turfing etc.

k) Check the adequacy of the supervision programme proposed by the Consultant for works such as subsurface investigation (S.I.), earthworks and all geotechnical works.

l) Check the long-term maintenance programme of the slopes and retaining walls (Such as the maintenance of slopes permanent ground anchors, drainage and weepholes).

m) Check the adequacy of instrumentation and monitoring program and emergency response time.

n) Check the construction method in relation to the design assumptions and approaches.

o) Check the design risks, factor of safety and unsatisfying measures.

p) Perform independent calculations with the view to determine the adequacy of the key elements of project including slopes, retaining walls and foundations. If calculations on analysis and elemental design are done with the aid of engineering software, the design assumptions, and limitations of such software should be ascertained and stated. The design parameters, which are the computer input should be mentioned. (The checker by nature of his working experience should know what are the key elements of geotechnical works in the building. The is no necessity to mention them as the list can be non-exhaustive.)

q) Check the proposed temporary work where it is to be executed for the substructure works and its foundation to ensure that it is practically viable and potential damages to adjoining properties during the construction of the proposed geotechnical works are minimized and is not endangering public safety.

In carrying out the task, the AC shall ensure that there is coordination with interfacing elements between the building structure and the geotechnical works.