

29 July 1998

EDB Circular No. 25/1998
(Formerly referred as EMB Circular No. 25/1998)
(Formerly referred as Administration Circular No.25/98)

Administrative Procedures for Safety of Schools in the Vicinity of Slopes

[Note : This circular should be read by

- (a) Supervisors and heads of all kindergartens and day schools - for action*
- (b) Heads of Sections/CDI - for information]*

This circular draws the attention of heads of schools with slopes within the school boundary or in the vicinity to the importance of timely slope repairs and regular maintenance. This also advises on the related administrative procedures. The first part outlines repair works while the second part focuses on routine maintenance.

Responsibility for Repairs and Maintenance of Slopes

2. In general the responsibility for maintenance of land, including slopes and retaining walls, rests with the owner of a property. In some cases, the responsibility may extend beyond the school boundary. Schools are advised to check against the lease conditions of their schools to ascertain the maintenance responsibility for slopes both within the school boundary and in the vicinity.

3. For Government schools and for aided schools under Government ownership, slopes within the allocated site boundaries are under the maintenance responsibility of Architectural Services Department (ArchSD) or Housing Department (HD) for schools in public housing estates. Both departments have full knowledge of slopes attaching to such schools.

Landslip Preventive Measures (LPM) Programme

4. Under the LPM Programme, the Geotechnical Engineering Office (GEO) of the Civil Engineering Department conducts preliminary study of the slopes in the 1977/78 Slope Catalogue to identify sub-standard slopes which require further study or have immediate danger. Priority has been accorded to slopes in or near occupied buildings including schools.

Upgrading of Sub-standard Government Slopes

5. Once a Government slope is identified as sub-standard and included into the LPM Programme, GEO will be responsible for the upgrading works. GEO will inform affected schools of the works progress and any necessary safety precautions. Upon completion of works on Government slopes, relevant Government departments will continue to carry out their responsibility for maintenance.

Dangerous Hillside Order for Private Slopes

6. As for private slopes which are dangerous or liable to become dangerous, the Building Authority (BA) is empowered under the Buildings Ordinance to serve a Dangerous Hillside Order (DHO) to the owner of the property or to the person responsible under the lease conditions for maintaining the slope. The Buildings Department (BD) and GEO will answer queries relating to the Order. In case of emergency, BA is also empowered to carry out works deemed necessary to obviate any imminent danger of slope failure.

7. A school issued with a DHO is required to appoint an Authorized Person registered under the Buildings Ordinance and a qualified geotechnical consultant to carry out investigation and any necessary works to a sub-standard slope. The Authorized Person and/or the consultant, when appointed, is/are required also to be responsible for taking necessary precautionary measures, monitoring the stability of the concerned hillside and giving warning of impending danger prior to completion of permanent slope works.

8. *Heads of aided schools should refer to **Appendix I** for the administrative procedures including funding arrangements for the appointment of an Authorized Person and/or a consultant to handle the DHO.*

General Precautionary Measures

9. Schools with or near a slope which has been identified as sub-standard should as a precaution draw up a contingency plan. Heads of schools could contact the GEO and the respective District Education Officer (DEO) / Inspector of Special School Administration I(SSA) for advice. For schools with a DHO, the contingency plan should be drawn up in consultation with the appointed Authorized Person and/or consultant, and GEO in the case of schools being affected by upgrading of Government slopes under the LPM Programme. The plan should include criteria for closing school during adverse weather such as issue of Landslip Warning by the Royal Observatory. The criteria for school closure should also take into account geotechnical and non-geotechnical factors such as any known conditions of the slope, whereabouts of students (i.e. already in the school or a home) and traffic conditions.

10. Schools affected by sub-standard Government slopes being upgraded under the LPM Programme or with a DHO should also :

- seek clarification from BD on matters relating to DHO and GEO for the upgrading of Government slopes under the LPM Programme;
- seek advice from the appointed Authorized Person and/or consultant in the case of DHO to identify sources of danger and extent of affected areas;
- post warning signs at conspicuous positions on site to keep people away from the affected areas;
- fence off the affected areas as advised by GEO or the professionals appointed for the project;
- refrain from using the affected areas (e.g. classrooms near the slope) during and after periods of heavy rain;
- watch out for and listen to broadcasts of inclement weather and warning signals;
- refer to the additional advice on typical signs of landslip danger at **Appendix II**. If any of these signs are observed, take necessary precautionary measures which include but are not limited to the following :
 - (a) keep everyone away from the slopes and retaining walls;
 - (b) report to the Police immediately; and
 - (c) notify the appointed Authorized Person and/or consultant, GEO and the DEO/I(SSA);
- keep parents informed of the arrangements including the contingency plan; and
- exercise your discretion on closing your school in accordance with the contingency plan and in the light of the situation prevailing at the time. In this connection, please refer to the paragraph on the arrangement of the Emergency Team of the Education Department when tropical cyclone Signal No.3 or the AMBER warning is issued on a school day (Telephone No.: 2892 6193-96) and another paragraph of the circular on “Tropical Cyclones and Heavy Persistent Rain” (currently [EMBC No. 15/2003](#) and No. [16/2003](#), paragraphs 9 and 8 respectively). Heads of schools should direct enquiries to their respective DEO/I(SSA) for advice.

11. Heads of schools, when carrying out the above arrangements, should make every effort to minimize disruption to normal school activities and avoid unnecessary anxiety. **Under any circumstances, the prime concern must be the safety of students and staff.**

Routine Maintenance

12. Regular maintenance is essential for all slopes and retaining walls to maintain stability and to avoid deterioration. Government is responsible for maintenance of Government slopes while owners of a property is responsible for maintenance of their own slopes. Common maintenance inspections include :

- **Routine Maintenance Inspections**, which can be carried out by any responsible person with no professional geotechnical knowledge; **and**
- **Engineer Inspections for Maintenance**, which should be carried out by a professionally qualified geotechnical engineer.

Schools should refer to the “**Layman’s Guide to Slope Maintenance**” issued by GEO for details. Salient points are outlined in the paragraphs below.

Routine Maintenance Inspections

13. Routine Maintenance Inspections should be carried out at least once every year to ascertain the need for basic maintenance works items including :

- (a) clearance of accumulated debris from drainage channels and slope surface where these are inaccessible for routine cleaning by school cleaning staff;
- (b) repair of cracked or damaged drainage channels or pavement;
- (c) repair or replacement of cracked or damaged slope surface cover;
- (d) unblocking of weepholes and outlet drain pipes;
- (e) removal of any vegetation causing severe cracking of slope surface cover and drainage channels;
- (f) re-grassing of bare soil slope surface areas;
- (g) removal of loose rock debris and undesirable vegetation from rock slopes or around boulders;
- (h) repair of missing or deteriorated pointing in masonry walls; and
- (i) regular checks of buried water-carrying services on or adjacent to soil slopes or retaining walls, detailed guidance of which can be found in the leaflet on **Advisory Note on Inspection and Maintenance of Buried Drainage and Water Services Affecting Slopes (1995) at Appendix III.**

14. Once the need for maintenance works items is established, heads of aided schools with slopes under the private ownership of their sponsors should include the **routine and non-urgent** slope maintenance works in response to the annual call circular for “Major Repairs/Alterations”. ArchSD and HD will follow up with the costs to be borne by the Education Department. For **emergency** repairs, heads should apply to the respective DEO/I(SSA) at any time.

15. Heads of private schools should assign general building or civil engineering maintenance contractors to carry out the maintenance works items. Government holds a list of Registered Contractors who have indicated their willingness to carry out slope maintenance works. This list is available for public inspection at BD or District Offices of the Home Affairs Department.

Engineer Inspections for Maintenance

16. An Engineer Inspection for Maintenance should be conducted at least once every five years by a geotechnical engineer professionally qualified in Hong Kong. A suitable qualification is Registered Professional Engineer (Geotechnical), information on which can be obtained from the Engineer Registration Board. The list can be obtained from GEO (Hotline : 2885 5888).

17. Aided schools under private ownership should nominate a geotechnical engineer and apply to the respective DEO/I(SSA) for funds using the application form at **Appendix IV**. The DEO/I(SSA) will forward the applications to the ArchSD - Subvented Projects Division for recommendation of appointment of the engineer. Upon approval, the engineer inspection will start. **A model brief** for engineer inspections for maintenance, extracted from the “Layman’s Guide to Slope Maintenance” issued by GEO, is at **Appendix IV** for reference. As with Routine Maintenance Inspections, heads of private schools are responsible for appointing an engineer for engineer inspections.

18. The responsibility, works agent and funding for slope repairs and maintenance are tabulated at **Appendix V** for easy reference. The hotlines and contact telephone number of concerned Departments are at **Appendix VI**.

Emergencies

19. With the onset of the rainy season, heads of schools must be vigilant about possible danger arising from slopes. If there is any sign of the slopes possibly affecting the safety of school, report immediately to the Police, GEO and the respective DEO/I(SSA). For those slopes under the maintenance responsibility of Housing Department, the respective estate Housing Manager should also be informed.

20. In the unfortunate event of a landslip, the emergency services of the Works Group of Government departments will assist in remedial operations. Key departments such as Architectural Services, Buildings, Civil Engineering (GEO), Drainage Services,

Electrical & Mechanical Services and Highways all have contingency plans for setting up control centres in times of emergency to liaise with the Police and Fire Services Department to ensure that technical assistance and rescue teams are available soonest possible.

Enquiries

21. For enquiries, please contact the respective DEO/I(SSA).
22. This circular supersedes Administration Circular No. 24/97 issued on 9 April 1997.

H F LEE
for Director of Education

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Administrative Procedures for Aided Schools in Handling DH Order

Sequence

1. To appoint a consultant, heads of school should follow the procedures in the “Guidelines to Obtain Fee Proposals for Consultancy Services for Slopes Repairs of Aided Schools”. The sample letters and the “General Conditions of Employment and Scope of Services to be Provided by the Consultants” which includes the services of an Authorised Person, Registered Structural Engineer and geotechnical consultant are attached for reference. Heads of school can modify them to suit their own circumstances and are free to seek legal advice on the consultancy agreement signed between the school and the consultant;
2. to forward the names and fee proposals of the consultants to your respective DEO/I(SSA) for onward transmission to the Architectural Services Department - Subvented Projects Division (ArchSD) for comment;

(In case of any difficulty in appointing an AP and the geotechnical consultant, please contact your respective DEO/I(SSA) for assistance)

3. to inform the Buildings Department (BD) of the name of the AP appointed so that the BD may follow up with the statutory procedures relating to the DH Order, where necessary, directly with the AP;
4. the consultant should prepare an investigation report and the landslip preventive works plans and submit the Report and the plans to the BD for approval as required under the Order;
5. simultaneously, the consultant should forward a copy of the investigation report and proposal on the detailed works to be done with cost breakdowns and fee proposal (including that for the supervision of the works) to the DEO/I(SSA) for action and a copy to ArchSD for vetting purpose. No works should be carried out before approval and consent by the BD and DEO/I(SSA);
6. upon approval, the consultant could arrange to proceed with the tendering procedures and submit tender documents to the DEO/I(SSA) for transmission to ArchSD for comments;

7. the tenders should be forwarded to the Public Works Tender Board. On notice by the Secretary of the Tender Board, the consultant should arrange to prepare the tender recommendation which, together with the original tenders, should be forwarded to the DEO/I(SSA) for approval, upon advice from ArchSD;
8. on approval of the tender by the DEO/I(SSA), the tender could be accepted and works could commence;
9. interim payments should be submitted to the DEO/I(SSA) for payment;
10. upon completion of the works, the consultant should apply to BD for a compliance letter of order.
11. the consultant should forward a copy of the compliance letter of order to the DEO/I(SSA) for ArchSD's inspection/comment of the project, if necessary; and
12. payment applied or recommended by the consultant should be submitted to the DEO/I(SSA) for processing. The Final Account should be forward to the DEO/I(SSA) for comment by the Arch SD before DEO winding up the account for the whole proejct.

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GUIDELINES TO OBTAIN FEE PROPOSALS

FOR

CONSULTANCY SERVICES

FOR

SLOPES REPAIRS OF AIDED SCHOOLS

EDUCATION DEPARTMENT

HONG KONG

May 1998

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3. General Conditions of Employment and Scope of Services to be provided by the Consultant
4. Fees and Payment Schedule

Procedures for School principals in handling fee proposals

1. The School can proceed to obtain fee proposals upon receipt of Geotechnical Engineering Office's recommendation letter to the Building Department to serve Dangerous Hillside Order(s) to the School pending the actual issue of Dangerous Hillside Order(s). However fee proposals cannot be accepted until issue of Dangerous Hillside Order(s) and funding approved by ED.
2. A minimum of 5 consultants in the list of approved geotechnical consultants issued by Geotechnical Engineering Office who have expressed interest to submit fee proposals should be invited. Two to three weeks should be allowed for the invited consultants to make submissions.
3. Outstanding information in the sample letters should be completed before despatch. Relevant information not in the sample letters should also be incorporated.
4. Fee proposals should be addressed to the School principal as indicated in the letter of invitation.
5. The fee proposals should be submitted to the School principal's office in a plain sealed envelope on which no distinguishing marks are affixed other than a typed heading of, "Fee proposal for Title of works" and the School's address.
6. The fee proposals should be retained, unopened in a secure location (preferably a safe) until expiry of the time and date for return of the fee proposals. Fee proposals received after the time and date for closing of receipt should be noted but excluded from further consideration.
7. After expiry of the time and date for receipt of fee proposals, the School principal together with, at least, one other member of staff, should open and witness the fee proposals, verify that the name of each consultant submitting a fee proposal is one from whom proposals were invited and list the names of consultants and amounts of fee proposed in ascending order of cost. This information should be typed on formally headed School correspondence stationery, dated, signed by the principal and witnessed by the attending member(s) of staff.
8. Recommendation should be made to the relevant District Education Officer recommending that the consultant providing the lowest fee proposal having complied with all fee proposal stipulations should be accepted. In the event that no valid returns are made or returns are delayed beyond the date for return or should any matter occur which prevents selection of the lowest fee proposal, immediate reference with full explanation and enclosure of correspondence should be made to the District Education Officer for further technical advice.
9. Under no circumstances should the fees as submitted by the consultants be amended after the closing time and date for receipt.
10. The following should be bound with the School's letter accepting the consultant's fee proposal :
 - (i) Letter to consultant inviting fee proposal
 - (ii) Consultant's letter of fee proposal
 - (iii) General Conditions of Employment and Scope of Services to be provided by the Consultant

(iv) Fees and Payment Schedule

(v) Dangerous Hillside Order(s)

(vi) Geotechnical Engineering Office letter and attachments stated therein

(vii) All other relevant correspondence

11. On receipt of the Dangerous Hillside Order(s), the School principal should check and inform the District Education Officer if there are extra conditions imposed by the Building Department not previously stated in Geotechnical Engineering Office's letter.
12. The School principal should check and ensure he/she has been given the authority to sign the letter of acceptance on behalf of the School.

Sample Letters

(To be typed in the School's headed paper and presented to a minimum of 5 Consultants)

Letter of Invitation

(Name and address of consultant)

Date :

Our Reference :

Dear Sirs,

**Consultancy Services for
Investigation of Geotechnical Feature(s) and
Design and Implementation of
Any Necessary Landslip Preventive Works in connection with
Dangerous Hillside Order(s) (No(s).)/
Geotechnical Engineering Office letter ref.
dated and attachments stated therein***

You are invited to submit a lump sum fee proposal for the above consultancy.

Your submission shall be made in accordance with the following enclosed documents :-

- (i) General Conditions of Employment and Scope of Services to be provided by the Consultant
- (ii) Fees and Payment Schedule
- (iii) Dangerous Hillside Order(s)/Geotechnical Engineering Office letter ref. datedand attachments stated therein*.

together with the specific details included in the captioned Dangerous Hillside Order(s)/ Geotechnical Engineering Office letter and attachments* and your observations on the site. Please ring me if you wish to have a site visit before you make fee proposal submission.

Your proposal should be submitted directly to my office at (School's address) in a plain sealed envelope on which should be marked only the address of the School and the heading, "Fee proposal for (heading)", before (time), (date) . Late submission will not be considered.

The School is not obliged to accept the lowest or any proposal made and accepts no financial liability for your costs in submitting a fee proposal.

Yours faithfully,

(Name)
Principal
For and on behalf of
(Name of School)

c.c. Senior Geotechnical Engineer/Subvented School Slopes,
Subvented Projects Division, Architectural Services Department
(Attn : Name of Officer) - (w/e)
District Education Officer, Education Department (Attn : Name of Officer) - (w/e)

* To be filled in and deleted as appropriate.

Sample Letters

(To be typed in the School's headed paper) Recommendation to Education Department on Fee Proposals

The Director of Education
(Address)
Attn : (DEO : Name of Officer)

Date :

Our Reference :

Dear Sir,

(Title of works)
Consultancy Services - Fee Proposal

The following consultants were invited to submit fee proposals in accordance with the "Guidelines to Obtain Fee Proposals for Consultancy Services for Slopes Repairs of Aided Schools" as contained in ED's Administration Circular No./98. Their proposed fees are listed below in ascending order :

| <u>Consultants</u> | <u>Proposed Fees</u> |
|--------------------|----------------------|
| (i) | |
| (ii) | |
| (iii) | |
| (iv) | |
| (v) | |

I have examined all the submissions. The lowest fee proposal was submitted by Messrs. (Lowest consultant). I recommend this firm to be appointed to carry out the consultancy Services as contained in the General Conditions of Employment and Scope of Services.

The three lowest fee proposal submissions have been sent direct to the Senior Geotechnical Engineer/Subvented School Slopes, Subvented Projects Division, Architectural Services Department for them to make a recommendation to you. I shall not accept any fee proposal or make any fund commitment until your written approval is received.

Yours faithfully,

(Name)
Principal
(Name of School)

Sample Letters

(To be typed in the School's headed paper)

Letter of Acceptance to Consultant

(Name and address of consultant)

Date :

Your Reference :

Our Reference :

Dear Sirs,

**Consultancy Services for
Investigation of Geotechnical Feature(s) and
Design and Implementation of
Any Necessary Landslip Preventive Works in connection with
Dangerous Hillside Order(s) (No(s).)/
Geotechnical Engineering Office letter ref.
dated and attachments stated therein**

I am pleased to appoint you as the Consultant on the terms and conditions set out in the consultancy agreement.

You are requested to liaise directly and closely with me and District Education Officer where appropriate during the course of the project. Please use the full project title and slope reference number(s) in all official documents and correspondence.

The following are bound with this letter and shall form also part of the consultancy agreement :

1. School's letter of (date) inviting submission of fee proposal
 2. Consultant's letter of (date) of fee proposal
 3. General Conditions of Employment and Scope of Services to be provided by the Consultant
 4. Fees and Payment Schedule
 5. Dangerous Hillside Order(s) (No(s).)
 6. Geotechnical Engineering Office letter ref. dated and attachments stated therein
 7. (Relevant correspondence and dates to be listed here)
-

Yours faithfully,

(Name)
Principal
For and on behalf of
(Name of School)

c.c. Senior Geotechnical Engineer/Subvented School Slopes,
Subvented Projects Division, Architectural Services Department
(Attn : Name of Officer) - (w/e)
District Education Officer, Education Department (Attn : Name of Officer) - (w/e)

General Conditions of Employment and Scope of Services to be provided by the Consultant

Definitions, Abbreviations, and Interpretations

- 1.1 AP means Authorised Person as defined under the Buildings Ordinance.
- 1.2 Arch SD means Architectural Services Department.
- 1.3 BD means Buildings Department.
- 1.4 Completion of the Services means acceptance of the Services in writing by the School.
- 1.5 Consultant means the person, firm or company, providing AP/RSE, geotechnical consultancy services and all site supervision in this consultancy agreement.
- 1.6 Deliverables means all the reports, drawings, documents, software, certificates, plans, photos, correspondence and other items described in this consultancy agreement to be provided by the Consultant.
- 1.7 DH Order means Dangerous Hillside Order(s) ⁽¹⁾ _____ issued by the Buildings Department.
- 1.8 ED means Education Department.
- 1.9 Feature(s) means any slopes, retaining walls, and associated geotechnical features identified and/or specified in the Dangerous Hillside Order(s).
- 1.10 GEO means Geotechnical Engineering Office.
- 1.11 LD means Lands Department.
- 1.12 MTRC means Mass Transit Railway Corporation.
- 1.13 RSE means Registered Structural Engineer as defined under the Buildings Ordinance.
- 1.14 School means ⁽²⁾ _____
at ⁽³⁾ _____
- 1.15 Services means duties, services, and all site supervision to be carried out and obligations to be fulfilled by the Consultant under this consultancy agreement.
- 1.16 Works means the construction and maintenance works to be carried out by the contractors not included in the fee proposal appointed and paid separately by the School under the topographical survey, ground investigations, laboratory testing, and landslip preventive and remedial works contracts, including contracts with the utility companies and government departments.
- 1.17 Words and expressions in the singular include the plural and words and expressions in the plural include the singular where the context so implies.

(1) : Order No(s). to be printed

(2) : Name of the School to be printed

(3) : Address of the School to be printed

General Services and Deliverables

- 2.1 Provide AP/RSE, geotechnical consultancy services and all site supervision throughout the (i) monitoring and investigation phase, (ii) design phase and (iii) tender and construction phase for the subject Feature(s). The geotechnical consultancy services shall be undertaken by a Registered Professional Engineer (Geotechnical) registered with the Engineer Registration Board;
- 2.2 Liaise and attend meetings with and seek permissions from the School, ED, Arch SD and other relevant authorities, such as BD, GEO and LD, so as to facilitate the investigation of the stability of the subject Feature(s) and the design and implementation of any necessary landslip preventive and remedial Works;
- 2.3 Respond on behalf of the School to queries concerning the investigation of the subject Feature(s) and the necessary landslip preventive and remedial Works until the DH Order is discharged; copy all correspondence to the School;
- 2.4 Ensure that the level of noise, dust and site run-off nuisances during construction should comply with the Environmental Protection Department's requirements;
- 2.5 Follow the procedural requirements as stipulated under ED's Administration Circular No. x/98;
- 2.6 Carry out all other duties to be performed by the AP/RSE/Geotechnical Consultant and to fulfil the requirements as stipulated under DH Order;
- 2.7 Carry out the duties of the Engineer/Architect/AP/RSE/Geotechnical Consultant under the terms of the Works contracts in-connection-with or necessitated by the project;
- 2.8 Compile, index and categorise all reports for record purposes and for inspections by the School from time to time.

Specific Services and Deliverables

Monitoring and Investigation Phase

- 3.1 Carry out detailed site inspections on the subject Feature(s). Monitor the stability of the subject Feature(s) until the DH Order is discharged; give warning to the School of impending danger and advise immediate preventive measures to be taken. In consultation with the School principal, prepare a contingency plan including any necessary evacuation and closure of any part of the School compound in event of heavy rainfall;
- 3.2 Undertake a detailed desk study including review of background information, geotechnical reports and other information relating to the subject Feature(s), which are reasonably accessible to the Consultant, such as the information available from the School and government departments;
- 3.3 Review available records of existing utilities and buried water carrying services in the vicinity of the subject Feature(s) and the immediate adjacent area; arrange to carry out survey and test on water carrying services if found necessary;

- 3.4 Prepare list of tenderers, tender document and cost estimate for topographical survey Works for the subject Feature(s) and its adjacent area which may be necessary to supplement the topographical information already available to the Consultant; submit all documents in-connection-with to the School, ED and Arch SD for approval;
- 3.5 Invite tenders and prepare tender recommendations for topographical survey Works; submit to the School, ED and Arch SD for approval;
- 3.6 Obtain all necessary approvals from relevant authorities, such as BD and MTRC, for the carrying out of ground investigation Works; apply to BD for exemption of charges;
- 3.7 Prepare list of tenderers, tender document (re-measurement basis) and cost estimate for ground investigation and laboratory testing Works for the subject Feature(s) and its adjacent area; submit all documents in-connection-with to the School, ED and Arch SD for approval;
- 3.8 Invite tenders and prepare tender recommendations for ground investigation and laboratory testing Works; submit all documents in-connection-with to the School, ED and Arch SD for approval;
- 3.9 Obtain access permission from adjacent owners and relevant authorities for the carrying out of topographical survey and ground investigation Works;
- 3.10 Administer the Works contracts for topographic survey, ground investigation and laboratory testing and issue certificates for payment to the contractors;
- 3.11 Supervise, direct, and make necessary inspections for topographical survey, ground investigation and laboratory testing Works so as to ensure that the work is executed according to the contract and otherwise in accordance with good engineering practice. Inform ED and Arch SD immediately upon the Works contract sum is likely to be exceeded. Do not make further fund commitment until additional fund is available;
- 3.12 Provide adequate qualified part-time and/or full-time geotechnical site supervision for the ground investigation and laboratory testing Works and as required by BD;
- 3.13 Review ground investigation and laboratory testing results and develop appropriate geotechnical parameters; prepare an investigation report for the subject Feature(s) with detailed stability assessment; submit to BD the investigation report as required under the DH Order. Simultaneously with the submission to BD, submit the investigation report to the School, ED and Arch SD for vetting;
- 3.14 Prepare the final accounts for the topographical survey, ground investigation and laboratory testing Works; submit to the School, ED and Arch SD for approval; provide assessment of claims submitted by the contractor;

Design Phase (Required only if landslip preventive and remedial Works are found necessary)

- 3.15 Carry out design of the landslip preventive and remedial Works which shall include any necessary surface and subsurface drainage; apply to BD for exemption of charges;
- 3.16 Submit the design report and landslip preventive and remedial plans to BD for approval as required under DH Order; apply to BD for exemption of charges;

- 3.17 Simultaneously with the submission to BD, submit the design report and landslip preventive and remedial plans to the School, ED and Arch SD for vetting. The submission shall include a detailed proposal together with the cost breakdowns on the landslip preventive and remedial Works;

Tender and Construction Phase (Required only if landslip preventive and remedial Works are found necessary)

- 3.18 Prepare list of tenderers, tender document (re-measurement basis) and cost estimate for the landslip preventive and remedial Works; submit to the School, ED and Arch SD for approval;
- 3.19 Invite tenders and prepare tender recommendations for the landslip preventive and remedial Works; submit to the School, ED and Arch SD for approval; the tender cannot be accepted if the acceptance will cause the anticipated project expenditure exceeds that approved by ED until ED has confirmed availability of fund;
- 3.20 Obtain access permission from adjacent owners and relevant authorities for the carrying out of the landslip preventive and remedial Works;
- 3.21 modify/revise design if necessary and obtain BD's approval for the modified/revise design; apply to BD for exemption of charges;
- 3.22 Administer the landslip preventive and remedial Works contract, issue all necessary instructions to the contractor, provided that the Consultant shall not, without the prior approval of ED and Arch SD, issue any instructions each exceeding \$50,000.00;
- 3.23 Control the contract/project expenditure; inform the School, ED and Arch SD immediately upon the contract sum of the landslip preventive and remedial Works contract or the total amount approved by ED for the project is likely to be exceeded. Do not make further fund commitment until additional fund is available;
- 3.24 Verify contractor's invoices and issue certificates for interim payments to the contractor;
- 3.25 Supervise, direct, and make necessary inspections on the site to ensure that the landslip preventive and remedial Works are executed and completed according to the Works contract and otherwise in accordance with good engineering practice;
- 3.26 Provide adequate qualified part-time and/or full-time geotechnical site supervision and as required by BD; keep all site records including inspection records; comply with all aspects of supervision required by BD;
- 3.27 Submit on practical completion of the landslip preventive and remedial Works, completion certificates and compliance letter for BD's approval and arrange for discharging the DH Order and issue of the compliance letter by BD; submit as-built information of the subject Feature(s) for GEO's record in accordance with the requirements of AP/RSE Practice Note 168;
- 3.28 Monitor the repairs and remedial works on defects found during the defect liability period;

- 3.29 Deliver to the School, ED and Arch SD on the completion of the landslip preventive and remedial Works as-built record plans, maintenance manuals for the subject Feature(s), and other records and manuals as are reasonably necessary to enable the School to maintain the landslip preventive and remedial Works and the subject Feature(s);
- 3.30 Provide claim assessment submitted by the Works contractors; assist in settling disputes which may arise between the School and the contractors of the various Works contracts, provided that this service shall not extend to advising the School following the taking of any step in or towards any arbitration or litigation in connection with the Works;
- 3.31 Prepare final accounts for the landslip and preventive remedial Works and submit to the School, ED and Arch SD for approval; provide assessment of claims submitted by the contractor.

Proposed Work Programme

- 4.1 A proposed work programme shall be submitted by the Consultant making reference to the DH Order on acceptance of the fee proposals. The Consultant shall schedule the completion of the Works as stipulated in the DH Order.

Indemnity

- 5.1 The Consultant shall indemnify and keep indemnified the School against all claims, damages, losses, or expenses arising out of or resulting from any negligence or breach of this consultancy agreement in or about the conduct of and performance by the Consultant, his servants and agents, of all and singular the services.

Confidentiality

- 6.1 The Consultant undertakes not to use the data or information collected or produced in the course of the Services for any other purpose other than for the carrying out of the Services.

Copyright

- 7.1 The School shall become the exclusive owner of all the intellectual property right in the Deliverables, save in respect of those Deliverables under licence or those Deliverables in respect of which there is a pre-existing copyright or patent, supplied or produced by, for or on behalf of the Consultant under this consultancy agreement in respect of which the School shall have a [non] - exclusive license to copy, use, reproduce, or extract the same in whole or in part and in any manner or mode whatsoever.

Conflict of Interest

- 8.1 The Consultant must declare any interest if it is considered to be in real or apparent conflict with the Services. The Consultant should not undertake any services which could give rise to conflict of interest. The Consultant or any of his associated companies shall not undertake any services for a contractor in respect of a Works contract between that contractor and the School for which the Consultant is providing a service to the School.

Suspension, resumption or termination

9.1 The Consultant should inform ED and Arch SD before proceeding from one phase to the next. This consultancy agreement may be suspended or terminated by the School at any time. On suspension or termination, the Consultant shall be paid all fees and expenses commensurate with the services performed by him up to date of suspension or termination which may then be due. This payment shall be deemed in full and final payment for the services up to the date of suspension or termination. In the event of suspension and subsequent resumption of this agreement, the Consultant shall be reimbursed any expenses necessarily incurred as a result of such resumption. Should this agreement continue to be suspended for a period of more than six months then it shall either be terminated upon the written notice of either party, or it may be renegotiated with the agreement of both parties.

Settlement of Disputes

10.1 If any difference or dispute that cannot be resolved by the School and the Consultant, the matter shall be referred by either party to arbitration in accordance with and subject to the provisions of the Arbitration Ordinance or any statutory modification thereof for the time being in force. Any reference shall be deemed to be a submission to arbitration within the meaning of such Ordinance. The Hong Kong International Arbitration Centre Domestic Arbitration Rules shall apply to any arbitration instituted with this clause unless the parties agree to the contrary.

Non-assignment

11.1 The Consultant shall not assign, or otherwise dispose of any interest, right, benefit or obligation under this agreement, or purport to do so.

Liability of the Consultant for all acts and defaults of any sub-consultant appointed

12.1 The appointment by the Consultant of sub-consultant to undertake any part of the Services shall not relieve the Consultant from any liability or obligation under this agreement and he shall be responsible for the acts, default and neglect of any sub-consultant, his agents, servants or workmen as fully and as if they were the acts or default or neglect of the Consultant, his agents, servants or workmen.

Sub-Contracting

13.1 The Consultant shall not without the prior written consent of the School subcontract the whole or part or parts of the consultancy services to any person.

Governing Law

14.1 This agreement shall be subject to and construed in accordance with the laws of the Hong Kong Special Administrative Region.

Care and diligence

15.1 The Consultant shall exercise all reasonable skill, care and diligence in the discharge of the duties agreed to be performed by them.

Fees and Payment Schedule

(I) Fees Breakdown

I/We offer to provide the AP/RSE/Geotechnical Consultant Services and all site supervision in the lump sum fees of HK\$_____. The detail fees breakdown at each of the 3 phase are :-

| | | |
|---|---|------------|
| Fees for Monitoring and Investigation Phase | : | HK\$ _____ |
| Fees for Design Phase | : | HK\$ _____ |
| Fees for Tender and Construction Phase | : | HK\$ _____ |
| Lump sum fees | : | HK\$ _____ |

(II) Payment Schedule

The School will pay the Consultant on application by the Consultant as follows (as percentage of the lump sum fees) :-

| | | |
|----|---|-----|
| 1. | Initial payment upon acceptance of the fee proposals | Nil |
| 2. | Upon completion of ground investigation and laboratory testing Works | 10% |
| 3. | Upon approval of design proposal of the landslip preventive and remedial Works by BD | 40% |
| 4. | Upon acceptance of tender for landslip preventive and remedial Works | 15% |
| 5. | Upon completion of landslip preventive and remedial Works | 25% |
| 6. | Upon issue of Certificate of Making Good Defects under the landslip preventive and remedial Works contract or completion of final accounts of the landslip preventive and remedial Works or Completion of the Services whichever is later | 10% |

(III) Terms and Conditions

1. My/our lump sum fees include also the expenses for travellings, postages, bindings of reports and other similar disbursements and out-of-pocket expenses. The reproduction costs of all monochrome documents, photographs, drawings, maps and records shall be reimbursed to the Consultant in accordance with the rates in the Arch SD's Schedule of Standard Printing Charges.
2. Submission fees and charges paid to government departments shall be reimbursed by the School if the application for exemption is not approved by government departments.
3. Fees payments shall be honoured by the School within 60 days of presentation of respective invoices to the School.

4. This fee proposal is valid for 3 months from the closing date of submission of this fee proposal.

This fee proposal is submitted by

Authorised signature _____

Name _____

Position in firm _____

For an on behalf of _____

Date _____

Signs of Landslip Danger

There may be signs of landslip danger on a slope or retaining wall before it collapses. Some typical signs of landslip danger are listed below :

- (1) landslip debris on toe of slopes or on roads and footpaths;
- (2) new large cracks or ground subsidence in slopes, retaining walls or along road pavements;
- (3) objects, such as mud, rocks, fragments of concrete/brick and uprooted vegetation, falling from slopes and retaining walls;
- (4) sudden change in colour (from clear to muddy) of water flowing from slopes or retaining walls;
- (5) concentrated water overflowing onto slopes and retaining walls;
- (6) cement or concrete surface of slopes bulging or being dislodged;
- (7) breaking of catchwaters, serious overflow from catchpits or drains;
- (8) flooding of water in hilly areas;
- (9) sudden increase in seepage over an extensive area of a slope or retaining wall.

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Application Form for Engineer Inspection

To : District Education Officer (_____)/Senior Inspector (Special Schools Administration)

(1) Name of School : _____

(2) Address : _____

(3) Relevant sections of the lease conditions on maintenance responsibility of slope(s)/retaining wall(s) of the school and the site plan attached to the lease Copies attached Copies of the lease/site plan not available (please ✓ as appropriate)

(4) Date of last engineer inspection for maintenance of the slope(s)/retaining wall(s) as detailed in para (6)(i) : _____

(5) Name of engineer proposed to be appointed : _____

(6) I attach the following documents prepared by the Engineer :-

- (i) Location plan with GEO registration number showing the location and extent of the slope(s)/retaining wall(s) and the lot boundary of the school;
- (ii) Proposed scope of services in the form of 'Model Brief for Engineer Inspections for Maintenance' given in the Laymen's Guide to Slope Maintenance (*please refer to p.2 & 3 of this Appendix*); and
- (iii) Fee proposal*.

(7) I certify that the slope(s)/retaining wall(s) mentioned in (3) and (6)(i) are under the maintenance responsibility of my school in accordance with the lease conditions.

Signature of Supervisor/School Head : _____

Name of Supervisor/School Head : _____

Date : _____

** The agreement should be priced on the basis of the tasks included in Part I of Section 2 only. The fee for the tasks in Part 2 of Section 2, if found necessary, should be negotiated separately.*

MODEL BRIEF FOR ENGINEER INSPECTIONS FOR MAINTENANCE

1. Objectives

The objectives of the Assignment are :

- (a) to assess the state of maintenance and condition of the slope / retaining wall*, and
- (b) to recommend / and arrange, supervise and certify the satisfactory completion of* any necessary works.

The Assignment expressly excludes a Stability Assessment of the slope / retaining wall* but includes the establishment of the status of stability check of the slope / retaining wall* and whether an immediate Stability Assessment is necessary.

2. Scope

The Engineer shall carry out the following tasks for slope / retaining wall* number* _____#, the location and extent of which are shown on the attached plan :

Part 1 - Basic Items

- (a) determine whether a Stability Assessment of the slope / retaining wall* has previously been carried out by reviewing available documentary information, and advise the Employer accordingly,
- (b) identify changes that have taken place in the vicinity of the slope / retaining wall* since the Stability Assessment, which could have reduced its stability, and to judge whether this reduction might be significant,
- (c) re-assess the consequence-to-life category of the slope / retaining wall*, as set out in Table 5.2 of the Geotechnical Manual for Slope (1984) or the latest revision of the Table promulgated by the Geotechnical Engineering Office,
- (d) check that the Routine Maintenance Inspections have been carried out and documented satisfactorily,

- (e) assess the adequacy of routine maintenance works, and supplement the list of basic maintenance works items, as necessary,
- (f) re-assess the required frequency of Routine Maintenance Inspections, Engineer Inspections for Maintenance and regular checks of buried water-carrying services,
- (g) look for and consider the implications of problems that are not explicitly included in the basic maintenance list, and bring to the attention of the Employer any immediate and obvious danger noted and, if necessary, recommend emergency repair works or detailed investigations,
- (h) identify the presence of buried water-carrying services on or in the vicinity of the slope / retaining wall* (including relevant areas outside the lot boundary), check for signs of leakage of the services and recommend immediate detailed leakage check, regular checks, repair, re-routing of the services as necessary,
- (i) check that the regular checks of buried water-carrying services and/or Regular Monitoring of Special Measures (if required) have been carried out and documented satisfactorily,
- (j) provide a record of Engineer Inspection for Maintenance that includes advice on whether an immediate Stability Assessment of the slope / retaining wall* is necessary, and recommendations on the necessary preventive maintenance works, and
- (k) prepare / update* the Maintenance Manual.

Part 2 - Management of Maintenance Works*

- (l) obtain or arrange to obtain all statutory approvals or official endorsements, as appropriate, required for the execution of the necessary maintenance works, and
- (m) arrange, supervise and certify satisfactory completion of the maintenance works.

3. Deliverables

The Engineer shall deliver _____# copies of the Record of Engineer Inspection for Maintenance / and _____# copies of the Maintenance Manual* to the Employer.

4. Programme of Implementation

The due date for the commencement of the Assignment shall be _____#

The due date for the completion of Part 1 of the Assignment, including the submission of Record of Engineer inspection for Maintenance and any relevant documents and reports shall be _____#, working to a programme agreed with the Employer within _____# weeks of the commencement of the Assignment.

5. Standards and Specifications

The Engineer shall adopt Geoguide 5 : Guide to Slope Maintenance (1995) and the Geotechnical Manual for Slopes (1984), and such technical and design standards and specifications as are applicable to and in current use by the Hong Kong Government or, if non-existent, international Codes of Practice and Specifications.

6. Information Provided by the Employer

All the available information held by the Employer and relevant to the Assignment will be provided to the Engineer.

* * * * *

- Notes :
- (1) #denotes blank to be filled in as appropriate
 - (2) *denotes item to be deleted if not applicable
 - (3) The agreement should be priced on the basis of the tasks included in Part 1 of Section 2 only. The fee for the tasks in Part 2 of Section 2, if found necessary, should be negotiated separately.
 - (4) The programme for the tasks in Part 2 of Section 2 should be agreed after completion of Part 1 of the work.

References :

GCO (1984). *Geotechnical Manual for Slopes. (Second edition). Geotechnical Control Office. Hong Kong. 295 p.*

GEO (1995). *Guide to Slope Maintenance (Geoguide 5). Geotechnical Engineering Office. Hong Kong. 91 p.*

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| School Type | SLOPE CLASSIFICATION | | | | |
|---|-----------------------------------|--|-----------------------------------|--|---|
| | Government Slopes | | | Private Slopes (under the ownership of the school sponsors) | |
| | Government schools | Aided schools under Government ownership | | Aided schools | Private schools |
| within Housing estates | | NOT within Housing estate | | | |
| Repairs | | | | | |
| Upgrading Works under LPM Programme or DH Order | Geotechnical Engineering Office | Geotechnical Engineering Office | Geotechnical Engineering Office | Authorised person and/or consultant appointed by the owner | Authorised person and/or consultant appointed by the owner |
| Maintenance | | | | | |
| (a) Annual routine maintenance inspection | Architectural Services Department | Housing Department | Architectural Services Department | Schools | Building or civil engineering maintenance contractor appointed by the owner |
| (a) 5-year Engineer Inspection | Architectural Services Department | Housing Department | Architectural Services Department | Engineer appointed by the owner | Engineer appointed by the owner |
| Funding | Government | Government | Government | Government | Owner |

Appendix VI

| | |
|--|-------------|
| Emergency | 999 |
| Geotechnical Engineering Office | |
| Hotline | 2885 5888 |
| Hong Kong Island | 2762 5283 |
| Kowloon & New Territories East | 2762 5248 |
| Kowloon & New Territories West | 2762 5219 |
| | |
| Buildings Department | |
| Hotline | 2626 1234 |
| Senior Building Surveyor/Slope Safety | 2626 1359 |
| | |
| Architectural Services Department | |
| Reporting Centre | |
| 1630 hours - 0800 hours daily |) |
| |) 2773 2222 |
| 1200 hours - 0800 hours Sat to Mon |) |
| | |
| Office hours - Government Schools | 2773 2249 |
| - Aided Schools | 2773 2585 |

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