

**REPORT ON
THE RAINSTORM OF
8 MAY 1992**

GEO REPORT No. 22

N. C. Evans

**GEOTECHNICAL ENGINEERING OFFICE
CIVIL ENGINEERING DEPARTMENT
HONG KONG**

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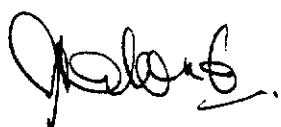
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PREFACE

In keeping with our policy of releasing information of general technical interest, we make available some of our internal reports in a series of publications termed the GEO Report series. The reports in this series, of which this is one, are selected from a wide range of reports produced by the staff of the Office and our consultants.

Copies of GEO Reports have previously been made available free of charge in limited numbers. The demand for the reports in this series has increased greatly, necessitating new arrangements for supply. In future a charge will be made to cover the cost of printing.

The Geotechnical Engineering Office also publishes guidance documents and presents the results of research work of general interest in GEO Publications. These publications and the GEO Reports are disseminated through the Government's Information Services Department. Information on how to purchase them is given on the last page of this report.



A. W. Malone
Principal Government Geotechnical Engineer
April 1995

FOREWORD

This report presents a general review of the rainfall of the severe rainstorm on 8 May 1992 in Hong Kong and the landslides which occurred as a result. This rainstorm was the most intense in the ten-year period since the event of 29 May 1982, and it warrants a separate report other than that usually produced on annual rainfall and landslides.

The District Divisions of the Geotechnical Engineering Office provided details of the landslides, and the Design Divisions provided other related information. Supplementary landslide data were provided by the Agricultural and Fisheries Department, Architectural Services Department, Drainage Services Department, Fire Services Department, Highways Department, Housing Department and Water Supplies Department. The Royal Observatory provided rainfall information. All contributions are gratefully acknowledged.

(Y C Chan)

Chief Geotechnical Engineer/Special Projects

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1. INTRODUCTION

This report reviews rainfall and landslide occurrence in Hong Kong resulting from the rainstorm of 8 May 1992. Rainfall information has been obtained from the Geotechnical Engineering Office (GEO) automatic raingauge system and from the Royal Observatory (RO). Most of the landslide data have been taken from the records of incidents reported to the GEO. Supplementary data have been obtained from other Government departments.

In this report, a landslide is defined as the collapse of a soil or rock mass, and includes the failure of fill slopes, cut slopes, retaining structures, natural slopes and rock or boulder falls. A major landslide is defined as a failure in which the volume of the collapsed mass exceeds 50 cu m.

The GEO received a total of 360 incident reports which can be attributed to the 8 May rainstorm. Of these, 350 were classified as genuine landslides and seventeen of them were major. The remaining incidents were of no geotechnical concern. This report is based on landslides reported to the GEO, since these were inspected by the GEO's geotechnical engineers and detailed information is available.

2. RAINFALL

2.1 The Raingauge System

In the rugged terrain of Hong Kong, the distribution and intensity of rainfall during a storm can vary dramatically with respect to both geography and time. In order to provide sufficient coverage for a meaningful analysis of rainfall distribution the Royal Observatory has installed a network of raingauges which, during early 1992, comprised 21 automatic and 116 manual gauges at a total of 97 locations. These raingauges range from automatic and instantaneous rate-of-rainfall recorders to those which are read manually once every month. The "principal" gauge is located at the Royal Observatory's headquarters in Tsim Sha Tsui, and a continuous rainfall record has been kept at this location since 1884. Weather summaries and rainfall statistics are normally based on the measurements made at this principal location.

Since 1978 the GEO, in cooperation with the RO, has installed a number of automatic raingauges which transmit current rainfall data via telephone lines to the GEO's Emergency Control headquarters. Improvements have been made regularly and in early 1992 there were 48 GEO gauges and 21 RO gauges in this system, which provide up-to-date rainfall data every five minutes to the operation rooms of the GEO and RO. These data are also stored on computer tape and diskettes for future reference. The locations of these automatic raingauges (Figure 1) were selected to supplement the network of other types of raingauge and to provide specific information in areas of particular geotechnical interest. The latest major upgrading of this system was completed in January 1989.

2.2 Royal Observatory Records

The rainstorm of 8 May, 1992, was described by the Royal Observatory in the Monthly Weather Summary for May 1992 as follows:

".. a trough of low pressure had formed over southern China and the weather soon became unsettled over the coastal areas of Guangdong on 7 May. Rain started to fall intermittently that morning before a major outbreak of squally thunderstorms brought over 50 mm of rain in the afternoon. Light rain persisted into the evening before a lull settled in for the night. Then in the early morning of 8 May, fresh convective development took place just to the northwest of Hong Kong and moved steadily towards the Territory. Rain resumed just before daybreak. The moisture-laden air reverberated with clapping thunder and blinding lightning as the Territory bore the brunt of the most severe electrical rainstorm seen in years. Rain poured down with complete abandon soon after 6 am and the amount of rain that fell in the next hour, totalling about 110 mm, shattered the hourly record set 26 years ago on 12 June 1966. By 9 am that morning, nearly 200 mm of rain had fallen at the Royal Observatory. The havoc wreaked by the deluge was worst over Hong Kong Island where over 240 mm of rain were recorded. The onrush of rain water tumbled down the slopes of the hilly terrain and turned the city roads into a network of swollen rivers and raging streams. After a brief respite later that morning, torrential rain returned in the afternoon as another band of rain clouds followed through and swept across the Territory. By the end of a day of stormy weather and heavy squalls which lasted until evening time, over 300 mm of rain had been unleashed upon the Territory."

The hourly rainfall for 8 May as recorded at the Royal Observatory, Tsim Sha Tsui, is shown in Figure 2. Table 1 shows the maximum 1-hour, 2-hour, 5-hour, 12-hour and 24-hour rainfalls recorded at the Royal Observatory, together with the relevant ending times and estimated return periods (calculated after Peterson and Kwong, 1981). The highest estimated return period was about 70 years for the maximum 1-hour rainfall of 109.9 mm.

2.3 Geotechnical Engineering Office Records

Rainfall data are also available from the GEO's 48 automatic raingauges. Current rainfall data can be found in the GEO's Rainfall Data Acquisition Centre and past data are kept in the Civil Engineering Library.

In addition to the RO rainfall data for 8 May, data from the GEO raingauges are given as follows. Figure 3 shows 15-minute rainfall data from gauges H01, H03, H09 and H19, which recorded the highest hourly maxima during the 8 May rainstorm. Hourly rainfall data for all the GEO gauges are presented in Appendix B.

The raingauges in the GEO system showed a good correlation between maximum hourly rainfall and 24-hour rainfall for 8 May. This correlation is illustrated in Figure 4.

2.4 Rainfall Distribution

Rainfall distribution with time and location can be assessed from detailed GEO and RO records. The hourly rainfall distribution on 8 May is

shown on Figures 5 and 6 and the total daily rainfall distribution is shown on Figure 7. Figure 8 shows the distribution of maximum hourly rainfall on 8 May. The Kowloon Peninsula and the northern part of Hong Kong Island received most rainfall.

2.5 Warnings Issued by the Royal Observatory and the Geotechnical Engineering Office

The RO issued Flood Warnings on 7-9 May and Thunderstorm Warnings on 7-10 May. The RO and the GEO jointly issued a Landslip Warning at 0620 on 8 May and the warning remained in force until 0705 on 11 May. Of the 72 landslides for which the time of occurrence is known to within one hour, three occurred before the Landslip Warning was issued, and 69 occurred afterwards.

2.6 Comparison with Past Rainstorms

Maximum rainfall amounts, of various durations, recorded at the RO and by the GEO raingauges, are shown in Table 2 and are compared with the three most intense rainfalls recorded since 1982 (May 1982, July 1987 and May 1989). The maximum 5-hour rainfall on 8 May was slightly higher than that for these three earlier rainstorms, while the 1-hour maximum of 110 mm was considerably higher than the figures recorded in 1987 and 1989 and about the same as that recorded in 1982. In contrast to the above, the maximum recorded 24-hour rainfall on 8 May was significantly lower than those for two out of the three earlier rainstorms, emphasising the intense nature of the 8 May event.

3. LANDSLIDES

3.1 Landslides Attributable to the Rainstorm of 8 May 1992

The 8 May rainstorm was followed by a period of relatively dry weather and the next significant rainfall fell on 15 May. It is therefore considered reasonable to assume that landslides occurring between 8 and 14 May inclusive can be attributed to the 8 May rainstorm, as can landslides reported between 8 and 14 May but for which a precise date of failure is unknown. Landslides reported after 14 May for which a precise date is not known have not been attributed to the 8 May rainstorm and are not considered further in this report. The above rationale results in a total of 350 reported landslides (excluding flooding, tree fall etc) considered to result from the 8 May rainstorm, of which 282 occurred on 8 May and 21 occurred between 8 and 14 May, while 47 incidents reported between 8 and 14 May cannot be assigned to a precise date but have also been attributed to the 8 May rainstorm. There were, in total, seventeen major landslides attributable to the 8 May rainstorm.

The above data refer to landslides reported to the GEO. The numbers of landslides recorded by some other Government departments are shown in Table 3. A list containing details of all 360 incidents reported to the GEO is provided in Appendix A. Information on stages of GEO works, maintenance states and other details is given in the Remarks column where applicable. Ten of these incidents were of no geotechnical concern as they were caused by flooding, tree fall etc. and they were therefore ignored in the statistical analysis

below. In total, 350 incidents were considered to be of geotechnical concern. The locations of all the reported landslide incidents are shown in Drawings GCSP 8/9 and GCSP 8/10. Selected incidents are illustrated in Plates 1 to 42. More details of these incidents are contained in the incident files of the GEO District Divisions and the 1:5,000 incident location maps housed in the Civil Engineering Library.

Wherever possible, the dates and times of the landslides were ascertained by the geotechnical engineers during site inspection. Some incidents were not reported for several days or weeks and for these it was difficult to determine the exact time of occurrence. Out of 350 incidents, times of occurrence are known to within one hour for 72.

It is probable that there were other failures which are not known to the GEO, including minor failures of no consequence such as failures in open spaces and construction sites, and failures in remote areas having no impact on human activities. This should be borne in mind when reading the following landslide statistics.

3.2 Areas Affected by Incidents

The numbers of incidents affecting various categories of area, as reported to the GEO, are given in Table 4. It should be noted that one incident may affect more than one area category. Landslide consequences, classified according to failure type, are shown in Table 5.

3.2.1 Squatter Areas

A total of 45 incidents affected squatter areas. Of these, 25 occurred on Hong Kong Island, four in Kowloon and sixteen in the New Territories. No failures affecting squatter areas were major. Failures led to the permanent evacuation of 92 huts and the temporary evacuation of seventeen huts. Examples are shown in Plates 23 (Incident HK 5/80) and 24 (Incident HK 5/98).

3.2.2 Building Lots

There were 65 incidents affecting building lots, six of which were major. Incidents in this category killed two people and injured five (all were casualties of one incident, HK 5/8), and resulted in the temporary evacuation of 23 buildings in part or in total. Examples are shown in Plates 2 (Incident HK 5/3), 3-8 (Incident HK 5/8), 13-16 (Incident HK 5/38), 20 (Incident HK 5/50), 37 (Incident MW 5/67), 39 (Incident ME 5/16) and 41 (Incident ME 5/31). Four incidents (HK 5/8, HK 5/38, HK 5/59 and HK 5/139) are described in more detail in Sections 4.2, 4.4, 4.6, and 4.9 respectively.

3.2.3 Roads

A total of 82 incidents affected roads. Nine of these incidents were major. Major incident HK 5/38 caused one death. Examples are shown in Plates 3-8 (Incident HK 5/8), 11 (Incident HK 5/26), 12 (Incident HK 5/33), 13-16 (Incident HK 5/38), 19 (Incident HK 5/48), 21 (Incident HK 5/55), 22 (Incident HK 5/70), 27 (Incident K 5/6), 29 (Incident MW 5/3), 30 and 31 (Incident MW

5/12), 33 (Incident MW 5/17), 34 (Incident MW 5/45), 35 (Incident MW 5/46), 36 (Incident MW 5/47) and 38 (Incident ME 5/1). Five incidents (HK 5/8, HK 5/38, HK 5/41, HK 5/70 and MW 5/3) are described in more detail in Sections 4.2, 4.4, 4.5, 4.7 and 4.12 respectively.

3.2.4 Pedestrian Pavements

A total of 70 incidents affected pedestrian pavements, three of which were major. Examples are shown in Plates 11 (Incident HK 5/26), 13 to 16 (Incident HK 5/38), 25 (Incident HK 5/152), 29 (Incident MW 5/3), 30 and 31 (Incident MW 5/12), 32 (Incident MW 5/16) and 40 (Incident ME 5/22). Three incidents (HK 5/38, HK 5/140 and MW 5/3) are described in more detail in Sections 4.4, 4.10 and 4.12 respectively.

3.2.5 Footpaths, Back Lanes and Private Access

A total of 45 incidents affected these areas, two of which were major. Examples are shown in Plates 1 (Incident HK 5/1), 17 and 18 (Incident HK 5/39), 32 (Incident MW 5/16), 39 (Incident ME 5/67) and 42 (Incident ME 5/32).

3.2.6 Construction Sites

There were three incidents affecting construction sites, one of which (Incident HK 5/18) was major. This incident is described in more detail in Section 4.3.

3.2.7 Country Parks

Ten incidents affecting Country Parks were reported directly to the GEO, none of which were major. The Agriculture and Fisheries Department recorded nine additional incidents in the Country Parks.

3.2.8 Open Areas

A total of 73 incidents affected open areas, three of which were major. An example is shown in Plate 28 (Incident K 5/8). The three major incidents (HK 5/104, HK 5/140 and HK 5/156) are described in more detail in Sections 4.8, 4.10 and 4.11 respectively.

3.2.9 Catchwaters, Conduits, Reservoirs and Associated Areas

Nine incidents reported to the GEO affected catchwaters, conduits and other water works. None of these incidents were major. An example is shown in Plate 26 (Incident HK 6/2). In addition, 82 incidents affecting catchwaters, conduits, reservoirs and associated areas were dealt with separately by the Water Supplies Department. These 82 incidents comprised 65 landslides and seventeen miscellaneous occurrences including flooding, silting of and damage to catchwaters, spalled chunam and road surface erosion. Of the 65 reported landslides, 43 affected catchwaters, seven affected access roads and paths, six affected conduits, three affected service reservoirs, three

affected treatment works, two affected pumping stations and one affected staff quarters.

3.3 Types of Incidents

The incidents inspected by the GEO have been classified into six types of failure and the number of failures in each type is shown in Table 6. Damage resulting from each type of failure is summarised in Table 5.

3.3.1 Fill Slopes

Twenty-four fill slope failures were reported, forming 7% of all incidents. Six of these failures were major. Examples of fill slope failures are shown in Plates 13 to 16 (Incident HK 5/38), 20 (Incident HK 5/50), 27 (Incident K 5/6) and 29 (Incident MW 5/3). Four failures (HK 5/38, HK 5/41, HK 5/140 and MW 5/3) are described in more detail in Sections 4.4, 4.5, 4.10 and 4.12 respectively.

3.3.2 Cut Slopes

A total of 221 cut slope failures were reported, forming 63% of all incidents. These failures were classified further according to the types of material, ie: soil, soil/rock and rock cut slope failures.

In total, 151 soil cut slope failures were reported, forming 43% of all incidents. Five of these failures were major. Examples of soil cut slope failures are shown in Plates 1 (Incident HK 5/1), 2 (Incident HK 5/3), 11 (Incident HK 5/26), 12 (Incident HK 5/33), 17 and 18 (Incident HK 5/39), 28 (Incident K 5/8), 32 (Incident MW 5/16), 33 (Incident MW 5/17), 34 (Incident MW 5/45), 35 (Incident MW 5/46), 36 (Incident 5/47), 38 (Incident ME 5/1), 39 (Incident ME 5/16) and 42 (Incident ME 5/32). Two failures (HK 5/104 and HK 5/139) are described in more detail in Sections 4.8 and 4.9 respectively.

Sixty-three soil/rock cut slope failures were reported, forming 18% of all incidents. Three of these failures were major. Examples of soil/rock cut slope failures are shown in Plates 9 and 10 (Incident HK 5/18), 19 (Incident HK 5/48), 21 (Incident HK 5/55), 23 (Incident HK 5/80), 25 (Incident HK 5/152) and 30 to 31 (Incident MW 5/12). Two failures (HK 5/59 and HK 5/156) are described in more detail in Sections 4.6 and 4.11 respectively.

Seven failures in rock cut slopes were reported, forming 2% of all incidents. None of these failures were major. An example of a rock cut slope failure is shown in Plate 37 (Incident MW 5/67).

3.3.3 Retaining Walls

Twenty-five retaining wall failures were reported, forming 7% of all incidents. Three of these failures were major. Examples of retaining wall failures are shown in Plates 3 to 8 (Incident HK 5/8), 22 (Incident HK 5/70) and 24 (Incident 5/98). Three failures (HK 5/8, HK 5/41 and HK 5/70) are described in more detail in Sections 4.2, 4.5 and 4.7 respectively.

3.3.4 Natural Slopes

Seventeen failures in natural slopes were reported, forming 5% of all incidents. None of these failures were major.

3.3.5 Rock and Boulder Falls

Nineteen rock and boulder falls were reported, forming 5.5% of all incidents. None of these failures were major. An example of a rock and boulder fall is shown in Plate 26 (Incident HK 6/2).

3.3.6 Other Failures

There are incidents which cannot be classified according to the above categories, such as washout, erosion and subsidence failures. Forty-two incidents of this nature were reported, forming 12% of all incidents. None of these incidents were major. In addition, two failures of unspecified type were reported. Examples of miscellaneous failures are shown in Plates 40 (Incident ME 5/22) and 41 (Incident ME 5/31).

3.4 Landslide Size Distribution

Table 7 shows the distribution of landslide size resulting from the 8 May rainstorm. The approximate landslide size was recorded for 308 out of the total of 350 reported landslides. Of the landslides for which the size was recorded, 63% involved less than 5 cu m of material. Equivalent figures for the larger landslides are as follows: 5-10 cu m, 13.0%; 10-20 cu m, 9.0%; 20-50 cu m, 9.5%; >50 cu m (major landslides), 5.5%.

3.5 Rainfall-Landslide Relationships

A simple relationship between rainfall and landslides is demonstrated in Figures 7 and 8, which show the approximate locations of landslides resulting from the 8 May rainstorm superimposed on the 24-hour rainfall and the maximum hourly rainfall respectively. The geographical distribution of high rainfall and landslide locations can be seen to be closely linked.

More detailed and comprehensive discussions on rainfall-landslide relationships and failure mechanisms can be found in Brand et al (1984) and Premchitt (1991), where extensive data from the past twenty years have been analysed.

3.6 Landslides Related to Lack of Maintenance

Evidence for possible lack of maintenance in the form of blocked or broken drains, vegetation growth, broken water mains etc. was recorded on the GEO Incident Reports where it was considered to have been a contributory factor to a landslide. The observations of the investigating engineers in this respect are also recorded in Appendix A. As the search for evidence of lack of maintenance is not a primary objective of emergency landslide inspections, this type of information may not be accurate or complete and the

statistics here should be viewed with caution. Subject to the above proviso, statistics on failures involving possible lack of maintenance are presented in Tables 8 to 10.

Table 8 shows the number of reported incidents in which lack of maintenance might have been a factor, classified according to slope types. There were a total of 42 such incidents, five of which were major. These incidents therefore comprise 12% of the total of 350 reported incidents and 29% of the total of seventeen reported major incidents. Ten (24%) of these incidents occurred on fill slopes (three major), thirteen (31%) on soil cut slopes (one major), five (12%) on soil/rock cut slopes (one major), and nine (21%) comprised miscellaneous incidents such as washouts and subsidence. The remaining incidents involved retaining walls (three, 7%) and natural slopes (two, 5%).

Table 9 shows the areas affected by incidents which may have resulted from lack of maintenance. Two incidents affected squatter areas, seven affected building lots, thirteen affected roads, twelve affected pedestrian pavements, four affected other types of access, two affected Country Parks and fourteen affected open areas. Note that some incidents affected more than one type of area.

Table 10 shows the consequences of failures which may have resulted from lack of maintenance. These failures caused partial or complete blockage or closure of eleven sections of road and four sections of pedestrian pavement, the partial closure of one building and the permanent evacuation of one hut.

4. NOTABLE INCIDENTS

4.1 Introduction

Eleven failures are discussed in more detail in this section. The incidents have been selected on the basis of size, consequence and technical interest.

4.2 Incident HK 5/8, Baguio Villas, Pokfulam

(Major debris flow resulting from the failure of an old retaining wall and the subsequent liquefaction of loose fill. Two deaths. Plates 3 to 8.)

This landslide involved the collapse of a masonry retaining wall and part of a fill platform behind the wall. Debris from the collapse travelled from Pokfulam Temporary Housing Area (THA), at an elevation of about 149 mPD, down a natural gully to the south of Block 26 Upper Baguio Villas, to Victoria Road at about 58 mPD. The debris flow crossed Victoria Road and continued down to Blocks 41 to 44 of Lower Baguio Villas, coming to rest on the podium and car parking floors at elevations between 34 mPD and 40 mPD. A child within an apartment and a government engineer on a duty inspection on the podium of Block 44 were fatally injured in the landslide, with a further five people being injured.

The failure began at about 1400 hrs on 8 May when the central part of the masonry retaining wall collapsed during heavy rain which started at about 1340 hrs. This initial failure released about 700 cu m of fill material into the

natural gully over a period of about one hour. Very intense rainfall began at about 1510 hrs, during which a further 1000 cu m of fill collapsed and entered the natural gully. The landslide debris was fluidised by the large volume of surface water entering the natural gully. The fluid debris was carried down the gully, scouring out more material along its path. The debris accumulated on Victoria Road, then overflowed onto the podium of Blocks 41 to 44, causing the two fatalities. Another 500 cu m of material were lost from the fill platform in intermittent landslides that continued until the evening.

The total volume of material involved in these failures was about 3500 cu m. A detailed report on the Baguio landslide may be found in GEO (1992).

4.3 Incident HK 5/18, Siu Sai Wan Private Sector Participation Scheme Site
(Continuing major failure of a soil cut slope, affecting a construction site. Plates 9 and 10.)

This site, which has a history of instability and at which a previous major failure occurred in April 1992, was being investigated by the GEO when the rainstorm of 8 May triggered further movement. The failures at this site are relatively deep-seated and slow moving, with the failed mass remaining on the slope. The GEO investigation suggests that the failures may be associated with deep weathering of hydrothermally altered volcanic rock (tuff), coupled with a complex groundwater regime. The failure of 8 May caused damage to chunam, concrete berm slabs and U-channels.

4.4 Incident HK 5/38, Kennedy Road, below Wah Yan College, Happy Valley
(Major failure of a fill slope. One death. Plates 13 to 16.)

At about 0810 on 8 May, fill at the crest of a 24 m high soil cut slope failed during heavy rain. The debris, about 500 cu m, struck a passing car and killed the motorist inside. Three lanes of Kennedy Road were blocked while Wan Chai Clinic and parts of Wah Yan College were closed.

4.5 Incident HK 5/41, Cape Collinson Road, Chai Wan
(Major failure of a fill slope, resulting in the collapse of a retaining wall and one lane of the road.)

This failure occurred during the evening of 8 May, when a 10 m long section of Cape Collinson Road collapsed. The failure occurred in fill materials and undermined a mass concrete retaining wall, which also collapsed. Failure was probably due to a combination of groundwater and surface water erosion. Blocked surface water drains and cross-road drains might have contributed to the erosion.

4.6 Incident HK 5/59, Tanner Hill Police Quarters, North Point
(Major failure of a soil/rock cut slope resulting in the partial evacuation of one building.)

At 1500 hrs on 8 May a major failure took place on a steep soil and rock cut slope behind Block H of Tanner Hill Police Quarters. About 100 cu m of soil and boulders fell onto open ground behind the building. Some windows on the 3rd and 5th floors were damaged by flying rocks. The failure was probably

caused by infiltration and erosion due to surface runoff collected from Pak Fuk Road and discharged directly to the crest of the slope.

- 4.7 Incident HK 5/70, below 5 Coombe Road, Magazine Gap
(Major failure of a retaining wall resulting in subsidence and the closure of two lanes of the road. Plate 22.)

On 8 May, a 20 m length of retaining wall on the downslope side of Coombe Road failed and moved about 1 m downslope. Both lanes of the road were closed. Localised surface failures were noted on the slope below the retaining wall, together with a broken water pipe which may have contributed to the failure.

- 4.8 Incident HK 5/104, Eastern Treatment Works, Tai Hang Road
(Major failure of a soil cut slope.)

This failure began at about 0930 on 8 May when some sand and gravel was washed down the slope to the Treatment Works Staff Quarters. The main slide occurred at about 1430 when around 120 cu m of sand, gravel and boulders were washed down onto the Staff Quarters back yard, piling up to a height of about 240 mm above floor level. A surface drainage channel on the slope was observed to be blocked with sand and gravel and may have contributed to the failure by diverting water onto the slope.

- 4.9 Incident HK 5/139, Island Road Government Primary School, Aberdeen
(Failure of a soil cut slope and rockfill affecting a building lot)

During heavy rain at about 0800 on 8 May, surface water on Peel Rise overflowed onto a rockfill slope below the road and moved about 30 cu m of rockfill material. During further heavy rain at about 1500 a cut slope in weathered volcanic rock at the same site failed. This slope had been the subject of Landslip Preventive Measures investigations and remedial works had been completed. This second failure also involved about 30 cu m of material and resulted in the temporary evacuation of a classroom block. Part of the school playground was also closed.

- 4.10 Incident HK 5/140, Chung Hom Kok Beach
(Major failure of a fill and natural slope, resulting in the closure of a pedestrian pavement.)

This failure occurred on 8 May when about 150 cu m fill material at the top of a 45 m high natural slope failed. The material moved down the natural slope, causing some additional washing-out, and spread over a playground and beach. The failure originated below a broken surface drain. A blocked catchpit on this drain may have contributed to the amount of water diverted onto the slope.

4.11 Incident HK 5/156, Smithfield Road, Kennedy Town
(Major failure of a soil/rock cut slope.)

This failure occurred on 8 May when over 100 cu m of weathered rock collapsed from a soil and rock cut slope, forming a scarp face about 7 m high. A tension crack was noted 2 to 3 m behind the failure scarp. A drainage channel to one side of the slip was seen to be blocked by dense vegetation and may have overflowed during the heavy rain of 8 May, contributing to the failure. The failure took place below a squatter area, with the nearest squatter located about 7 m from the failure scarp.

4.12 Incident MW 5/3, Tai Po Road, Kowloon
(Major failure of a fill slope resulting in the closure of one road lane.
Plate 29.)

This landslip occurred on 8 May on a fill slope (formerly 11NW-B/F48) situated between Tai Po Road and Ching Cheung Road. The fill slope is about 40 m high and stands at an angle of about 30 degrees. The lower batter of the fill slope is retained by a reinforced earth wall. The slope was reconstructed during the Tai Po Road Improvement Works about two years ago. The landslip extended from the toe to the crest of the slope, with a length of about 40 m and a width of about 3 m. A surface drainage channel was destroyed and fell to the base of the failure scar.

5. CONCLUSIONS

The rainfall on 8 May 1992 was very heavy and intense. The Royal Observatory recorded a maximum hourly rainfall of 109.9 mm between 0600 and 0700, the highest ever recorded at this location. The estimated return period for rainfall of this magnitude is about 70 years. The rainfall was concentrated on the Kowloon Peninsula and the northern and western parts of Hong Kong Island. There is a good correlation between the distribution of rainfall and the distribution of landslides.

In total 350 landslides reported to the GEO could be attributed to the 8 May rainstorm. Seventeen of these landslides were major (>50 cu m), whereas 194 were very small (<5 cu m). The Landslip Warning was issued at 0620 on the morning of 8 May. Of the 72 landslides for which the time of occurrence is known to within one hour, three occurred before the Landslip Warning was issued and 69 occurred afterwards.

The landslides caused three deaths and five injuries. Ninety-two squatter huts were permanently evacuated and seventeen were temporarily evacuated. Twenty-two buildings were partly or completely evacuated. Sixty-four sections of road and 29 sections of miscellaneous access were partly or completely blocked or closed.

6. REFERENCES

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- Geotechnical Engineering Office (1992). Report on the Investigation of the 8 May 1992 Baquio Landslide, Civil Engineering Department, Hong Kong, 25 p.
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Table 1 - Maximum Rainfall Intensities at the Royal Observatory During the 8 May Rainstorm and Estimated Return Periods

| Duration | Rainfall (mm) | Ending Time | * Estimated Return Period (Years) |
|----------|------------------|----------------|---|
| 1 hour | 109.9 | 07:00 | 70 |
| 2 hours | 162.3 | 08:00 | 32 |
| 5 hours | 195.5 | 10:00 | 7.5 |
| 12 hours | 322.6 | 17:00 | 16 |
| 24 hours | 324.1 | 24:00 | 6 |

Notes : (1) Return periods derived from the Gumbel equation, after Peterson and Kwong (1981).
(2) Rainfall maxima refer to fixed hourly intervals as measured at the Royal Observatory.

Table 2 - Rainfall-Landslide Data for the 8 May Rainstorm Compared with Recent Major Rainstorms

| Date of Event | Maximum Rainfall(mm) | | | | | | | | Landslide Consequences | | | | | |
|---------------------|----------------------|------|------|-------|----------------|------|-------|----------------------|------------------------|------|---------------------------------|---|----------------|-----|
| | Royal Observatory | | | | GEO Raingauges | | | Number of Landslides | | | Persons Killed or Injured | Number of Huts Evacuated Permanently | | |
| | Antecedent | | | 24-hr | 5-hr | 1-hr | 4-day | 15-day | 24-hr | 5-hr | 1-hr | GEO | News- paper | FSD |
| | 24-hr | 5-hr | 1-hr | | | | | | | | | | | |
| 8/5/92 | 324 | 196 | 110 | 64.5 | 71 | 385 | 244 | 110 | 350 | 40 | 9 | 9 | 92 | |
| | | | | | | | | | | | | | | |
| 20- 21/5/89 | 388 | 149 | 37 | 28 | 42 | 566 | 224 | 51 | 340 | 100 | 3 | 5 | 199 | |
| 29- 30/7/87 | 183 | 71 | 38 | 147 | 343 | 314 | 169 | 73 | 111 | 36 | 3 | 3 | 49 | |
| 29/5/82 | 394 | 153 | 44 | 1 | 11 | 430 | 237 | 111 | 551 | 498 | 15 | 48 | 1153 | |

Notes : (1) Newspapers searched are the South China Morning Post, the Hongkong Standard, Sing Tao Daily and Wen Wei Po.

Abbreviations :

GEO - Geotechnical Engineering Office

FSD - Fire Services Department

Table 3 - Number of Incidents Reported to Various Offices/Departments after the 8 May Rainstorm

| Office/Department | Total Number | Types of Incident | | |
|--------------------------------------|--------------|-------------------|----------|--------|
| | | Landslide | Flooding | Others |
| Agriculture & Fisheries Department | 23 | 17 | 6 | 0 |
| Architectural Services Department | 47 | 37 | 10 | 0 |
| Drainage Services Department | 136 | 0 | 136 | 0 |
| Fire Services Department | 9 | 7 | 2 | 0 |
| Geotechnical Engineering Office, CED | 360 | 350 | 4 | 6 |
| Highways Department | 111 | 111* | 0 | 0 |
| Housing Department | 26 | 22 | 4 | 0 |
| Water Supplies Department | 82 | 65 | 1 | 16 |

Legend :

* Landslides reported to HyD were referred to GEO and are included in the GEO incidents

Table 4 - Number of Incidents Reported to GEO Resulting from
the 8 May Rainstorm Classified by Area Affected

| Affected Area | Hong Kong | Kowloon | New Territories | All Districts |
|--|-----------|---------|-----------------|---------------|
| Squatters | 25 | 4 | 16 | 45 |
| Building lots | 36(6) | 3 | 26 | 65(6) |
| Roads | 64(6) | 3(1) | 15(2) | 82(9) |
| Pedestrian pavements | 46(2) | 1 | 23(1) | 70(3) |
| Footpaths, back lanes, private access | 22(1) | 1 | 22(1) | 45(2) |
| Construction sites | 2(1) | - | 1 | 3(1) |
| Country Parks | 9 | - | 1 | 10 |
| Open areas | 31(3) | 8 | 34 | 73(3) |
| Catchwaters/conduits | 9 | - | - | 9 |

Legend :

() Number of major failures

Notes : (1) One incident may affect more than one type of area
(2) Incidents of no geotechnical concern are not included

Table 5 - Consequence Related to Type of Failure for the 8 May Rainstorm

| Type of failure | Evacuation of huts | | Closure or partial closure of building | Blockage or closure | | | Deaths (injuries) |
|-----------------------------------|--------------------|-----------|--|---------------------|----------------------|---------------------------------------|-------------------|
| | Permanent | Temporary | | Roads | Pedestrian pavements | Footpaths, back lanes, private access | |
| Fill slope | 12 | - | 9 | 8 | 1 | - | 1 |
| Cut slope | Soil | 35 | 7 | 5 | 30 | 9 | 8 |
| | Soil/rock | 7 | - | 1 | 16 | 4 | 1 |
| | Rock | - | - | - | 2 | 2 | - |
| Natural slope | 11 | 2 | - | - | - | - | - |
| Retaining wall | 13 | 2 | 6 | 3 | 2 | - | 2(6) |
| Rock/boulder fall | 7 | 1 | - | 4 | - | - | - |
| Others (Washout, subsidence etc.) | 7 | 5 | 1 | 1 | 1 | 1 | - |
| TOTAL | 92 | 17 | 22 | 64 | 19 | 10 | 3(6) |

Table 6 - Number of Incidents Reported to GEO Resulting from the
8 May Rainstorm, Classified by Type of Failure

| Type of Failure | Number | Percentage |
|---|------------------|------------|
| Fill Slope | 24(6) | 7 |
| Cut slope | Soil | 151(5) |
| | Soil/rock | 63(3) |
| | Rock | 7 |
| Retaining wall | 25(3) | 7 |
| Natural slope | 17 | 5 |
| Rock/boulder fall | 19 | 5.5 |
| Others (Washout, subsidence etc.) | 42 | 12 |
| Failure type not specified | 2 | 0.5 |
| TOTAL | 350(17) | 100 |
| Legend : () Number of major failures | | |
| Note : there were 10 incidents of no geotechnical concern (tree fall, flooding etc), which are not included in the table above. | | |

Table 7 - Landslide Size Distribution

| Size of Failure (cu m) | Failures of known size expressed as a total number and as a percentage | | | |
|------------------------|--|-----------|-----------------|---------------|
| | Hong Kong | Kowloon | New Territories | All Districts |
| <5 | 127(63.5%) | 14(78.0%) | 53(59.0%) | 194(63.0%) |
| 5-10 | 27(13.5%) | 1(5.5%) | 12(13.5%) | 40(13.0%) |
| 10-20 | 15(7.5%) | 1(5.5%) | 11(12.0%) | 27(9.0%) |
| 20-50 | 18(9.0%) | 1(5.5%) | 11(12.0%) | 30(9.5%) |
| >50 (major) | 13(6.5%) | 1(5.5%) | 3(3.5%) | 17(5.5%) |
| TOTAL | 200 | 18 | 90 | 308 |

Note : Total reported failures - 350

Table 8 - Number of Landslides in which Lack of Maintenance may have been a Factor, Classified by Area Affected.

| Affected Area | Hong Kong | Kowloon | New Territories | All Districts |
|---|-----------|---------|-----------------|---------------|
| Squatters | 1 | - | 1 | 2 |
| Building lots | 5(1) | 1 | 1 | 7(1) |
| Roads | 10(1) | 1(1) | 2 | 13(2) |
| Pedestrian pavements | 8(1) | - | 4 | 12 |
| Footpaths, back lanes, private access | 2 | 1 | 1 | 4 |
| Construction sites | - | - | - | - |
| Country Parks | 1 | - | 1 | 2 |
| Open areas | 4(3) | 2 | 8 | 14(3) |
| Catchwaters/conduits | - | - | - | - |
| Legend : | | | | |
| () Number of major failures | | | | |
| Notes : (1) One incident may affect more than one type of area (2) Incidents of no geotechnical concern are not included | | | | |

Table 9 - Number of Landslides in which Lack of Maintenance may have been a Factor, Classified by Type of Failure

| Type of Failure | Number | Percentage |
|--|------------------|------------|
| Fill Slope | 10(3) | 24 |
| Cut Slope | Soil | 13(1) |
| | Soil/Rock | 5(1) |
| | Rock | - |
| Retaining Wall | 3 | 7 |
| Natural Slope | 2 | 5 |
| Rock/Boulder Fall | - | - |
| Others (Washout, subsidence etc.) | 9 | 21 |
| TOTAL | 42(5) | 100 |
| Legend : () Number of major failures | | |
| Note : Incidents of no geotechnical concern (tree fall, flooding etc), were ignored. | | |

Table 10 - Consequences of Failures in which Lack of Maintenance may have been a Factor

| Type of failure | | Evacuation of huts | | Closure or partial closure of building | Blockage or closure | | | Deaths (injuries) |
|--------------------------------------|-----------|--------------------|-----------|--|---------------------|----------------------|---------------------------------------|-------------------|
| | | Permanent | Temporary | | Roads | Pedestrian pavements | Footpaths, back lanes, private access | |
| Fill slope | | - | - | - | 3(2) | 1(1) | - | - |
| Cut slope | Soil | - | - | - | 3 | 2 | - | - |
| | Soil/rock | - | - | - | 2 | 1 | - | - |
| | Rock | - | - | - | - | - | - | - |
| Natural slope | | - | - | 1 | - | - | - | - |
| Retaining wall | | - | - | - | 1 | - | - | - |
| Rock/boulder fall | | - | - | - | - | - | - | - |
| Others (Washout, subsidence etc.) | | 1 | - | - | 2 | - | - | - |
| TOTAL | | 1 | - | 1 | 11(2) | 4(1) | - | - |

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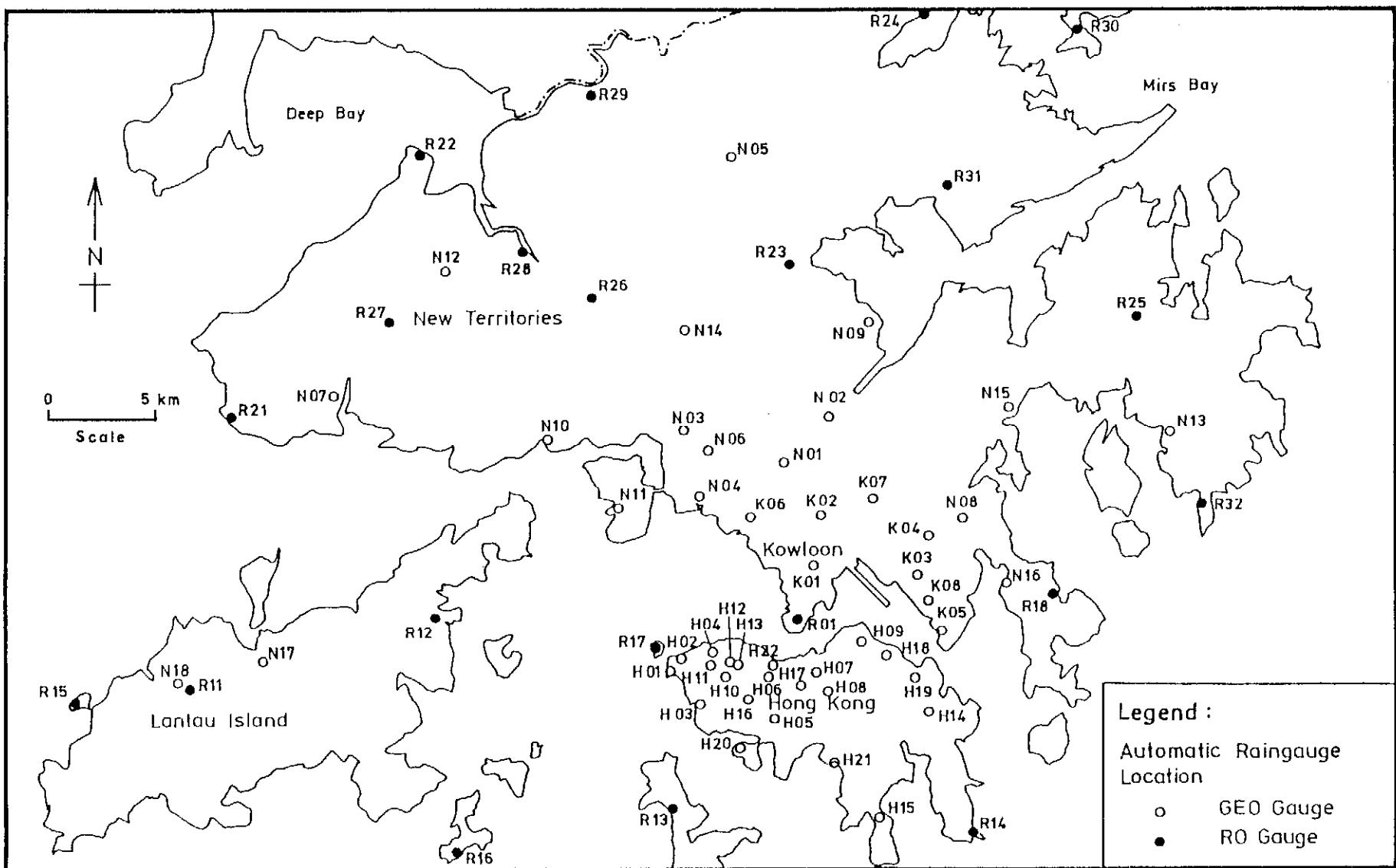


Figure 1 - Location of GEO and RO Automatic Raingauges

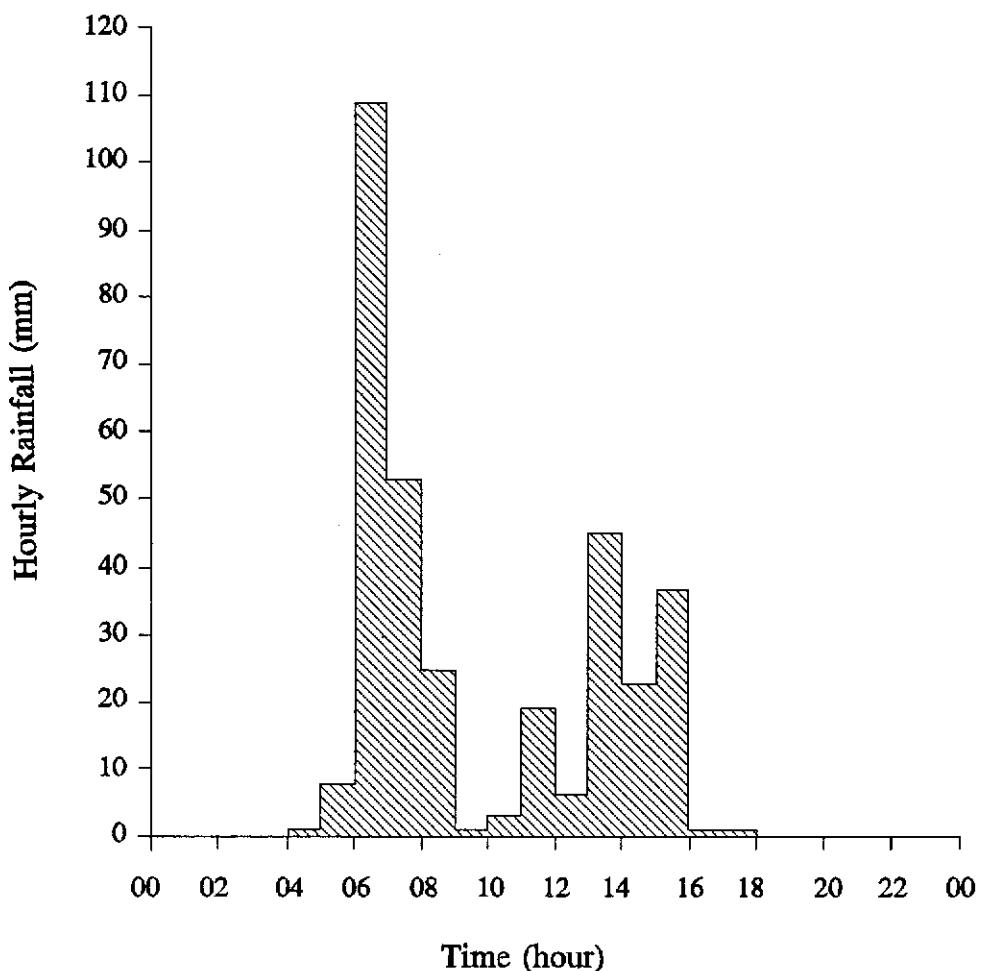
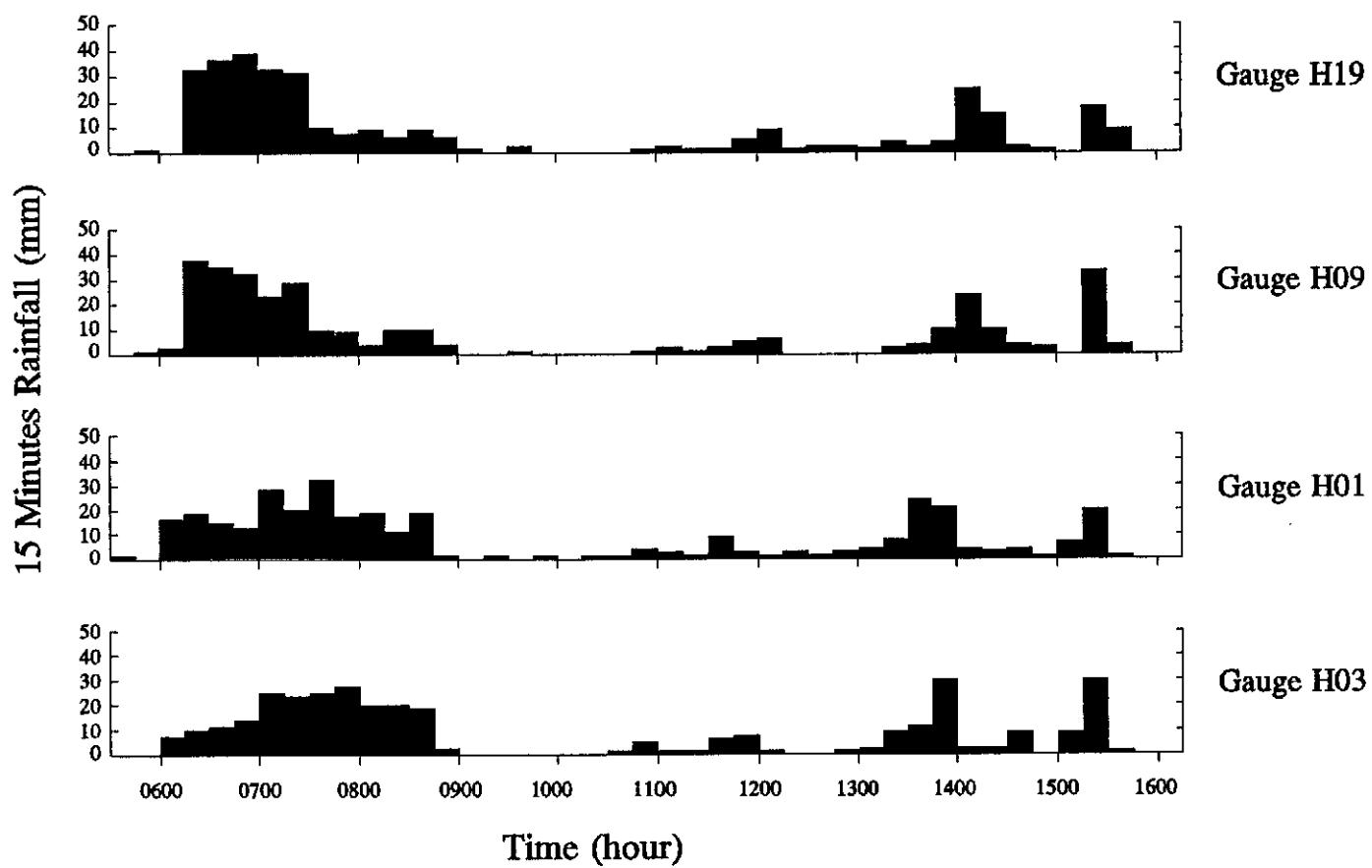


Figure 2 - Histogram of Hourly Rainfall at the Royal Observatory on
8 May 1992



Note : 24 hour totals - H19 : 334.5 mm
H09 : 334.0 mm
H01 : 366.0 mm
H03 : 350.5 mm

Hourly maxima - H19 : 136.5 mm (0615 - 0715)
H09 : 131 mm (0615 - 0715)
H01 : 103 mm (0700 - 0800)
H03 : 102.5 mm (0700 - 0800)

Figure 3 - 15- minute Rainfall for Gauges H19, H09, H01 and H03 on 8 May 1992

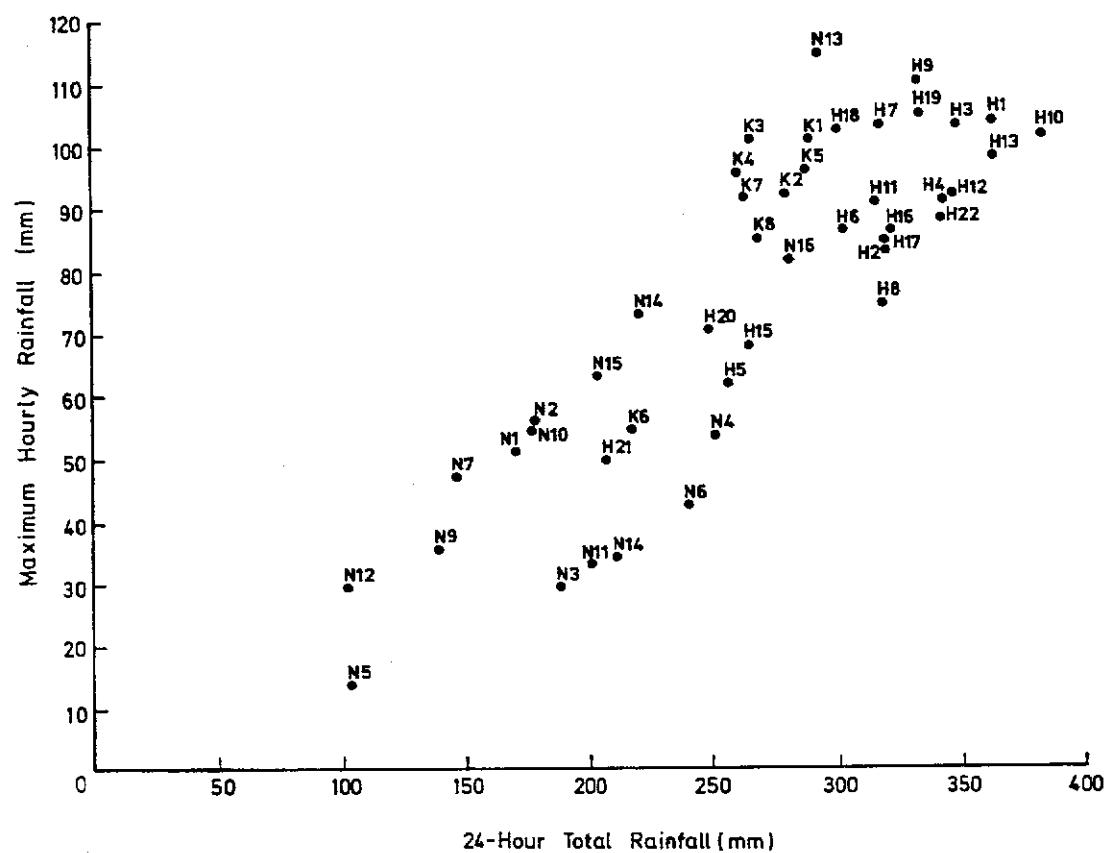


Figure 4 - Correlation Between Maximum Hourly Rainfall and 24-hour Rainfall on 8 May 1992

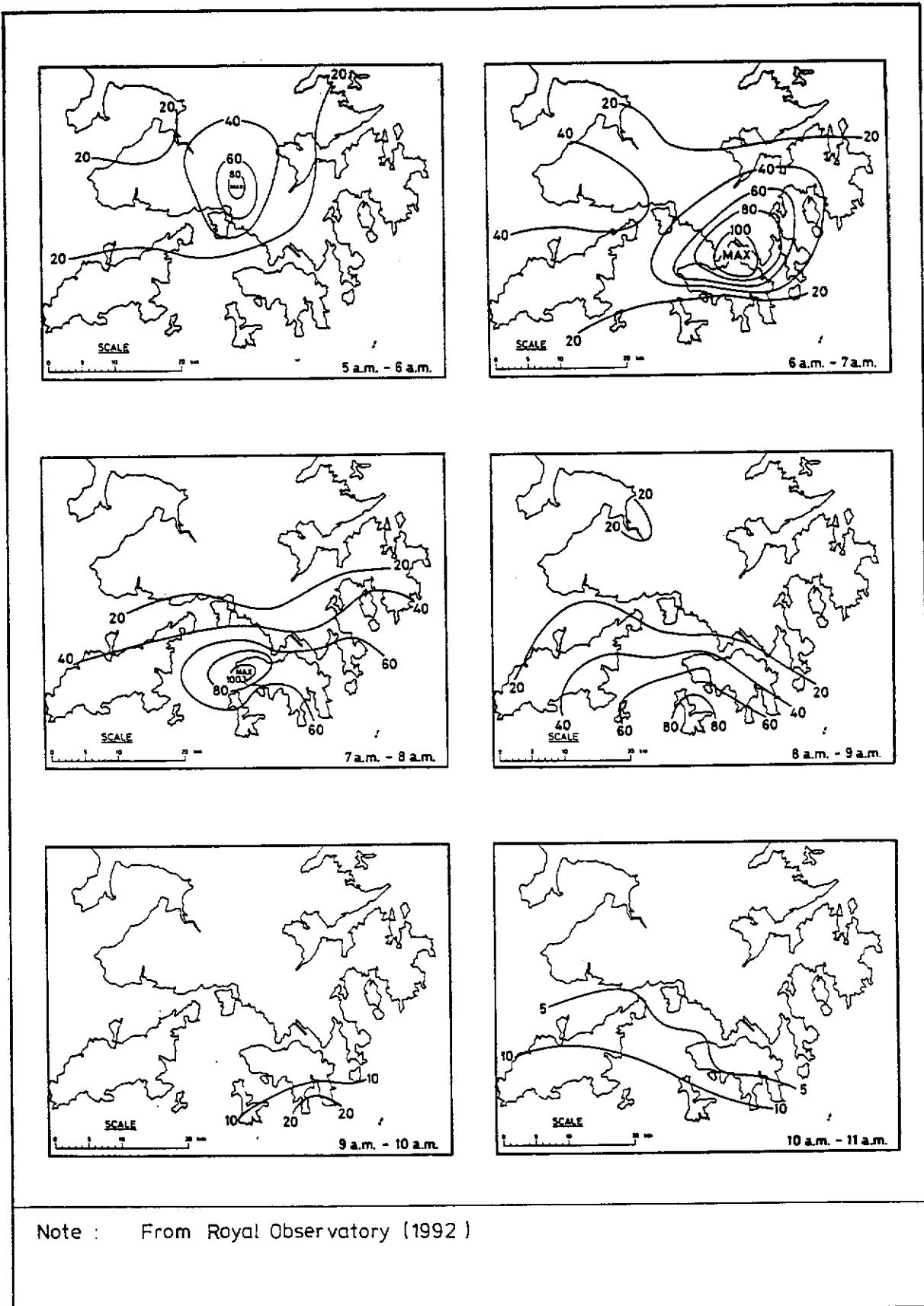


Figure 5 - Hourly Rainfall Distribution from 0500 to 1100, 8 May 1992

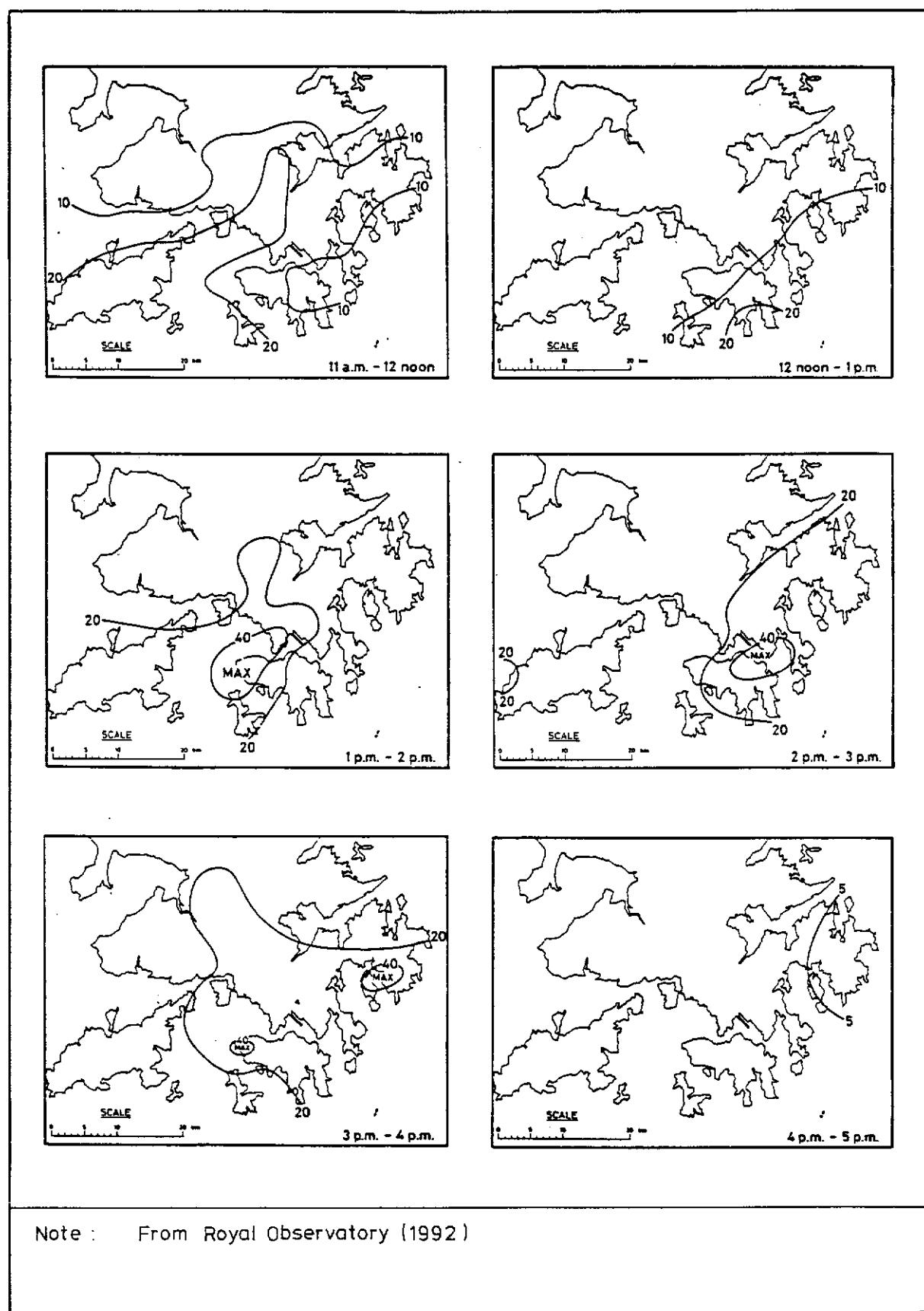


Figure 6 - Hourly Rainfall Distribution from 1100 to 1700, 8 May 1992

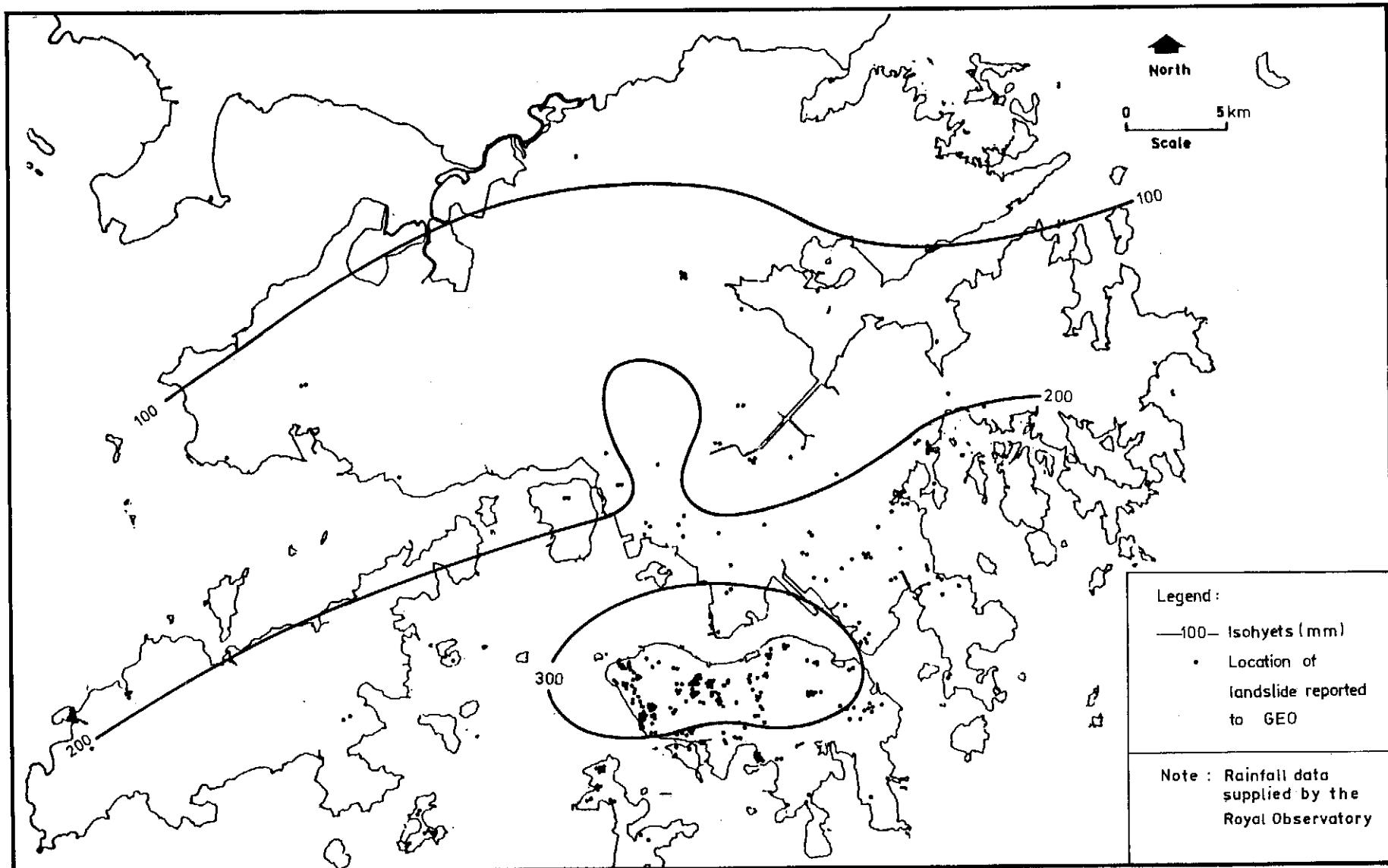


Figure 7 - Correlation Between 24-hour Rainfall Distribution and Landslide Locations, 8 May 1992

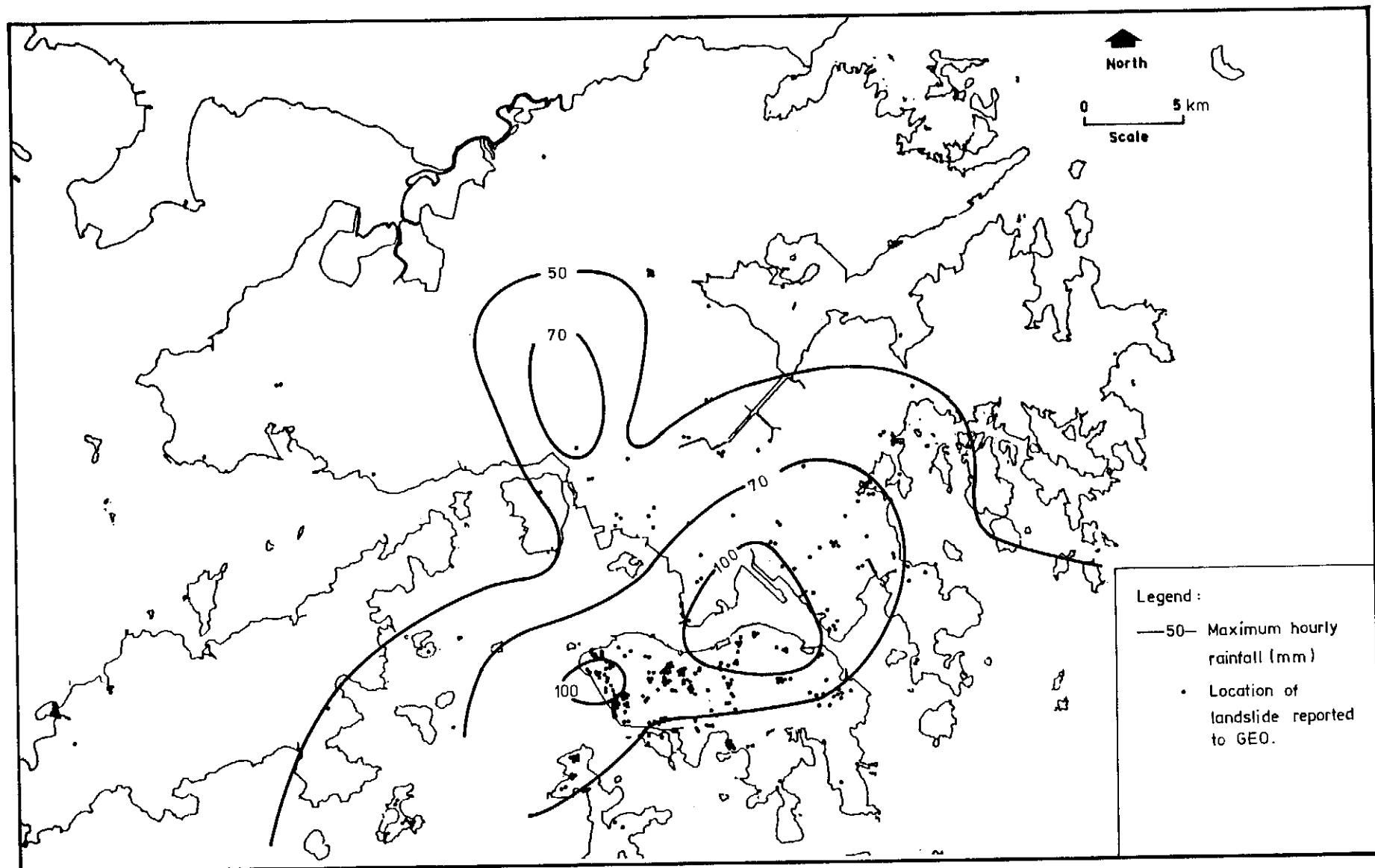


Figure 8 - Correlation Between Maximum Hourly Rainfall Distribution and Landslide Locations, 8 May 1992

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Negative No. I9221614 Taken on : 11-5-92
Description : Failure of a soil cut slope affecting a private access.

Plate 1 - 12 Severn Road, Mount Gough (Incident HK 5/1)



Negative No. I9223629
Taken on : 12-5-92

Description :
Failure of a soil cut slope affecting a
building lot.

Plate 2 -
78-80 MacDonnell Road, The Peak
(Incident HK 5/3)



Negative No. I9221009 Taken on : 9-5-92



Negative No. I9221005 Taken on : 10-5-92
Description : Major failure of a retaining wall and a fill platform (about 3500 cu m).
Two dead, five injured. Edge of fill platform illustrated.



Negative No. 14625 Taken on : 9-5-92



Negative No. 14626 Taken on : 9-5-92

Description : Major failure of a retaining wall and a fill platform (about 3500 cu m).
Two dead, five injured. Blocks 26 and 44 illustrated.

Negative No. 14621
Taken on : 9-5-92

Description :
Major failure of a retaining wall and
a fill platform (about 3500 cu m.)
Two dead, six injured. Block 26
illustrated.



Negative No. I92210I03 Taken on : 9-5-92
Description : Major failure of a retaining wall and a fill platform (about 3500 cu m).
Two dead, five injured. Block 44 illustrated.



Negative No. 14591 Taken on : 9-5-92



Negative No. 14594 Taken on : 9-5-92
Description : Major failure of a soil/rock cut slope (about 100 cu m).

Plates 9 & 10 - Siu Sai Wan PSPS Site, Chai Wan (Incident HK 5/18)

Negative No. I9226113
Taken on : 18-5-92

Description :

Failure of a soil cut slope resulting in the blockage of a pedestrian pavement and the partial blockage of one road lane.

Plate 11 -
92 Pokfulam Road, Kennedy Town
(Incident HK 5/26)



Negative No. I9220816 Taken on : 8-5-92
Description : Failure of a soil cut slope resulting in the blockage of one road lane.

Plate 12 - Junction of Stubbs Road and Peak Road, The Peak (Incident HK 5/33)



Negative No. SP9205925 Taken on : 8-5-92



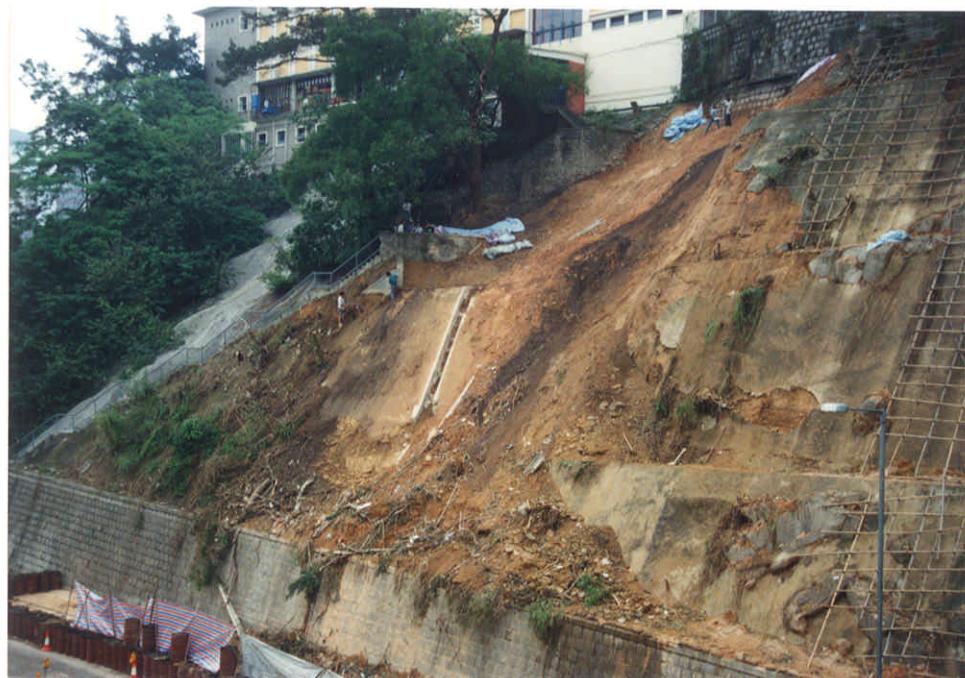
Negative No. SP9206021 Taken on : 8-5-92

Description : Major failure of a fill slope (about 500 cu m). One dead, three lanes of Kennedy Road blocked.

Plates 13 & 14 - Kennedy Road, below Wah Yan College, Happy Valley
(Incident HK 5/38)



Negative No. SP9207301 Taken on : 12-5-92



Negative No. SP9207517 Taken on : 14-5-92
Description : Major failure of a fill slope (about 500 cu m). One dead, three lanes of Kennedy Road blocked.

Plates 15 & 16 - Kennedy Road, below Wah Yan College, Happy Valley
(Incident HK 5/38)



Negative No. I9220814 Taken on : 9-5-92

Description : Failure of a soil cut slope resulting in the blockage of a private access.

Plate 17 - 9 Middle Gap Road, Wan Chai Gap (Incident HK 5/39)



Negative No. I9220813

Taken on : 9-5-92

Description :

Failure of a soil cut slope resulting in the blockage of a private access.

Plate 18 -

9 Middle Gap Road, Wan Chai Gap
(Incident HK 5/39)

Negative No. I9221520

Taken on : 11-5-92

Description :

Failure of a soil/rock cut slope
resulting in the blockage of two road
lanes.

Plate 19 -

15-38 Mount Kellett Road, Mount
Kellett (Incident HK 5/48)



Negative No. 14602 Taken on : 9-5-92
Description : Major failure of a fill slope (about 100 cu m).

Plate 20 - Below 156 Tai Hang Road, So Kon Po (Incident HK 5/50)



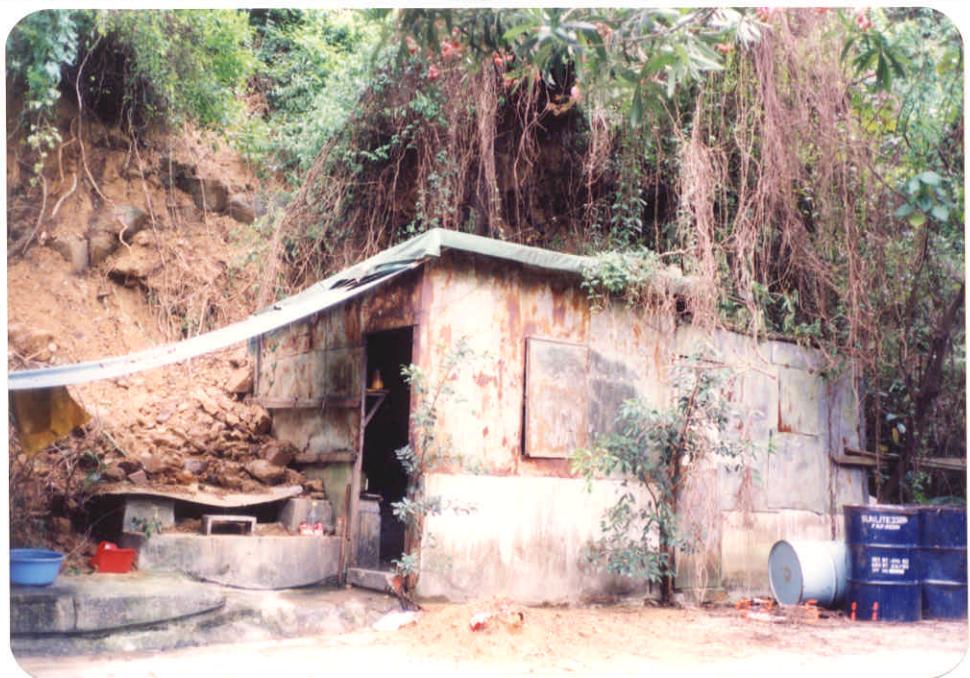
Negative No. I9224802 Taken on : 9-5-92
Description : Failure of a soil/rock cut slope resulting in the blockage of two road lanes.

Plate 21 - Tai Hang Road, Jardine's Lookout (Incident HK 5/55)



Negative No. A9206704 Taken on : 9-5-92
Description : Major failure of a retaining wall resulting in ground subsidence and the closure of two road lanes.

Plate 22 - Below 5 Coombe Road, Magazine Gap (Incident HK 5/70)



Negative No. I9223616 Taken on : 11-5-92

Description : Failure of a soil/rock cut slope resulting in the permanent evacuation of two huts.

Plate 23 - Behind Mobil Marine Petrol Station, Ap Lei Chau (Incident HK 5/80)



Negative No. I9222210

Taken on : 12-5-92

Description :

Failure of a retaining wall resulting in the permanent evacuation of nine huts.

Plate 24 -

Hut No. 1977, Pokfulam Village
(Incident HK 5/98)



Negative No. I9224212A Taken on : 14-5-92
Description : Failure of a soil/rock cut slope affecting a pedestrian pavement.

Plate 25 - Ocean Park Road, Wong Chuk Hang (Incident HK 5/152)



Negative No. I9235707 Taken on :16-6-92
Description : Rock/boulder fall affecting a footpath.

Plate 26 - Aberdeen SW Service Reservoir (Incident HK 6/2)

Negative No. ME9218001
Taken on : 8-5-92

Description :
Major failure of a fill slope (about
65 cu m) resulting in road closure.

Plate 27 -
Jat's Incline above Fung Shing Street
(Incident K 5/6)



Negative No. ME9217909 Taken on : 11-5-92
Description : Failure of a soil cut slope.

Plate 28 - Buddhist College, 3 Ko Chiu Road (Incident K 5/8)



Negative No. MW9210505 Taken on : 9-5-92
Description : Major failure of a fill slope (over 50 cu m) resulting in the closure of one road lane.

Plate 29 - Tai Po Road Near Carlton Hotel, Kowloon (Incident MW 5/3)



Negative No. MW9209912



Negative No. MW9209913

Description : Failure of a soil/rock cut slope resulting in the blockage of a pedestrian pavement and one road lane.

Plates 30 & 31 - Tai O Road, near MS 12 $\frac{3}{4}$, Lantau Island (Incident MW 5/12)



Negative No. MW9210806 Taken on : 11-5-92
Description : Failure of a soil cut slope affecting a pedestrian pavement.

Plate 32 - Kwai Fuk Road, Kwai Chung (Incident MW 5/16)



Negative No. MW9211123
Taken on : 11-5-92

Description :
Failure of a soil cut slope affecting a road.

Plate 33 -
Piper's Hill, Shatin
(Incident MW 5/17)



Negative No. MW9211524 Taken on : 12-5-92
Description : Failure of a soil cut slope resulting in the partial blockage of a road.

Plate 34 - Sham Wat Road, Lantau Island (Incident MW 5/45)



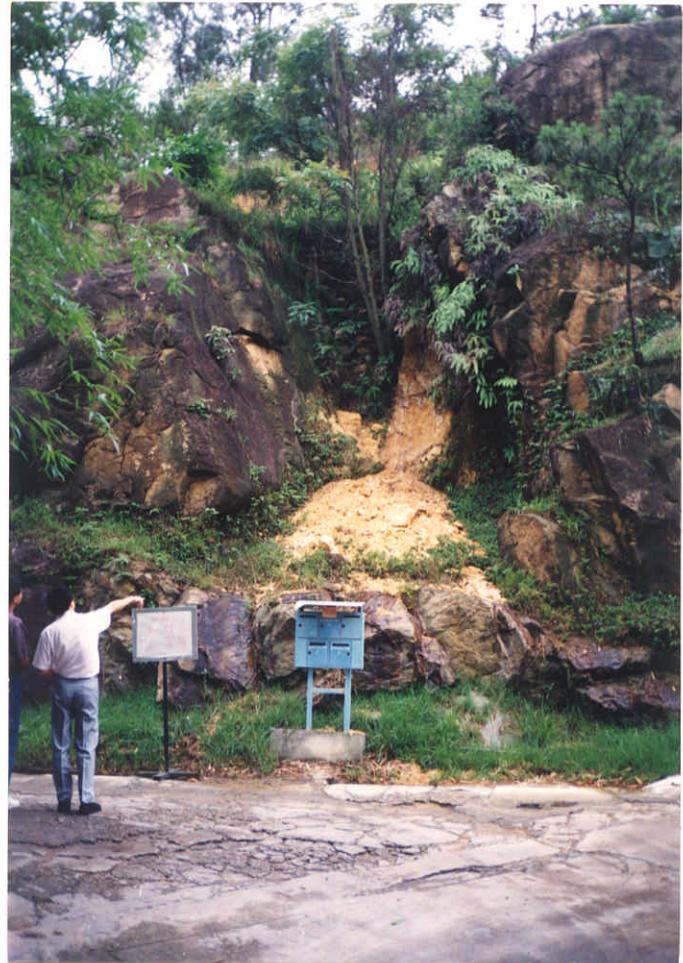
Negative No. MW9211519 Taken on : 12-5-92
Description : Failure of a soil cut slope resulting in the partial blockage of a road.

Plate 35 - Sham Wat Road, Lantau Island (Incident MW 5/46)



Negative No. MW9211521 Taken on : 12-5-92
Description : Failure of a soil cut slope resulting in the partial blockage of a road.

Plate 36 - Sham Wat Road, Lantau Island (Incident MW 5/47)



Negative No. MW9213602

Description :
Failure of a rock cut slope affecting
a private access.

Plate 37 -
Tai Lam Correctional Institution
(Incident MW 5/67)



Negative No. ME9218819 Taken on : 8-5-92
Description : Failure of a soil cut slope resulting in the blockage of one road lane.

Plate 38 - Anderson Road, Sau Mau Ping (Incident ME 5/1)



Negative No. ME9225410
Taken on : 19-6-92

Description :
Failure of a soil cut slope affecting a
building lot.

Plate 39 -
42 Tui Hoi Village, Sai Kung
(Incident ME 5/16)



Negative No. ME9218018 Taken on : 11-5-92
Description : Subsidence failure affecting a pedestrian pavement.

Plate 40 - Wong Chuk Yeung, Fo Tan, Shatin (Incident ME 5/22)

Negative No. ME921804
Taken on : 11-5-92

Description :
Washout failure affecting a building lot.

Plate 41 -
Huts 37A and 38A, Tai Lam Lin,
Shatin (Incident ME 5/31)



Negative No. ME9219421 Taken on : 13-5-92
Description : Failure of a soil cut slope affecting a private access.

Plate 42 - 20 Ngau Pai Sha Village, Shatin (Incident ME 5/32)

APPENDIX A

LIST OF INCIDENTS RESULTING FROM THE RAINSTORM
OF 8 MAY 1992 AND REPORTED TO THE GEO

APPENDIX A

LIST OF TABLES

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Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 1 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|----------|----------------|-------------------|--------------|---|--|---|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/1 | 12 Severn Rd., Mount Gough 11SW-D/C502 | 11/5 | ASD | 8/5 (12:00) | Soil cut slope | Minor (42) | Private access | | Rank 6855 |
| HK 5/2 | 64 MacDonnell Rd., the Peak | 9/5 | Resident | 8/5 (07:00) | Natural slope | Minor (2) | Building lot, pedestrian pavement, private access | One flat temporarily evacuated | Blockage of drains |
| HK 5/3 | 78–80 MacDonnell Rd., the Peak 11SW-B/C171 | 9/5 | BOO | 8/5 (08:00) | Soil cut slope | Minor (8) | Building lot | | Rank 2116, Stage 1, D—Notice pending Checked 6/1072/81 |
| HK 5/4 | Below 1 Repulse Bay Rd., Wong Nai Chung Gap 11SE-C/C18 | 8/5 | GEO | 8/5 (07:00) | Rock/boulder fall | Minor (2) | Road | 1/2 lane of road blocked | Rank 7151 |
| HK 5/5 | Above 9 May Rd., the Peak 11SW-D/CR328 | 8/5 | Public | 8/5 (am) | Soil cut slope | Minor (3.5) | Building lot | | Rank 987, Stage 1, NFA |
| HK 5/6 | 10 Po Shan Rd., Mid–Levels 11SW-A/C177 and 11SW-A/R675 | 8/5 | BOO | 8/5 (07:30) | Retaining wall | Minor (40) | Carparks, road | 2 lanes of road blocked | Rank 6724 (A/C177) Rank 5809 (A/R675) Rupture of water mains/drains |
| HK 5/7 | 12–20 Cloud View Rd., North Point | 8/5 | HyD/HK | 8/5 (am) | Washout | N/A | Road | 2 lanes of road blocked, Cloud View Rd. closed | Blockage of drains |
| HK 5/8 | Baguio Villas, Victoria Rd., Pokfulam | 8/5 | — | 8/5 (15:20) | Retaining wall | Major (3500) | Road, building lot | 2 dead, 5 injured, 2 lanes of road blocked, 7 blocks evacuated | |
| HK 5/9 | Yee King Rd., North Point 11SE-A/C212 | 8/5 | HyD/HK | 8/5 (am) | Rock/boulder fall | Minor (1) | Pedestrian pavement | | Rank 5643, Stage 1, NFA |

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Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 2 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|----------|-------------|---------------------------------|--------------|---------------------------|---|---|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/10 | 8 Severn Rd., Mount Gough 11SW-D/C503 | 11/5 | ASD | 8/5 (07:45) | Soil cut slope | Minor (16) | Car parks | | Rank 6281, Stage 2 pending |
| HK 5/11 | Wan Tsui Rd., Chai Wan 11SE-D/C41 | 8/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (25) | Pedestrian pavement | | Rank 8060 Blockage of drains |
| HK 5/12 | San Ha St., Chai Wan 11SE-D/C17 | 8/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (10) | Pedestrian pavement | | Rank 1321, Stage 2 pending |
| HK 5/13 | Tai Hang Rd., Jardine's Lookout 11SE-C/C56 | 8/5 | HyD/MWC | 8/5 (am) | Soil cut slope | Minor (2) | Road | 1 lane of road blocked | Rank 5704, Stage 1, NFA |
| HK 5/14 | Below 6A and 6B Shouson Hill Rd., Shouson Hill 11SW-D/CR155 | 8/5 | -- | 8/5 | Soil cut slope, fallen trees | Minor (4) | Road | 1 lane of road blocked | Rank 3413, Advisory Letter pending |
| HK 5/15 | 1 Chatham Path, the Peak 11SW-D/CR319 | 8/5 | Resident | 8/5 (15:30) | Retaining wall | Major (50) | Building lot, footpath | Part of 1 Chatham Path temporarily evacuated, Chatham Path closed | Rank 879, Stage 2, NFA |
| HK 5/16 | Below Ap Lei Chau West Village | 8/5 | BOO | 8/5 (am) | Natural slope | Minor (0.5) | Squatters | 1 hut temporarily evacuated | |
| HK 5/17 | Fung Wah Estate, Chai Wan | 8/5 | HD | 8/5 (am) | Soil cut slope | Unknown | Building lot | Flooding | Blockage of catchwater by landslip caused flooding |
| HK 5/18 | Siu Sai Wan PSPS site, Chai Wan 11SE-D/C183 | 8/5 | GEO | 7/5–8/5 | Soil/rock cut slope | Major (100) | Construction site | | Unranked, GEO checked |
| HK 5/19 | Tai Tam Rd., Tai Tam Gap 11SE-D/C139 | 8/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (10) | Road | 1 lane of road blocked | Rank 2733, Stage 1, NFA |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 3 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|--------|-------------|---------------------------------|--------------|------------------------------|--|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/20 | Shing Tai Rd., Heng Fa Chuen, Chai Wan | 8/5 | HyD/HK | 8/5 | Flooding/washout | Minor (0.5) | Road | Road flooded | Blockage of drains |
| HK 5/21 | Yee King Rd., North Point 11SE-A/C214 | 8/5 | HyD/HK | – | Soil/rock cut slope | Minor (10) | Pedestrian pavement | | Rank 6295 |
| HK 5/22 | Kennedy Rd., Wan Chai 11SW-B/C201 | 8/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope | Minor (5–10) | Road | 1 lane of road blocked | Rank 4004, Stage 1, NFA |
| HK 5/23 | Borrett Rd., Central 11SW-B/C195 | 10/5 | HyD/HK | 8/5 | Soil cut slope | – | Road | 1 lane of road blocked | Rank 4875, Stage 1, NFA |
| HK 5/24 | 1–3 Magazine Gap Rd., the Peak 11SW-B/C98 | 10/5 | HyD/HK | – | Soil/rock cut slope | – | Road | 1 lane of road blocked | Rank 6291 |
| HK 5/25 | 82 Pokfulam Rd., Kennedy Town 11SW-A/C139 | 8/5 | GEO | 8/5 (16:00) | Soil cut slope, fallen trees | Minor (3) | Road | 1 lane of road blocked | Rank 5540, Stage 1 pending |
| HK 5/26 | 92 Pokfulam Rd., Kennedy Town 11SW-A/C323 | 8/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (5–10) | Pedestrian pavement, road | Part of 1 lane of road blocked, pedestrian pavement blocked | Rank 4121, Stage 2 pending |
| HK 5/27 | Below St. Clare's Girls School, Pokfulam 11SW-C/C205 | 8/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (3–5) | Pedestrian pavement | | Rank 3996, Stage 1, NFA |
| HK 5/28 | 49 Mount Davis Rd., Pokfulam 11SW-C/C211 | 8/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (5–10) | Road | 1 lane of road blocked | Rank 6981, Stage 1, NFA |
| HK 5/29 | 64 Victoria Rd., Kennedy Town 11SW-A/C254 | 8/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope | Minor (2–3) | Pedestrian pavement | | Rank 3636, Private slope, Binnie Phase II study |
| HK 5/30 | 405 Victoria Rd., Pokfulam 11SW-A/C289 | 8/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope | Minor (1) | Pedestrian pavement | | Rank 6517 |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 4 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|----------|-------------------|-----------------------------------|---------------|---|--|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/31 | Sai Ning St. USD Depot, Kennedy Town | 8/5 | HyD/HK | 8/5 (pm) | Soil cut slope | Minor (2-3) | Building lot | | |
| HK 5/32 | 21 Magazine Gap Rd., Magazine Gap 11SW-D/C298 | 8/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (10-20) | Private access | | Rank 5330, Stage 1 pending |
| HK 5/33 | J/O Stubbs Rd. and Peak Rd., the Peak 11SW-D/C601 | 8/5 | HyD/HK | 8/5 (pm) | Soil cut slope | Minor (5-10) | Road | 1 lane of road blocked | Rank 3160, Stage 1, NFA |
| HK 5/34 | 14 Bowen Rd., Central 11SW-B/C213 | 8/5 | HyD/HK | 8/5 (pm) | Soil cut slope, fallen trees | Minor (2-3) | Road | Road blocked | Rank 5006, Stage 1, NFA Rupture of water mains/drains |
| HK 5/35 | Pokfulam Gardens, Pokfulam Rd. 11SW-C/CR124 | 8/5 | GEO | 8/5 (16:00) | Rock cut slope, fallen trees | Minor (5-10) | Pedestrian pavement, road | Pedestrian pavement blocked, 1 lane of road blocked | Rank 1770, Stage 2 pending |
| HK 5/36 | Behind 128 Pokfulam Rd., Pokfulam | 8/5 | Resident | 8/5 (07:00) | Soil cut slope | Minor (20-25) | Building lot | | |
| HK 5/37 | Shek Pai Wan Rd./Pokfulam Rd., Wah Fu 1SW-C/C128 | 8/5 | Police | 8/5 (07:00–08:00) | Soil/rock cut slope, fallen trees | Minor (40) | Road | Shek Pai Wan Rd. blocked | Rank 7134 Tree root action |
| HK 5/38 | Kennedy Rd., below Wah Yan College, Happy Valley | 8/5 | GEO | 8/5 (08:10) | Fill slope | Major (500) | Building lot, pedestrian pavement, road | 1 dead, 3 lanes of Kennedy Rd. blocked, Wan Chai Clinic and part of Wah Yan College closed | |
| HK 5/39 | 9 Middle Gap Rd., Wan Chai Gap 11SW-D/CR550 | 8/5 | Public | 8/5 (am) | Soil cut slope | Minor (45) | Private access | Access road blocked | Rank 7096 |
| HK 5/40 | 8 Big Wave Bay Rd., Tai Long Wan 15NE-B/C75 | 10/5 | HyD/HK | Unknown | Soil cut slope | Minor (12) | Pedestrian pavement, road | 1 lane of road blocked, pedestrian pavement closed | Rank 5070, Stage 1, NFA |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 5 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|-----------------|----------------|--------------------------------------|------------------|---------------------------------|------------------------------|--|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| HK 5/41 | Cape Collinson Rd., Chai Wan | 9/5 | HyD/HK | 8/5 (pm) | Fill slope | Major (120) | Road | 1 lane of road collapsed | Blockage of drains |
| HK 5/42 | Behind Kennedy Town Public Swimming Pool, Smithfield Rd. | 8/5 | ASD | 8/5 (06:40) | Retaining wall | Minor (40–50) | Building lot (swimming pool) | Part of swimming pool closed | |
| HK 5/43 | Marly Villa, Ocean Park Rd., Aberdeen | 8/5 | Public | 8/5 (am) | Soil/rock cut slope | Minor (10–15) | Private access | | |
| HK 5/44 | 40 Magazine Gap Rd., Magazine Gap 11SW-D/C526 | 8/5 | HyD/HK | 8/5 (24:00) | Soil cut slope, fallen trees | Major (50) | Road | 1 lane of road blocked | Rank 3046, Stage 1, NFA |
| HK 5/45 | Below A1, Cloubridge Apartment, 30 Plunkett's Rd., the Peak | — | — | 8/5 | Soil cut slope | Minor (10) | Open space | Private garden closed | |
| HK 5/46 | 888 Pokfulam Rd., Kennedy Town 11SW-A/C322 | 8/5 | Resident | 8/5 (am) | Soil cut slope | Minor (20) | Building lot, carparks | | Rank 1963, Stage 1, Advisory Letter issued, no work done |
| HK 5/47 | 27 Mount Kellett Rd., Mount Kellett 11SW-C/C262 | 8/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope, fallen trees | Minor (3–5) | Private access | | Rank 5511 |
| HK 5/48 | 15–38 Mount Kellett Rd., Mount Kellett 11SW-C/C258 | 8/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope | Minor (20–25) | Road | 2 lanes of road blocked | Rank 4604, Stage 1, NFA |
| HK 5/49 | 23 Barker Rd., the Peak 11SW-D/C453 | 10/5 | HyD/HK | 8/5 | Soil cut slope | Major (50) | Road | 1 lane of road blocked | Rank 5512, Stage 1 |
| HK 5/50 | Below 156 Tai Hang Rd., So Kon Po | 8/5 | Manage- ment | 8/5 (10:00) | Fill slope | Major (100) | Building lot | Foundation column exposed | |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 6 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|----------|-------------------|------------------------------|---------------|--------------------------------|--|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/51 | Behind 1 May Rd., the Peak | 8/5 | Resident | 8/5 (12:00–15:30) | Rock/boulder fall, flooding | Minor (10) | Footpath | Chatham Path flooded | Culvert blocked by boulders |
| HK 5/52 | Behind 1 May Rd., the Peak 11SW-D/CR318 | 8/5 | Resident | 8/5 (am) | Soil cut slope | Minor (10–20) | Footpath | Damage to parapet of Chatham Path | Rank 4327, Stage 1 pending checked 6/2120/87 |
| HK 5/53 | J/O Aberdeen Reservoir Rd. and Yue Kwong Rd., Aberdeen 11SW-D/C60 | 9/5 | HyD/HK | 8/5 (12:15) | Soil cut slope, fallen trees | Minor (3–5) | Pedestrian pavement, road | 1 lane of road blocked, pedestrian pavement closed | Rank 5487, Stage 1 pending Blockage of drains |
| HK 5/54 | 60–62 Kai Yuen St., North Point 11SE-A/C98 | 9/5 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (40) | Back lane | | Rank 462, Stage 1, works to start In 7/92 |
| HK 5/55 | Tai Hang Rd., Jardine's Lookout 11SE-C/C60 | 9/5 | HyD/MWC | 8/5 (16:00) | Soil/rock cut slope | Minor (4) | Road | 2 lanes of road blocked | Rank 2942, Stage 1, NFA |
| HK 5/56 | Kennedy Town Public Swimming Pool Smithfield Rd. 11SW-A/C370 | 9/5 | ASD | 8/5 (15:00) | Rock cut slope, | Minor (1) | Open space | | Unranked |
| HK 5/57 | Victoria Rd., Pokfulam, between Beguio Villas and Victoria Kennels | 10/5 | – | – | Fill slope | Minor (8) | Pedestrian pavement, road | 1 lane of road blocked | |
| HK 5/58 | Bowen Drive, Central 11SW-B/FR58 | 10/5 | HyD/HK | Unknown | Fill slope | Minor (3) | Road | 1 lane of road blocked | Unranked |
| HK 5/59 | Opposite Tanner Hill Police Quarters, North Point 11SE-A/C229 | 8/5 | HD | 8/5 (15:00) | Soil/rock cut slope | Major (100) | Building lot (police quarters) | Part of 1 building temporarily evacuated | Rank 69, Stage 1, works under design for 92/93 |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 7 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|---------|----------------|---------------------|-----------------|-----------------------------------|--------------------------|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/60 | Above 8 and 12 Seaview Rd., Mount Gough | 11/5 | ASD | Unknown | Unknown | Unknown | Road | 1/2 lane of road blocked | |
| HK 5/61 | 48 Kennedy Rd., Central 11SW-B/C220 | 9/5 | BOO | Unknown | Washout | Minor (1) | Building lot | | Rank 318, D – Notice pending Checked DH75/77/HK |
| HK 5/62 | Access road, Chai Wan Au, Shau Kei Wan | 11/5 | DLO/HKE | 8/5 | Soil/rock cut slope | Minor (1–3) | Country Park | | 3 minor failures |
| HK 5/63 | 88 Pokfulam Rd., Kennedy Town | 8/5 | Public | 8/5 (am) | Soil cut slope | Minor (3–5) | Building lot, pedestrian pavement | | |
| HK 5/64 | Opposite 152 Tai Hang Rd., So Kon Po 11SE-C/C61 | 10/5 | HyD/HK | Unknown | Soil cut slope | Minor (5) | Road | 1 lane of road blocked | Rank 3740, Stage 1, NFA |
| HK 5/65 | Same as 5/194 | | | | | | | | |
| HK 5/66 | Mount Nicholson Rd., Happy Valley 11SW-D/C395 | 9/5 | Police | 8/5 (15:30) | Rock/boulder fall | Minor (5) | Road | 1 lane of road blocked | Rank 4932, Stage 1, NFA |
| HK 5/67 | 3 Middle Gap Rd., Wan Chai Gap 11SW-D/C545 | 9/5 | HyD/HK | 8/5 (14:00) | Rock/boulder fall | Minor (40) | Building lot, road | 1 lane of road blocked | Rank 4387, Stage 1, NFA |
| HK 5/68 | Opposite 2 Middle Gap Rd., Wan Chai Gap 11SW-D/CR543 | 9/5 | HyD/HK | 9/5 (am) | Soil cut slope | Minor (3) | Road | 1 lane of road blocked | Rank 5631, Stage 1 pending |
| HK 5/69 | Opposite 4 Middle Gap Rd., Wan Chai Gap | 9/5 | HyD/HK | 9/5 (am) | Soil cut slope | Minor (2) | Road | 1 lane of road blocked | |
| HK 5/70 | Below 5 Coombe Rd., Magazine Gap 11SW-D/F107 | 9/5 | HyD/HK | 8/5 (23:35) | Retaining wall | Major (55) | Road | 2 lanes of road closed | Unranked |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 8 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|------------|---------------------|-----------------------------|--------------|---------------------------|------------------------------|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/71 | 56 Mount Davis Rd., Pokfulam 11SW-C/CR203 | 9/5 | Management | 8/5-9/5 | Soil/rock cut slope | Minor (2-3) | Private access, carpark | | Rank 1375, Stage 2 pending |
| HK 5/72 | 62 and 62A Kong Sin Wan Tsuen, Telegraph Bay | 10/5 | HyD/HK | Unknown | Retaining wall | Minor (4) | Squatters | 2 huts temporarily evacuated | |
| HK 5/73 | Opposite 60 Victoria Rd., Kennedy Town 11SW-A/C254 | 10/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope | Minor (1) | Pedestrian pavement | 1 lane of road closed | Rank 3636, Private slope, Blinie Phase IId study |
| HK 5/74 | 51 Barker Rd., the Peak | 10/5 | HyD/HK | Unknown | Fill slope | Minor (5) | Road | | Checked 2052/57 |
| HK 5/75 | Lower Albert Rd., Central 11SW-B/C15 | 9/5 | HyD/HK | 9/5 (am) | Soil cut slope | Minor (10) | Pedestrian pavement, road | 1/2 lane of road blocked | Rank 7025 Blockage of drains |
| HK 5/76 | 94 Pokfulam Rd., Pokfulam | 10/5 | Police | Unknown | Fallen trees | N/A | Pedestrian pavement | | No geotechnical concern Checked 6/2039/28 |
| HK 5/77 | Above North Point Methodist Church, Tin Hau Temple Rd. 11SE-A/N14 & CR259 | 10/5 | HyD/HK | Unknown | Natural slope | Minor (2) | Open space | | Rank 473 Checked GC13/1/216 |
| HK 5/78 | Opposite 16 Severn Rd., Mount Gough | 12/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope | Minor (1-3) | Open space | | |
| HK 5/79 | Old Peak Rd., the Peak | 11/5 | HyD/HK | 8/5 (am) | Natural slope, fallen trees | Minor (2-3) | Pedestrian pavement | | |
| HK 5/80 | Behind Mobil Marine Patrol Station, Ap Lei Chau | 11/5 | BOD/DB | 8/5 (07:00 & 15:30) | Soil/rock cut slope | Minor (3) | Squatters | 2 huts permanently evacuated | |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 9 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|----------|-------------|------------------------------|--------------|--------------------------|---------------|---|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/81 | 10 Stanley Market Road, Stanley | 9/5 | BOO | 8/5 | Flooding | N/A | Building lot | | No geotechnical concern |
| HK 5/82 | 20 Leighton Rd., Causeway Bay 11SW-B/C267 | 8/5 | – | 8/5 (am) | Soil cut slope, fallen trees | Minor (10) | Building lot | | Rank 759, deleted from LPM programme due to development |
| HK 5/83 | Behind Sir Ellis Kadoorie School, Eastern Hospital Rd., Tai Hang | 11/5 | ASD | 8/5 (am) | Washout | Minor (0.5) | Private access | | |
| HK 5/84 | Opposite 20 Broadwood Rd., Happy Valley | 11/5 | HyD/MWC | 8/5 | Fill slope | Minor (10) | Building lot, open space | | |
| HK 5/85 | Hong Kong Park 11SW-B/C153 | 11/5 | ASD | 9/5 | Soil cut slope | Minor (<1) | Pedestrian pavement | Broken chunam | Rank 7745 |
| HK 5/86 | 41 Island Rd., Deepwater Bay | 12/5 | Resident | 8/5 (13:30) | Natural slope | Minor (0.6) | Open space | | |
| HK 5/87 | Below 43–45 Repulse Bay Rd., Deepwater Bay, 15NE–A/C20 | 12/5 | HyD/HK | Unknown | "Landslide" | Minor (-) | Road | | Rank 2426, Stage 1, NFA |
| HK 5/88 | Opposite 11 Guildford Rd., Mount Gough 11SW-D/C287 | 12/5 | Resident | 8/5 (am) | Soil cut slope | Minor (1–2) | Pedestrian pavement | | Rank 7733 |
| HK 5/89 | 61 Mount Kellett Rd., Mount Kellett 11SW-C/CR246 | 10/5 | HyD/HK | Unknown | Soil cut slope | Minor (1) | Open space | | Rank 2899 |
| HK 5/90 | 4 Chancery Lane, Central 11SW-B/R176 | 12/5 | BOO/DB | 8/5 (am) | Retaining wall | Nil | Building lot | | No failure—water seepage only. Rupture of water mains/drains. Checked 6/2047/86 |
| HK 5/91 | Above catchwater near Chai Wan Chinese Permanent Cemetery | 12/5 | Public | Unknown | Soil/rock cut slope | Unknown | Catchwater | | Debris deposited on catchwater |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 10 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|----------------|----------------|---------------------------------|----------------|----------------|------------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| HK 5/92 | Tsat Tsz Mui Rd., North Point | 12/5 | HyD/HK | Unknown | Soil/rock cut slope | Minor (40) | Open space | | |
| HK 5/93 | 12 Sandy Bay Rd., Pokfulam 11SW-C/C188 | 12/5 | Management | 8/5 | Soil/rock cut slope | Minor (1–2) | Private access | | Rank 8411 |
| HK 5/94 | Guildford Rd. Park, Mount Gough | 12/5 | ASD | 11/5 | Soil cut slope | Minor (4) | Open space | U-channel blocked | |
| HK 5/95 | 43 Repulse Bay Rd., Deepwater Bay 15NE-A/C20 | 12/5 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (5) | Road | 1 lane of road blocked | Rank 2426, Stage 1, NFA |
| HK 5/96 | Behind Block 11, Chi Fu Fa Yuen, Pokfulam | 12/5 | BOO | 8/5 | Soil cut slope | Minor (1) | Open space | | |
| HK 5/97 | 83–84 Pokfulam Village | 9/5 | DO/HKS (am) | 8/5 | Soil cut slope | Minor (40–45) | Squatters | 6 huts permanently evacuated | |
| HK 5/98 | Hut no.1977, Pokfulam Village | 9/5 | DO/HKS (am) | 8/5 | Retaining wall | Minor (30–40) | Squatters | 9 huts permanently evacuated | |
| HK 5/99 | Hut no.266, Pokfulam Village | 9/5 | DO/HKS (am) | 8/5 | Rock/boulder fall | Minor (4) | Squatters | 1 hut permanently evacuated | |
| HK 5/100 | 183 Pokfulam Village | 9/5 | DO/HKS (am) | 8/5 | Natural slope flooding | Minor (4) | Squatters | 9 huts permanently evacuated | Blockage of stream course |
| HK 5/101 | 601 Baguio Village Squatter Area, Pokfulam | 9/5 | DO/HKS (am) | 8/5 | Rock/boulder fall | Minor (2) | Squatters | 1 hut permanently evacuated | |
| HK 5/102 | Confucius Hall Middle School, Caroline Hill Rd., Happy Valley | 11/5 | Management | 8/5 (pm) | Soil cut slope, fallen trees | Minor (5) | Building lot | | |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 11 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|--------|------------------------|---------------------|---------------|---------------------------|--|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m.) | | | |
| HK 5/103 | 8 Happy View Terrace, Happy Valley 11SW-B/FR86 | 12/5 | Public | 9/5 | Washout | Minor (3) | Building lot | | Unranked Checked GCI3/4/1042/84 |
| HK 5/104 | Eastern Treatment Works, Tai Hang Rd., Jardine's Lookout 11SW-D/CR380 | 11/5 | WSD | 8/5 (09:30 & 14:30) | Soil cut slope | Major (120) | Open space, building lot | | Rank 6086, Stage 1 pending Blockage of drains |
| HK 5/105 | Opposite 5 Shouson Hill Rd., Shouson Hill 11SW-D/C154 | 10/5 | HyD/HK | Unknown | Soil/rock cut slope | Minor (10) | Pedestrian pavement, road | 1 lane of road blocked, pedestrian pavement closed | Rank 7449 Checked 3020/88 |
| HK 5/106 | Hut no. 1462, Nga Chol Hang Village, Cloudbview Rd., North Point | 13/5 | DO/E | 8/5 | Soil cut slope | Minor (0.5) | Squatters | | |
| HK 5/107 | Cape Collinson Rd., Chai Wan 11SE-D/C88 | 8/5 | HyD/HK | 8/5 | Rock/boulder fall | Minor (1) | Road | 1 lane of road blocked | Rank 7176 |
| HK 5/108 | Cape Collinson Rd., Chai Wan 11SE-D/C89 | 11/5 | HyD/HK | Unknown | Soil cut slope | Minor (0.5) | Road | Private car damaged | Rank 4261, Stage 1, NFA |
| HK 5/109 | Cape Collinson Rd., Chai Wan 11SE-D/CR121 | 11/5 | HyD/HK | Unknown | Soil cut slope | Minor (2) | Road | 1/2 lane of road blocked | Rank 5003, Stage 1, NFA |
| HK 5/110 | Above Sai Wan Estate, Kennedy Town 11SW-A/CR8 | 13/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope | Minor (1-2) | Building lot | | Rank 2, LPM works completed |
| HK 5/111 | Opposite Hong Kong CCCU, Pokfulam Rd. Cemetery 11SW-A/C332 | 11/5 | HyD/HK | 8/5 | Soil cut slope | Minor (4-5) | Pedestrian pavement | | Rank 2227, Stage 1, NFA |
| HK 5/112 | 138 Pokfulam Rd., Pokfulam 11SW-C/C95 | 11/5 | HyD/HK | 8/5 | Soil cut slope | Minor (3) | Pedestrian pavement | | Rank 4037, Stage 1, NFA |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 12 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|--------|----------------|---------------------|------------------|---------------------------|------------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/113 | Aberdeen Reservoir Rd., opposite lamp post 21724 11SW-D/C63 | 11/5 | HyD/HK | 8/5 | Soil cut slope | Minor (20) | Pedestrian pavement | | Rank 6303 |
| HK 5/114 | Victoria Kennels, Victoria Rd., Pokfulam 11SW-C/C135 | 11/5 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (10-15) | Pedestrian pavement | | Rank 6837 |
| HK 5/115 | Victoria Rd., Pokfulam, opposite lamp post 10879 11SW-C/C135 | 11/5 | HyD/HK | 8/5 | Rock cut slope | Minor (7-10) | Pedestrian pavement | | Rank 6837 |
| HK 5/116 | Victoria Rd., Pokfulam, opposite lamp post 10878 11SW-C/C136 | 11/5 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (40) | Pedestrian pavement, road | 1/2 lane of road blocked | Rank 5448, Stage 1 pending |
| HK 5/117 | Victoria Rd., Pokfulam, opposite lamp post 10876 11SW-C/CR137 | 11/5 | HyD/HK | 8/5 | Rock cut slope | Minor (3-5) | Pedestrian pavement | | Rank 6438 |
| HK 5/118 | J/O Wah Yan College access road and Queen's Rd. East, Wan Chai 11SW-B/C26 | 12/5 | ASD | 8/5 (am) | Rock/boulder fall | Minor (5) | Private access | | Rank 8206 |
| HK 5/119 | 95 Ap Lei Chau Main St., Ap Lei Chau 15NW-B/C28 | 9/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (10-20) | Building lot | | Rank 1289, LPM works completed |
| HK 5/120 | 28 to 30 Po Shan Rd., Mid-Levels | 9/5 | BOO | 9/5 | Soil cut slope | Minor (10) | Road | 2 lanes of road blocked | |
| HK 5/121 | Kong Sin Wan Tsuen, Telegraph Bay | 13/5 | HD | Unknown | Fill slope | Minor (5-8) | Squatters | 6 huts permanently evacuated | |

Table A1 -- List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 13 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|--------|-------------|-------------------|--------------|---------------|------------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/122 | Shui Choi Tin Village, Wah Fu | 13/5 | HD | Unknown | Soil cut slope | Minor (0.5) | Squatters | 6 huts permanently evacuated | |
| HK 5/123 | Shui Choi Tin Village, Wah Fu | 13/5 | HD | Unknown | Soil cut slope | Minor (2) | Squatters | 4 huts permanently evacuated | |
| HK 5/124 | Shui Choi Tin Village, Wah Fu | 13/5 | HD | Unknown | Soil cut slope | Minor (1-2) | Squatters | 1 hut permanently evacuated | |
| HK 5/125 | Pokfulam Village | 13/5 | HD | Unknown | Flooding | — | Squatters | 1 hut permanently evacuated | No geotechnical concern |
| HK 5/126 | Pokfulam Village | 13/5 | HD | Unknown | Retaining wall | Minor (3) | Squatters | 1 hut permanently evacuated | |
| HK 5/127 | Pokfulam Village | 13/5 | HD | Unknown | Flooding | N/A | Squatters | 1 hut permanently evacuated | No geotechnical concern |
| HK 5/128 | Pokfulam Village | 13/5 | HD | Unknown | Fill slope | Minor (1) | Squatters | 1 hut permanently evacuated | |
| HK 5/129 | Pokfulam Village | 13/5 | HD | Unknown | Rock/boulder fall | Minor (1) | Squatters | 1 hut permanently evacuated | |
| HK 5/130 | Pokfulam Village | 13/5 | HD | Unknown | Retaining wall | Minor (3) | Squatters | 1 hut permanently evacuated | |
| HK 5/131 | Aberdeen Marina Club, Aberdeen 15NE-B/F14 | 11/5 | Public | 8/5 (am) | Fill slope | Minor (1-2) | Building lot | | Unranked |
| HK 5/132 | Queen's Rd., Central 11SW-B/R710 | 11/5 | ASD | 10/5 | Retaining wall | Minor (10) | Open space | | Rank 6965 |
| HK 5/133 | Aviary, Hong Kong Park | 11/5 | ASD | 11/5 | Fill slope | Minor (5) | Building lot | | |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 14 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|------------|---------------------------|--------------------------------------|--------------------------|---|--|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/134 | Evelyn Tower, Cloudview Rd., North Point 11SE-A/F17 | 14/5 | HyD/HK | Unknown | Fill slope, flooding | – | Pedestrian pavement | | Unranked Blockage of drains |
| HK 5/135 | 95–97 Tin Hau Temple Rd., North Point 11SE-A/C222 | 12/5 | Resident | Unknown | Soil cut slope | Minor (1) | Private access | | Rank 6529 |
| HK 5/136 | 30 Plunkett's Rd., the Peak 11SW-C/C224 | 11/5 | ASD | 8/5 (am) | Soil/rock cut slope | Minor (6) | Construction site | | Rank 5805, Stage 1 pending |
| HK 5/137 | Access road to Grantham Hospital, Wong Chuk Hang 11SW-D/C96 | 14/5 | Public | 8/5 | Soil cut slope | Minor (4) | Pedestrian pavement | | Rank 4506, Stage 2 pending |
| HK 5/138 | Peel Rise, Aberdeen | 14/5 | HyD/HK | 8/5 | Soil cut slope | Minor (2–3) | Road | Road blocked | |
| HK 5/139 | Island Rd. Govt. Primary School, Tsung Man St., Aberdeen 11SW-D/CR52 | 13/5 | ASD | 8/5 (08:00 & 15:00) | Soil cut slope and rockfill slope | Minor (30 & 25–30) | Building lot | Part of playground closed, part of building evacuated | Rank 755, LPM works complete |
| HK 5/140 | Chung Hom Kok Beach 15NE-C/FR19 | 11/5 | USD | 8/5 | Fill slope | Major (150) | Pedestrian pavement, beach, playground | Pedestrian pavement closed | Unranked Rupture and blockage of surface drains |
| HK 5/141 | 6 Stanley Village Rd., Stanley 15NE-A/F41 | 12/5 | Public | Unknown | Fill slope | N/A | Road | 1 lane of road closed | Bulging of stone pitching. LPM works in progress, GEO checked GC12/E2/1991(2) |
| HK 5/142 | 80 Repulse Bay Rd., Deepwater Bay 15NE-A/CR79 | 15/5 | Management | 8/5 (12:00) | Washout | Minor (0.3) | Nil | | Rank 4359, Stage 1, NFA Checked 3074/81 |
| HK 5/143 | Hong Kong Cemetery, Wong Nai Chung Rd. | 14/5 | ASD | 8/5–9/5 | Soil cut slope, washout | Minor (4) | Open space | | 18 minor incidents reported within the cemetery |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 15 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|------------|-------------|------------------------------|--------------|---------------------|------------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/144 | Mount Parker Rd., Quarry Bay | 12/5 | Public | 8/5 | Natural slope | Minor (1) | Country Park | | |
| HK 5/148 | Behind Caltex petrol station, South Bay Rd., Repulse Bay | 15/5 | Management | 8/5 | Natural slope | Minor (2.5) | Building lot | | |
| HK 5/149 | San Wai Village, Wong Chuk Hang | 16/5 | DO/S | 8/5 (am) | Soil/rock cut slope, washout | Minor (0) | Squatters | | No geotechnical concern |
| HK 5/150 | 177 Pokfulam Village | 15/5 | HD | 8/5 | Subsidence | – | Squatters | 1 hut permanently evacuated | Blockage of drains |
| HK 5/151 | 36,5–7 Pokfulam Village | 15/5 | HD | 8/5 | Soil cut slope | Minor (2) | Squatters | 5 huts permanently evacuated | |
| HK 5/152 | Ocean Park Rd., Wong Chuk Hang | 14/5 | GEO | 8/5 (am) | Soil/rock cut slope | Minor (2–5) | Pedestrian pavement | | |
| HK 5/153 | 38 Magazine Gap Rd., Magazine Gap | 13/5 | Management | 12/5 | Fill slope | Minor (8) | Building lot | | Rupture of surface drain |
| HK 5/154 | Bowen Drive, Central 11SW-B/CR210 | 15/5 | HyD/HK | 10–15/5 | Soil cut slope, fallen trees | Minor (4) | Road | | Rank 7671 |
| HK 5/155 | Pokfulam Village | 14/5 | Resident | 13/5 | Flooding, washout | Minor (1) | Squatters | | |
| HK 5/156 | 26–30 Smithfield Rd., Kennedy Town | 14/5 | Public | 8/5 | Soil/rock cut slope | Major (100) | Open space | | Blockage of drains |
| HK 5/157 | 73 Repulse Bay Rd., Deepwater Bay 15NE-A/C38 | 18/5 | HyD/HK | 8/5 (am) | Soil/rock cut slope | Minor (1.6) | Private access | | Rank 2144, Stage 1, NFA |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 16 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|--------|-------------|---------------------|----------------|---------------------|------------------------------|---|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/158 | Catchwater at Tsiu Shui Wan Au, above South Bay Close | – | – | – | Washout | – | Catchwater | Catchwater partially blocked | |
| HK 5/159 | Shek O Rd., Tai Tam Gap 11SE-D/C114 | 8/5 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (3) | Road | | Rank 5600, Stage 1 pending |
| HK 5/160 | Shek O Rd. near catchplt SO 37 | 13/5 | HyD/HK | 12/5 | Natural slope | Minor (15) | Road | | |
| HK 5/161 | 133 Tai Hang Rd., So Kon Po | 18/5 | CED | 8/5 | Subsidence, washout | Minor (1) | Building lot | | Blockage of drains Checked GCI3/4/3044/86 |
| HK 5/162 | Victoria Rd. Centre, Victoria Rd., Mount Davis | 18/5 | ASD | 8/5 (am) | Broken chunam | Minor (1 sq.m) | Pedestrian pavement | | |
| HK 5/163 | Victoria Rd. Centre, Victoria Rd., Mount Davis | 18/5 | ASD | 8/5 | Fill slope | Minor (45) | Pedestrian pavement | | |
| HK 5/164 | Opposite 8 Severn Rd., Mount Gough | 19/5 | HyD/HK | 8/5 (am) | Natural slope | Minor (1–2) | Pedestrian pavement | | |
| HK 5/165 | Gough Hill Rd., Mount Gough | 19/5 | HyD/HK | 8/5 (am) | Natural slope | Minor (2–3) | Pedestrian pavement | | |
| HK 5/166 | Opposite South Island School, Nam Fung Rd., Shouson Hill 11SW-D/C114 | 19/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (30) | Pedestrian pavement | Pedestrian pavement closed | Rank 4469, Stage 1, NFA Blockage of drains |
| HK 5/167 | Same as 5/183 | | | | | | | | |
| HK 5/168 | Quarry Bay St., Quarry Bay 11SE-A/C178 | 8/5 | Public | 8/5 | Soil cut slope | Minor (2) | Pedestrian pavement | | Rank 5014 |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 17 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|--------|----------------|---------------------|-----------------|---------------------|-------------|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/169 | Mount Parker Rd., near catchpit MPK 20, Mount Butler | 12/5 | Public | 8/5 | Soil/rock cut slope | Minor (<1) | Country Park | | |
| HK 5/170 | Mount Parker Rd., near catchpit MPK 49, Quarry Bay 11SE-A/C249 | 12/5 | Public | 8/5 | Soil cut slope | Minor (8) | Country Park | | Rank 6619 |
| HK 5/171 | Mount Parker Rd., near catchpit MPK 50, Quarry Bay 11SE-A/C248 | 12/5 | Public | 8/5 | Soil cut slope | Minor (13) | Country Park | | Rank 7697 |
| HK 5/172 | Mount Parker Rd., between catchpit MPK 52 and MPK 53, Quarry Bay 11SE-A/C248 | 12/5 | Public | 8/5 | Soil cut slope | Minor (<1) | Country Park | | Rank 7697 |
| HK 5/173 | Mount Parker Rd., near catchpit MPK 59, Quarry Bay 11SE-A/C247 | 12/5 | Public | 8/5 | Soil cut slope | Minor (3) | Country Park | | Rank 6651 |
| HK 5/174 | Mount Parker Rd., near catchpit MPK 54, Quarry Bay 11SE-A/C245 | 12/5 | Public | 8/5 | Soil cut slope | Minor (4) | Country Park | | Rank 7349 |
| HK 5/176 | Below Block A, Kornhill, Quarry Bay | 14/5 | DO/E | Unknown | Washout | Minor (1) | Open space | | Blockage of drains Checked GCI3/4/7090/81 |
| HK 5/178 | Below Pul Chi Boy's Home, King's Rd., Quarry Bay 11SE-A/CR79 | 11/5 | HyD/HK | 8/5 | Washout | Minor (5) | Pedestrian pavement | | Rank 3866, LPM works completed 87 Blockage of drains, checked GCI2/B2/122 |
| HK 5/179 | 88 Hill Rd., Western | 19/5 | ASD | 8/5 (am) | Subsidence | Minor (3-4) | Open space | | |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 18 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|--------|----------------|------------------------------|-----------------|----------------|------------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/180 | Kennedy Town Police Quarters 11SW-A/C107 | 19/5 | ASD | 8/5 (am) | Soil cut slope | Minor (3-4) | Open space | Berm channel blocked | Rank 152, LPM works completed |
| HK 5/181 | WSD catchwater CH 1900 above Nam Fung Rd. | – | – | – | Washout | Minor | Open space | | |
| HK 5/182 | Yu To Sang Memorial School, Hospital Rd., Mid-Levels 11SW-A/CR21 | 19/5 | ASD | 8/5 | Soil cut slope | Minor (1) | Private access | | Rank 1584, Stage 1, NFA |
| HK 5/183 | 92 Pokfulam Rd., Mount Davis 11SW-A/C332 | 18/5 | HyD/HK | 8/5 (am) | Soil cut slope | Minor (3-5) | Open space | | Rank 2227, Stage 1, NFA |
| HK 5/184 | Near Shui Fa Terrace, Stubbs Rd., Happy Valley 11SW-D/CR439 | 8/5 | HyD/HK | 8/5 (19:45) | Soil cut slope, fallen trees | Minor (7) | Road | 1 lane of road blocked | Rank 4331, Stage 1, NFA |
| HK 5/185 | Elliot Treatment Works, 76 Pokfulam Rd., Western 11SW-A/C149 | 14/5 | WSD | 9/5 | Soil/rock cut slope | Minor (2.5) | Open space | | Rank 3427, Stage 1, NFA |
| HK 5/186 | Elliot Treatment Works, 78 Pokfulam Rd., Western 11SW-A/C148 | 14/5 | WSD | 9/5 (am) | Soil/rock cut slope | Minor (8) | Private access | | Rank 5945, Stage 1 pending |
| HK 5/187 | 36 Mount Davis Rd., Pokfulam 11SW-A/C316 | 21/5 | UC | 8/5 | Soil/rock cut slope | Minor (3-4) | Squatters | 5 huts permanently evacuated | Rank 2457, Stage 2 pending |
| HK 5/189 | 68A MacDonnell Rd., the Peak | 20/5 | Public | 8/5 (am) | Soil cut slope | Minor (0.2) | Carparks | | |
| HK 5/190 | Opposite 70 MacDonnell Rd., the Peak 11SW-B/C174 | 23/5 | Public | 8/5 (am) | Soil cut slope, washout | Minor (4.5) | Private access | | Rank 7726 Checked 2-3/2105/79/3SW |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 19 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|---------|-------------|-----------------------------|--------------|---------------------|-----------------------------|---|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 5/191 | Bowen Rd. near Bowen Drive , Central | 9/5 | HyD/HK | 9/5 | Soil cut slope | Minor (2) | Road | 1 lane of road blocked | |
| HK 5/192 | 60–62 Tin Wan St, Aberdeen 11SW-C/C15 | 20/5 | Public | 8/5 | Flooding, broken chunam | — | Building lot | | Rank 1286, Stage 1, NFA Checked 2–3/2105/79/3SW |
| HK 5/193 | Tai Hang Valley near Tiger Balm Gardens | 2/6 | Public | 8/5 | Rock/boulder fall | Minor (40) | Open space | | |
| HK 5/194 | 110 Kennedy Rd., Wanchai 11SW-D/CR407 | 11/5 | Public | 8/5 | Washout | Minor (1.5) | Pedestrian pavement | | Rank 3333, Stage 1 pending |
| HK 5/195 | Black's Link, Mount Cameron | 26/5 | HyD/HK | 8/5 | Soil cut slope | Minor (3) | Road | 1 lane of road blocked | |
| HK 5/197 | Upper Kai Lung Wan Village, Wah Fu | 26/5 | DO/HKS | 8/5 (am) | Rock/boulder fall, flooding | — | Squatters | 1 hut permanently evacuated | Debris cleared before inspection Blockage of stream course |
| HK 5/198 | Behind Blocks 13–14, Chi Fu Fa Yuen, Pokfulam | 26/5 | Public | 8/5 | Soil/rock cut slope | Minor (2) | Pedestrian pavement | Pedestrian pavement closed | |
| HK 5/199 | Behind Blocks 13–14, Chi Fu Fa Yuen, Pokfulam | 26/5 | Public | — | Rock cut slope | Minor (8) | Pedestrian pavement | Pedestrian pavement closed | |
| HK 5/201 | Marymount Secondary School, Blue Pool Rd., Jardine's Lookout | 27/5 | DLO/HKW | 8/5 | Fallen trees | N/A | Road | | No geotechnical concern |
| HK 5/202 | Pottinger North Catchwater, CH 1750, Chai Wan | 12/5 | DO/E | 8/5 | Soil cut slope | Minor (20) | Catchwater | Catchwater damaged | |
| HK 5/203 | 212 Victoria Rd., Pokfulam 11SW-C/C196 | 27/5 | HyD/HK | 8/5 | Soil cut slope | Minor (5) | Road | | Rank 2632, Stage 1, NFA |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 20 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|--------|-------------|-----------------------------------|-------------|---------------------|------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| HK 5/204 | Gulf Petrol Station, Victoria Rd., Kennedy Town 11SW-A/CR260 | 29/5 | GEO | 8/5 | Soil cut slope | Minor (4–5) | Building lot | | Rank 1101, Stage 2 underway |
| HK 5/205 | 23–25 Tai Hang Rd., So Kon Po 11SE-A/CR150 | 30/5 | CEO | 8/5 | Soil cut slope, washout | Minor (1) | Building lot | | Rank 1355, Stage 1, D—Notice pending |
| HK 6/1 | J/O Lyttelton Rd. and Babington Path, Mid-Levels | 2/6 | HyD/HK | 8/5 | Fallen trees | N/A | Road | 1 lane of road blocked | No geotechnical concern |
| HK 6/2 | Aberdeen S.W. Service Reservoir | 14/5 | WSD | 8/5 | Rock/boulder fall | Minor (4) | Footpath | | |
| HK 6/3 | 11B Bowen Rd., Central | 2/6 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (5) | Pedestrian pavement | | |
| HK 6/5 | Pokfulam Conduit, Chainage 335 | 14/5 | WSD | 8/5 | Rock/boulder fall | Minor (4) | Conduit | | |
| HK 6/6 | Pokfulam Conduit, Chainage 345 | 14/5 | WSD | 8/5 | Soil/rock cut slope | Minor (3) | Conduit | | |
| HK 6/7 | Pokfulam Conduit, Chainage 500 | 14/5 | WSD | 8/5 | Soil/rock cut slope | Minor (3) | Conduit | | |
| HK 6/8 | Pokfulam Conduit, Chainage 520 | 14/5 | WSD | 8/5 | Soil/rock cut slope | Minor (3) | Conduit | | |
| HK 6/9 | Pokfulam Conduit, Chainage 350 | 14/5 | WSD | 8/5 | Soil/rock cut slope | Minor (3) | Conduit | | |
| HK 6/10 | Pokfulam Conduit, Chainage 1425 11SW-C/C79 | 14/5 | WSD | 8/5 | Soil/rock cut slope, fallen trees | Minor (15) | Conduit | | Rank 2892, Stage 1, NFA |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 21 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|-------------|----------------|---------------------|-----------------|---------------------|--------------------------|---|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 6/11 | Kai Lung Wan Service Reservoir Access Rd., Wah Fu | 14/5 | WSD | 8/5 | Soil cut slope | Minor (-) | Road | | Chunam in poor condition, blockage of weepholes |
| HK 6/12 | Aberdeen S.W. Service Reservoir | 14/5 | WSD | 8/5 | Rock/boulder fall | Minor (4) | Footpath | | |
| HK 6/13 | Aberdeen S.W. Service Reservoir | 14/5 | WSD | 8/5 | Soil/rock cut slope | Minor (8) | Footpath | | Blockage of drains |
| HK 6/14 | 142 Poktulam Rd., Poktulam 11SW-C/C329 | 2/6 | Management | 8/5 | Soil cut slope | Minor (3) | Pedestrian pavement | | Rank 2720, Stage 1, NFA |
| HK 6/18 | Lamp post 11264, Homestead Rd., the Peak | 4/6 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (2) | Road | 1/2 lane of road blocked | |
| HK 6/19 | Lamp post 16724, Lugard Rd., the Peak | 4/6 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (2) | Road | 1/2 lane of road blocked | |
| HK 6/20 | Lamp post 16704, Lugard Rd., the Peak | 4/6 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (1) | Road | 1/2 lane of road blocked | |
| HK 6/21 | Lamp post 16699, Lugard Rd., the Peak | 4/6 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (2) | Road | 1/2 lane of road blocked | |
| HK 6/22 | Mount Parker Reservoir access road | 12/5 | County Park | 8/5 | Fill slope | Minor (20) | Road, County Park | | Blockage of drains |
| HK 6/23 | Zoological gardens | 3/6 | ASD | 8/5 | Soil/rock cut slope | Minor (5) | Open space | | |
| HK 6/24 | Rosaryhill School, Happy Valley | 9/6 | Public | 8/5 (10:00) | Retaining wall | Minor (15) | Building lot | | |

Table A1 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Hong Kong Island (Sheet 22 of 22)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|--------|-------------|---------------------|--------------|---------------------|--------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| HK 6/25 | Block G, 55 Island Rd., Repulse Bay 11NW-B/FR23 | 11/6 | HyD/HK | 8/5 (am) | Washout | Minor (0.5) | Open space | | LPM works 78/79 |
| HK 6/36 | Kennedy Rd., Central 11SW-B/C200 | 17/6 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (5) | Pedestrian pavement | | Rank 2855, Stage 1, NFA |
| HK 6/37 | Brewin Path, the Peak 11SW-B/C90 | 17/6 | HyD/HK | 8/5 | Soil cut slope | Minor (5) | Road | 1 lane of road blocked | Rank 6870 |
| HK 6/39 | Same as 6/21 | | | | | | | | |
| HK 6/42 | 6A Bowen Rd., Central | 27/5 | Public | 8/5 | Soil/rock cut slope | Minor (2) | Building lot | | |
| HK 6/44 | Catchpit 27, Victoria Rd., Pokfulam | 19/6 | HyD/HK | 8/5 | Soil/rock cut slope | Minor (3) | Road | 1/2 lane of road blocked | |
| HK 6/45 | 106–108 MacDonnell Rd., Central | 19/6 | Public | 8/5 | Washout | Minor (0.1) | Open space | | |
| HK 6/47 | Footpath at end of Justice Drive, Central 11SW-B/F69 | 8/6 | DSD | 8/5 | Washout | Minor (-) | Open space | | Unranked |

Table A2 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Kowloon (Sheet 1 of 2)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|------------|----------------|---------------------|--------------|---------------|--------------------------------------|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| K 5/1 | Choi Shek Lane, Ngau Tau Kok 11NE-A/C104 | 8/5 | Police | 8/5 (07:30) | Soil/rock cut slope | Minor (30) | Road | Access road to THA partially blocked | Rank 2494, Stage 1, NFA |
| K 5/2 | Behind Block D of Kai Tak Mansion, 55A Kwun Tong Road 11NE-A/C69 | 8/5 | Police | 8/5 | Soil/rock cut slope | Minor (1-2) | Carparks | | Rank 2205, Stage 1, D—Notice issued, no work done |
| K 5/3 | Ling Nam New Village(upper), Ko Chiu Road | 8/5 | Police | 8/5 (07:00) | Fill slope | Minor (3) | Squatters | 5 huts permanently evacuated | |
| K 5/4 | Hong Ning Road near Chun Wah Road, Kwun Tong 11NE-C/CR64 | 8/5 | HyD/K | 8/5 | Soil/rock cut slope | Minor (2) | Road | 1 lane of road blocked | |
| K 5/5 | Behind Ka Yin Mansion, 19 Ngau Tau Kok Rd. 11NE-C/CR5 | 8/5 | Police | 8/5 (15:30) | Soil/rock cut slope | Minor (2-3) | Open space | | Rank 2722, Stage 1, NFA |
| K 5/6 | Jat's Incline above Fung Shing Street | 8/5 | Police | 8/5 (am) | Fill slope, washout | Major (65) | Road | Road closed | Blockage of surface drain |
| K 5/7 | 56 Waterloo Road | 11/5 | Management | Unknown | Washout | Minor (2) | Building lot | | |
| K 5/8 | Buddhist College, 3 Ko Chiu Road | 8/5 | ASD | 8/5 (14:30) | Soil cut slope | Minor (2-3) | Open space | | Leakage of drains/manholes |
| K 5/9 | Cha Kwo Ling Village, Yau Tong 11NE-D/C18 | 11/5 | DO/KT | 8/5 (14:30) | Fallen trees | N/A | Squatters | 7 huts permanently evacuated | No geotechnical concern Rank 59, LPM works complete |
| K 5/10 | Behind OPD clinic, Kowloon Hospital, 92 Waterloo Road 11NW-D/C21 | 9/5 | ASD | 8/5 (16:30) | Soil cut slope | Minor (3-4) | Carparks | | Rank 576, checked by District |

Table A2 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Kowloon (Sheet 2 of 2)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|-----------------|----------------|---------------------|--------------|---------------------|------------------------------|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| K 5/11 | Access road to TST Marine Police HQ 11SW-B/F46 | 9/5 | Police | 8/5 (am) | Fill slope | – | Access road | | No failure, only signs of distress. Visual inspection by AOM. Growth of tree root. |
| K 5/12 | Lion Rock Park Nursery, Lung Cheung Road | 13/5 | ASD | 8/5 | Natural slope | Minor (45) | Open space | | |
| K 5/13 | 23 Homantin Hill Road, Police Quarters 11NW-D/C113 | – | ASD | 8/5 (am) | Soil cut slope | Minor (3) | Pedestrian pavement | | Rank 6829 |
| K 5/14 | Ling Nam New Village(Lower), off Cha Kwo Ling Rd. | 22/5 | DO/KT | 8/5 | Rock/boulder fall | Minor (1) | Squatters | 3 huts permanently evacuated | |
| K 5/15 | Margaret Trench Medical Centre, Lei Yue Mun Rd. | 23/5 | ASD | 8/5 | Soil cut slope | Minor (3) | Open space | | |
| K 5/16 | Nam Shan Mei Village, Diamond Hill | 26/5 | DO/WTS | 8/5 | Soil cut slope | Minor (1.5) | Squatters | 1 hut temporarily evacuated | |
| K 5/17 | Hiu Kwong Street, Kwun Tong | 18/5 | USD | 8/5 | Soil/rock cut slope | Minor (10) | Open space | | Blockage of drains |
| K 6/1 | 51 Kwun Tong Road, Kwun Tong 11NE-A/FR86 | 27/5 | ASD | 8/5 (13:00) | Rock/boulder fall | Minor (5) | Open space | | Unranked |
| K 6/2 | 54 Waterloo Rd., Yau Ma Tei 11NW-D/C120 | 9/6 | Manage- ment | Unknown | Erosion | Minor (2) | Building lot | | Rank 1961, Stage 2 pending Blockage of drains |
| K 6/4 | Leung Cheung Road Park, behind Waterloo Road Caltex Petrol Station | 16/6 | HyD/K | 8/5 | Soil cut slope | Minor (4) | Building lot | | |

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Table A3 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland East (Sheet 1 of 5)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|----------|----------------|---------------------|-----------------|--|--|--|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| ME 5/1 | Anderson Rd., Sau Mau Ping 11NE-D/C167 | 8/5 | Police | 8/5 (06:30) | Soil cut slope | Minor (25) | Road | Road blocked | Rank 4646, Stage 1, NFA. Blockage of drains |
| ME 5/2 | Clearwater Bay Rd, near Silver Cape Rd. 12NW-C/C34 | 8/5 | Police | 8/5 | Soil cut slope | Minor (20) | Road | 1 lane of road blocked | Rank 2275, Stage 1, NFA |
| ME 5/3 | Lot 794, Tseng Leng Shue, Sai Kung | 8/5 | Resident | 8/5 (07:00) | Soil cut slope | Minor (5) | Back lane | Back lane blocked | |
| ME 5/4 | Below Lutheran Primary School, Rennie's Mill Cottage Area, Tseung Kwan O | 8/5 | Police | 8/5 (07:00) | Retaining wall | Minor (20) | Building lot | | |
| ME 5/5 | Below 73, Area 2,Rennie's Mill Cottage Area, Tseung Kwan O | 8/5 | HD | 8/5 (07:00) | Soil cut slope | Minor (20) | Building lot | 2 cottage huts temporarily evacuated | |
| ME 5/6 | Behind House 23 Ling Yan Terrace, Tui Min Hoi | 8/5 | DO/SK | 8/5 | Soil cut slope | Minor (3) | Building lot | 1 flat evacuated | |
| ME 5/7 | 12 Po Lo Che Rd., Sai Kung | 8/5 | DO/SK | Unknown | Soil cut slope | Minor (10) | Pedestrian pavement, open space | Pedestrian pavement closed | Blockage of drains |
| ME 5/8 | Wing Long Rd., Ng Fe Tin , Sai Kung | 8/5 | DO/SK | Unknown | Retaining wall | Minor (4) | Pedestrian pavement, private access, carparks | | |
| ME 5/9 | Opposite Lot 131 in DD 238, Pan Long Wan, Sai Kung | 8/5 | DO/SK | 8/5 | Retaining wall | Minor (40) | Pedestrian pavement | 1 house evacuated, access road closed | Blockage of natural stream |
| ME 5/10 | 1 Pak Shek Toi, Pik Uo, Clearwater Bay Rd. | 8/5 | DO/SK | 8/5 | Soil/rock cut slope | Minor (2) | Open space | | |

Table A3 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland East (Sheet 2 of 5)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|--------|----------------------|----------------|-------------|--------------------------|------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| ME 5/11 | 64 Tseng Lan Shue, Clearwater Bay Rd. | 8/5 | DO/SK | 8/5 (15:00–16:00) | Soil cut slope | Minor (6) | Open space | | |
| ME 5/12 | Mau Tso Ngam, Tate's Cairn | 8/5 | DO/ST | 8/5 | Soil cut slope | Major (100) | Road | 1 lane of road blocked | |
| ME 5/13 | 154, Kam Shan, Tai Po | 8/5 | Public | 8/5 (06:00) | Retaining wall | Minor (1.5) | Pedestrian pavement | | Blockage of drains |
| ME 5/14 | Lot 236 in DD 258, Wong Chuk Wan, Sai Kung | 8/5 | DO/SK | 8/5 | Washout | Unknown | Open space | | Checked 6/9361/89 |
| ME 5/15 | 36 & 39, Tui Hoi Village, Tui Min Hoi, Sai Kung | 9/5 | DO/SK | 8/5 | Soil cut slope | Minor (3) | Building lot, open space | | |
| ME 5/16 | 42 Tui Hoi Village, Tui Min Hoi, Sai Kung | 9/5 | DO/SK | 8/5 | Soil cut slope | Minor (3) | Building lot, open space | | |
| ME 5/17 | 2 Ling Yan Terrace, Tui Min Hoi, Sai Kung | 11/5 | DO/SK | 8/5–9/5 | Soil cut slope | Minor (1–2) | Private access | | |
| ME 5/18 | Opposite Lot 299 in DD 213, Ngau Liu, Sai Kung | 11/5 | DO/SK | Unknown | Soil cut slope | Minor (1) | Private access | | |
| ME 5/19 | 34A Tin Ha Wang, Sai Kung | 8/5 | DO/SK | 8/5 (07:00) | Soil cut slope | Minor (20) | Back lane | Back lane blocked | |
| ME 5/20 | Behind Lot 1192–6 in DD 243, Mang Kung Uk Village, Sai Kung | 8/5 | Police | 8/5 (07:00) | Fill slope | Minor (10) | Construction site | | Checked 6/9256/88 |
| ME 5/21 | Wong Chuk Yeung Fo Tan, Shatin | 11/5 | DO/ST | 8/5 (09:00) | Soil cut slope | Minor (3) | Road | | |

Table A3 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland East (Sheet 3 of 5)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|----------|-------------------|----------------|-------------|---------------------|------------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| ME 5/22 | Wong Chuk Yeung Fo Tan, Shatin | 11/5 | DO/ST | 8/5 (09:00) | Subsidence | Minor (10) | Pedestrian pavement | | |
| ME 5/23 | Pik Shiu New Village, Sai Kung | 11/5 | DO/SK | 8/5 (18:00–20:00) | Soil cut slope | Minor (3) | Building lot | 3 flats evacuated | |
| ME 5/24 | Lot 190 in DD211, Ma Nam Wat, Sai Kung | 9/5 | DO/SK | 8/5 | Retaining wall | Minor (15) | Building lot | 1 house evacuated | |
| ME 5/25 | 35A Tin Ha Wang, Tin Wan Tsai, Sai Kung | 12/5 | Resident | 6/5 (07:00) | Soil cut slope | Minor (<50) | Back lane | Back lane blocked | |
| ME 5/26 | Sussex Lodge, Hang Hau, Clearwater Bay Rd. | 10/5 | Police | 8/5 (05:30) | Retaining wall | Unknown | Building lot | 2 flats evacuated | |
| ME 5/27 | Wo Mei, Sai Kung | 11/5 | DO/SK | 8/5–10/5 | Soil cut slope | Minor (34) | Private access | | |
| ME 5/28 | 94B Shek Kwun Lung Village, Tai Po | 9/5 | DO/TP | 8/5 | Soil cut slope | Minor (0.3) | Footpath | | |
| ME 5/29 | 30 & 31, Kam Shan Village, Tai Po | 12/5 | DO/TP | 8/5 | Natural slope | Minor (0.5) | Squatters | 1 hut temporarily evacuated | |
| ME 5/30 | Huts 191–193, Kam Shan Village, Tai Po | 12/5 | DO/TP | 8/5 | Retaining wall | Unknown | Squatters | 2 huts permanently evacuated | |
| ME 5/31 | Huts 37A & 38A, Tai Lam Lin Village, Shatin | 9/5 | Police | Unknown | Washout | Minor (5) | Building lot | | |
| ME 5/32 | 20 Ngau Pai Sha Village, Shatin | 13/5 | DO/ST | 8/5 | Soil cut slope | Minor (5) | Private access | | |

Table A3 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland East (Sheet 4 of 5)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|----------|----------------|----------------|-------------|----------------------------|-----------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| ME 5/33 | 38 To Fung Shan Rd., Yau Oi Tsuen, Shatin | 13/5 | DLS/ST | 8/5 | Fill slope | Minor (0.5) | Open space | | Blockage of drains |
| ME 5/34 | Mok Tse Che, Sai Kung | 12/5 | DO/SK | 8/5–10/5 | Soil cut slope | Minor (<50) | Road | | |
| ME 5/36 | House 33, Tseng Lan Shue, Sai Kung | 13/5 | DO/SK | 8/5 | Soil cut slope | Minor (2) | Open space | | |
| ME 5/37 | Lot 221, Tseng Lan Shue, Sai Kung | 13/5 | DO/SK | Unknown | Soil cut slope | Minor (-) | Open space | | |
| ME 5/38 | 4 & 5, Nam Wai, Sai Kung | 12/5 | DO/SK | 8/5 | Retaining wall | Minor (15) | Building lot | Parts of 2 houses evacuated | |
| ME 5/39 | Nam Wai, Sai Kung | 15/5 | DO/SK | 8/5 | Soil cut slope | Minor (10) | Building lot | | |
| ME 5/40 | 42 Ha Wo Che, adjacent to Sui Wo Rd., Shatin | 21/5 | HyD/NT | 8/5 | Washout | Minor (3) | Private access, open space | | |
| ME 5/41 | Lot 731, Tai Wan, Sai Kung | 19/5 | DLO/SK | Unknown | Soil cut slope | Minor (3) | Open space | | |
| ME 5/42 | Hung Fa Tsuen, Po Lo Che, Sai Kung | 20/5 | DO/SK | 8/5 | Soil cut slope | Minor (2) | Building lot | | |
| ME 5/43 | Ha Wo Che adjacent to Sui Wo Rd., Shatin | 21/5 | HyD/NT | 8/5 | Washout | Minor (3) | Private access, open space | | Blockage of drains |
| ME 5/44 | Yau Oi Tsuen, Tung Lo Wan Hill Rd., Shatin | 8/5 | Resident | 8/5 (06:00) | Soil cut slope | Minor (5) | Open space | | |

Table A3 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland East (Sheet 5 of 5)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|----------------|--|---------------|----------|----------------|----------------|-----------------|---------------|-------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| ME 5/45 | Silverstrand Beach, Sai Kung | 15/5 | Resident | 8/5 | Natural slope | Minor (45) | Open space | | |
| ME 5/46 | Silverstrand Beach access road, Sai Kung | 15/5 | Resident | 8/5 | Soil cut slope | Minor (2) | Road | | |
| ME 5/47 | Carpark, Silverstrand Beach Rd., Sai Kung | 8/5 | DO/SK | 8/5 | Natural slope | Minor (30) | Open space | | |
| ME 5/48 | House 65C, Teeng Lan Shue, Sai Kung | 26/5 | DO/SK | 8/5 | Soil cut slope | Minor (2) | Open space | | |
| ME 5/49 | Lung Ha Wan Rd., near access road to Monastery | 20/5 | DO/SK | 8/5 | – | – | – | | |
| ME Un-Numbered | 39 & 42, Tui Min Ho Village, Sai Kung | 8/5 | Police | 8/5 (15:00) | Soil cut slope | Minor (2 & 3) | Building lot | 2 failures | |
| ME 6/24 | Sam Long, Sai Kung | 18/6 | DO/SK | 8/5 | Soil cut slope | Minor (3) | Footpath | | |

Table A4 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland West (Sheet 1 of 7)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|--------|-------------|---------------------|--------------|---------------------------------|--|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| MW 5/1 | Same incident as MW5/58 | | | | | | | | |
| MW 5/2 | Hiking trail, Kan Cho Long, Lamma Island | 8/5 | DLO/IS | 8/5 (08:00) | Soil cut slope | Major (200) | Footpath | Footpath closed | |
| MW 5/3 | Tai Po Road near Carlton Hotel, Kowloon | 8/5 | HyD/K | 8/5 | Fill slope | Major (>50) | Pedestrian pavement, road | 1 lane of road closed | Checked 2/B2/43 |
| MW 5/4 | Same incident as MW5/58 | | | | | | | | |
| MW 5/5 | 24 Yung Shue Long New Village, Lamma Island | 8/5 | DLO/IS | 8/5 (08:00) | Soil cut slope | Minor (25) | Pedestrian pavement, open space | Pedestrian pavement and private garden closed | |
| MW 5/6 | 22–23 Hung Hing Ye, Lamma Island | 8/5 | DLO/IS | 8/5 (8:00) | Retaining wall | Minor (45) | Building lot, private access | Pedestrian pavement closed, 1 flat temporarily evacuated | |
| MW 5/7 | 6–7 Tai Shan Sai, Lamma Island | 8/5 | DLO/IS | 8/5 (8:00) | Soil cut slope | Minor (8) | Squatters | 2 huts temporarily evacuated | |
| MW 5/8 | Sha Tin Pass Road near Sap Yi Wat Village, Sha Tin | 8/5 | Public | 8/5 | Washout | Minor (-) | Road | | |
| MW 5/9 | 83–84 Tai Peng San Tsuen, Lamma Island | 8/5 | DLO/IS | 8/5 (8:00) | Soil/rock cut slope | Minor (30) | Building lot | | |
| MW 5/10 | South Lantau Road near MS 3/4, Mul Wo, Lantau Island 10SW-C/C20 | 8/5 | HyD/NT | 8/5 (12:00) | Soil cut slope | Minor (6) | Road, pedestrian pavement | Two lanes of road closed, pedestrian pavement closed | Rank 6826, Stage 1, NFA |
| MW 5/11 | South Lantau Road near MS 1, Mul Wo, Lantau Island 10SW-C/C22 | 8/5 | HyD/NT | 8/5 (12:00) | Rock cut slope | Minor (2) | Road, pedestrian pavement | 1 lane of road blocked | Rank 5492, Stage 1, NFA |

Table A4 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland West (Sheet 2 of 7)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|--------|-------------|---------------------|--------------|---------------------------|---|---|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| MW 5/12 | Tai O Rd., near MS 12 3/4 , Tai O, Lantau Island 9SW-D/C1 | 8/5 | HyD/NT | 8/5 (15:30) | Soil/rock cut slope | Minor (20) | Road, pedestrian pavement | Pedestrian pavement and 1 lane of road blocked | Rank 7220, Stage 1, NFA Blockage of drains |
| MW 5/13 | 12 Tai Shan Sai, Lamma Island | 8/5 | DLO/S | 8/5 (08:30) | Soil cut slope | Minor (1.5) | Building lot | | |
| MW 5/14 | J/O Cheung Wah St. & Shun Wing Rd., Sham Shui Po | 8/5 | HyD/K | 8/5 | Flooding | – | Open space | | No geotechnical concern |
| MW 5/15 | 6 Liu To Tsuen, Liu To Rd., Tsing Yi | 8/5 | FSD | Unknown | Soil cut slope | Minor (1) | Open space | | Blockage of drains |
| MW 5/16 | Kwai Fuk Rd., by Chun Shing Fly. Bldg., Kwai Chung 7SW-C/C281 | 8/5 | – | – | Soil cut slope | Minor (8) | Pedestrian pavement | | Rank 2705, Stage 1 underway Blockage of drains |
| MW 5/17 | Piper's Hill, Shatin 11NW-B/C5 | 11/5 | HyD/NT | 8/5 | Soil cut slope | Minor (10) | Road | | Rank 4383, Stage 1, NFA |
| MW 5/18 | Kau Wah Keng Tsuen, Kwai Chung | 9/5 | DLO/KT | 8/5 (15:00) | Washout | Minor (1) | Squatters | 2 huts permanently evacuated, 5 huts temporarily evacuated | |
| MW 5/19 | Kam Shan Village, Kwai Chung | 9/5 | HyD/NT | 9/5 | Subsidence, washout | – | Squatters | 4 huts permanently evacuated | |
| MW 5/20 | Hut 97, Kut Hing Back St.,Tai O, Lantau Island 9SW-D/CR8 | 12/5 | HyD/NT | 8/5 (07:00) | Washout | Minor (4) | Private access | | Rank 2586, LPM works pending |
| MW 5/22 | Sheung Yat Chuen, Kwai Chung | 8/5 | HyD/NT | 8/5 | Washout | Minor (–) | Open space | | |

Table A4 -- List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland West (Sheet 3 of 7)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|--------|----------------|---------------------|----------------|--|----------------------------|--|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| MW 5/23 | Buddhist Chi Hong Kindergarten, Che Kung Temple, Shatin | 11/5 | Public | 8/5 (am) | Broken chunam | Minor (-) | Private access | | |
| MW 5/24 | 77 Shatin Tau Village, Area 6, Shatin | 11/5 | Public | 8/5 | Washout | Minor (-) | Open space | | |
| MW 5/25 | Lot 8885, Tai Po Rd., Shatin | 11/5 | HyD/NT | 8/5 | Fill slope | Minor (30) | Open space | | Open surface channel collapsed |
| MW 5/26 | Warwick Hotel, Cheung Chau Sports Rd., Cheung Chau 14NW-D/C24 | 8/5 | BOO | 8/5 (17:30) | Soil cut slope | Minor (12) | Open space, pedestrian pavement | Pedestrian pavement closed | |
| MW 5/27 | 19 & 33, Lai Chi Yuen, Cheung Chau | 8/5 | BOO | 8/5 (12:00) | Retaining wall | Minor (1) | Pedestrian pavement, building lot, open space | Pedestrian pavement closed | |
| MW 5/28 | 1A Peak Rd., Cheung Chau | 8/5 | BOO | 8/5 (10:00) | Retaining wall | Minor (12) | Building lot, open space | | Rupture of water mains/drains |
| MW 5/29 | Footpath between Sok Ku Wan & Mo Tat, Lamma Island 15NW-C/C7 & 15NW-C/C8 | 11/5 | DLO/IS | 8/5 | Rock/boulder fall | Minor (<5) | Pedestrian pavement | | C7 Rank 4611, Stage 1, NFA C8 Rank 5577, Stage 1, NFA |
| MW 5/30 | 4 Po Wah Yuen, Yung Shue Wan, Lamma Island 14NE-B/C23 | 9/5 | – | Unknown | Soil/rock cut slope | Minor (4) | Building lot, back lane | | Rank 2691, Stage 1, NFA |
| MW 5/31 | 7 Tai Ling Village, Lamma Island | 10/5 | – | 8/5 (15:00) | Flooding, erosion | – | Country Park | | Blockage of drains |
| MW 5/32 | 89 Tai Peng San Tsuen, Lamma Island | 11/5 | DLO/IS | 8/5 (15:00) | Soil cut slope | Minor (12) | Building lot, open space | | |

Table A4 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland West (Sheet 4 of 7)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|--------|----------------|----------------------------------|-------------|------------------------------------|---|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| MW 5/33 | 11 Tai Peng San Tsuen, Lamma Island | 9/5 | DLO/IS | 8/5 | Soil cut slope | Minor (2.5) | Building lot | 1 house temporarily closed | |
| MW 5/34 | 32 Yung Shue Long Village, Lamma Island | 11/5 | – | Unknown | Erosion | Minor (<1) | Building lot | | |
| MW 5/35 | Rear of Sport Village, Kwu Tung, Ma Tso Lung, Sheung Shui | 9/5 | Public | – | – | – | – | | False alarm, no geotechnical concern |
| MW 5/36 | Lung Mun Rd., near Siu Lang Shui, Pillar Point, Tuen Mun 5SE--D/C2 | 12/5 | HyD/NT | 8/5–9/5 | Soil cut slope | Minor (4) | Pedestrian pavement | | Rank 2588, Stage 1, NFA |
| MW 5/37 | Hung Shing Ye, Lamma Island | 11/5 | DLO/IS | Unknown | Flooding, subsidence, washout | – | Pedestrian pavement, footbridge | Footbridge destroyed, pedestrian pavement subsided | |
| MW 5/38 | Temporary Housing Area, Cornwall St., Kowloon Tong | 11/5 | HyD/K | 11/5 | Natural slope | Minor (30) | Open space | | Rupture of drains |
| MW 5/39 | Tai Po Rd., near Esso petrol station, Cheung Sha Wan 11NW-B/C64 | 12/5 | HyD/K | – | Soil cut slope | – | Pedestrian pavement | | Rank 4372, Stage 1, NFA |
| MW 5/40 | 92B Pak Sha New Village, Cheung Chau | 9/5 | – | 8/5 | Soil cut slope | Minor (2) | Building lot, private access | Private access closed | |
| MW 5/41 | 12–15 Liu To Tsuen, Tsing Yi | 13/5 | – | 8/5 (pm) | Soil cut slope | Minor (30) | Permitted huts | 4 huts permanently evacuated | |
| MW 5/42 | 583 Kut Hing Back St., Tai O, Lantau Island | 8/5 | HyD/NT | 8/5 (07:00) | Soil cut slope | – | Squatters | 1 hut permanently evacuated | |

Table A4 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland West (Sheet 5 of 7)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|---|---------------|----------|----------------|---------------------|-------------|-----------------------|-------------------------------|--|
| | | Date | From | Date (Time) | Type | Scale (cum) | | | |
| MW 5/43 | 65 Kut Hing Back St., Tai O, Lantau Island 9SW-D/C7 | 12/5 | HyD/NT | 8/5 | Soil/rock cut slope | – | Pedestrian pavement | Pedestrian pavement closed | Rank 2475, Stage 2 pending |
| MW 5/44 | Same incident as MW5/20 | | | | | | | | |
| MW 5/45 | Sham Wat Rd.(80 mPD), Sham Wat, Lantau Island | 12/5 | HyD/NT | 8/5 | Soil cut slope | Minor (–) | Road | Road partly blocked | |
| MW 5/46 | Sham Wat Rd.(240 mPD), Sham Wat, Lantau Island | 12/5 | HyD/NT | 8/5 | Soil cut slope | Minor (–) | Road | Road partly blocked | |
| MW 5/47 | Sham Wat Rd.(140 mPD), Sham Wat, Lantau Island | 12/5 | HyD/NT | 8/5 | Soil cut slope | Minor (–) | Road | Road partly blocked | |
| MW 5/48 | 52D Kut Hing Back St., Tai O, Lantau Island 9SW-D/CR8 | 12/5 | HyD/NT | 11/5 | Rock/boulder fall | Minor (–) | Squatters | 1 hut temporarily evacuated | Rank 2586, Stage 1, LPM works pending |
| MW 5/49 | Pump Fong Sheung Tsuen, Kwai Chung | 12/5 | HyD | 9/5 | Soil cut slope | Minor (1.5) | Squatters | | |
| MW 5/50 | 72 Po Wah Yuen, Yung Shue Wan, Lamma Island | 12/5 | Resident | – | Boulder | N/A | N/A | | No failure, no geotechnical concern |
| MW 5/51 | 14 Yung Shue Long New Village, Lamma Island 14NE-B/C10 | 12/5 | BOO | 8/5 (07:30) | Soil cut slope | Minor (20) | Building lot | 1 house temporarily evacuated | Rank 3123, Advisory Letter issued, work done |
| MW 5/52 | 6 Tai Shan Tung, Ko Long, Lamma Island 14NE-B/C21 | 13/5 | DLO/IS | 8/5 (15:00) | Soil cut slope | Minor (10) | Squatters, open space | 1 hut permanently evacuated | Rank 961, Stage 2, NFA |
| MW 5/53 | Sai Hang Mei, Tsz Tin Tsuen, Tuen Mun | 14/5 | DO/TM | 8/5 | Washout | Minor (<1) | Open space | | |

Table A4 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland West (Sheet 6 of 7)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|--------------|--|---------------|--------|-------------|--------------------------|--------------|---------------------------|--|---|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| MW 5/54 | 16 Shatin Tau Village, Area 2, Shatin | 10/5 | HyD/NT | 8/5 | Soil cut slope | Minor (-) | N/A | | |
| MW 5/55 | Huts RTW/9A/281–282, Cheung Hang Kwai Chung | 14/5 | HD | — | Natural slope | Minor (5) | Squatters | 2 huts permanently evacuated | |
| MW 5/56 | Near 31 Tai Wo Hau Tsuen, Peng Chau | 13/5 | HyD/NT | 8/5 | Washout | Minor (4) | Pedestrian pavement | | |
| MW 5/57 | Tsz Tin Tsuen, Tuen Mun | 15/5 | DO/TM | 8/5 | Retaining wall | Minor (3) | Building lot | | |
| MW 5/58 | Kwun Yum Wan Rd., Cheung Chau | 14/5 | HyD/NT | 8/5 | Soil cut slope | Minor (1.5) | Pedestrian pavement | | |
| MW 5/59 | 10 Sai Wan, Tsan Tuen Rd., Cheung Chau 14NW-D/C10 | 14/5 | DLO/IS | 8/5 | Soil cut slope | Minor (5) | Pedestrian pavement | Pedestrian pavement closed | Rank 6037 |
| MW 5/60 | House SW/76/91, Sai Wan Rd., Cheung Chau | 14/5 | DLO/IS | 8/5 | Soil/rock cut slope | Minor (1) | Private access | | |
| MW 5/61 | Access road near 1 Pak She New Village, Cheung Chau | 14/5 | DLO/IS | Unknown | Washout | Minor (1) | Open space | | |
| MW 5/63 | House RTW/4A/173, Fu Yung Shan, Tsuen Wan | 20/5 | HD | 8/5 | Soil cut slope, flooding | Minor (2) | Squatters, open space | | Blockage of drains |
| MW 5/64 | Behind Lai Chi Kok Reception Centre, Castle Peak Rd. | 9/5 | DO/SSP | — | Washout | — | Pedestrian pavement | | |
| MW 5/66 | Behind 2 Shing Ka Rd., Peng Chau 10SW-B/C8 | 15/5 | Public | 8/5 (am) | Soil cut slope | Minor (4) | Squatters, private access | 2 huts temporarily evacuated, back lane closed | Rank 994, Stage 2, Advisory Letter issued, no work done |

Table A4 – List of Incidents Resulting from the 8 May Rainstorm Reported to GEO – Mainland West (Sheet 7 of 7)

| Incident No. | Location | Call Received | | Failure | | | Area Affected | Consequence | Remarks, and GEO Slope Catalogue Data |
|-------------------|---|---------------|----------|-------------|----------------|--------------|---------------------|------------------------------|---------------------------------------|
| | | Date | From | Date (Time) | Type | Scale (cu.m) | | | |
| MW 5/67 | Access road, Tai Lam Correctional Institution | 19/5 | ASD | 8/5 | Rock cut slope | Minor (2) | Private access | | |
| MW 5/68 | 4 Chung Shan Terrace, Kwai Chung | 21/5 | Public | 8/5 | Soil cut slope | Minor (3) | Open space | | Checked 6/9117/88 |
| MW 5/69 | House RTW/2A/365–366, Fu Yung Shan, Tsuen Wan | 2/6 | Resident | 8/5 | Soil cut slope | Minor (2.5) | Squatters | 2 huts permanently evacuated | |
| MW 6/3 | 62 King Lam St., Sham Shui Po | 4/6 | HD | 8/5 | Soil cut slope | Minor (-) | Squatters | 1 hut permanently evacuated | |
| MW 6/4 | Firing range, Stonecutters Island | 27/5 | ASD | 8/5 | Soil cut slope | Minor (-) | Open space | | |
| MW 6/8 | Hut RTW/9B/129 & 130, Kau Wa Keng Upper Village, Kwai Chung | 11/6 | HD | 8/5 | Soil cut slope | Minor (5) | Squatters | 3 huts permanently evacuated | |
| MW 6/32 | Shek Lai Hang Village, Kwai Chung | 18/6 | DO/KT | 8/5 | Soil cut slope | Minor (10) | Foot path | | |
| MW 6/36 | Shui Hang, Sai Wan Rd. Cheung Chau | 26/6 | DLO/IS | 8/5 | Retaining wall | Minor (<10) | Pedestrian pavement | | |
| MW Un-numbered | Hut RTE/7E/119, Kam Shan Tsuen, Kwai Chung 7SW-C/C182 | 9/5 | HD | -- | Subsidence | Minor (-) | Squatters | | |

APPENDIX B

RECORDS FROM GEO RAINGAUGES DURING THE RAINSTORM OF 8 MAY 1992

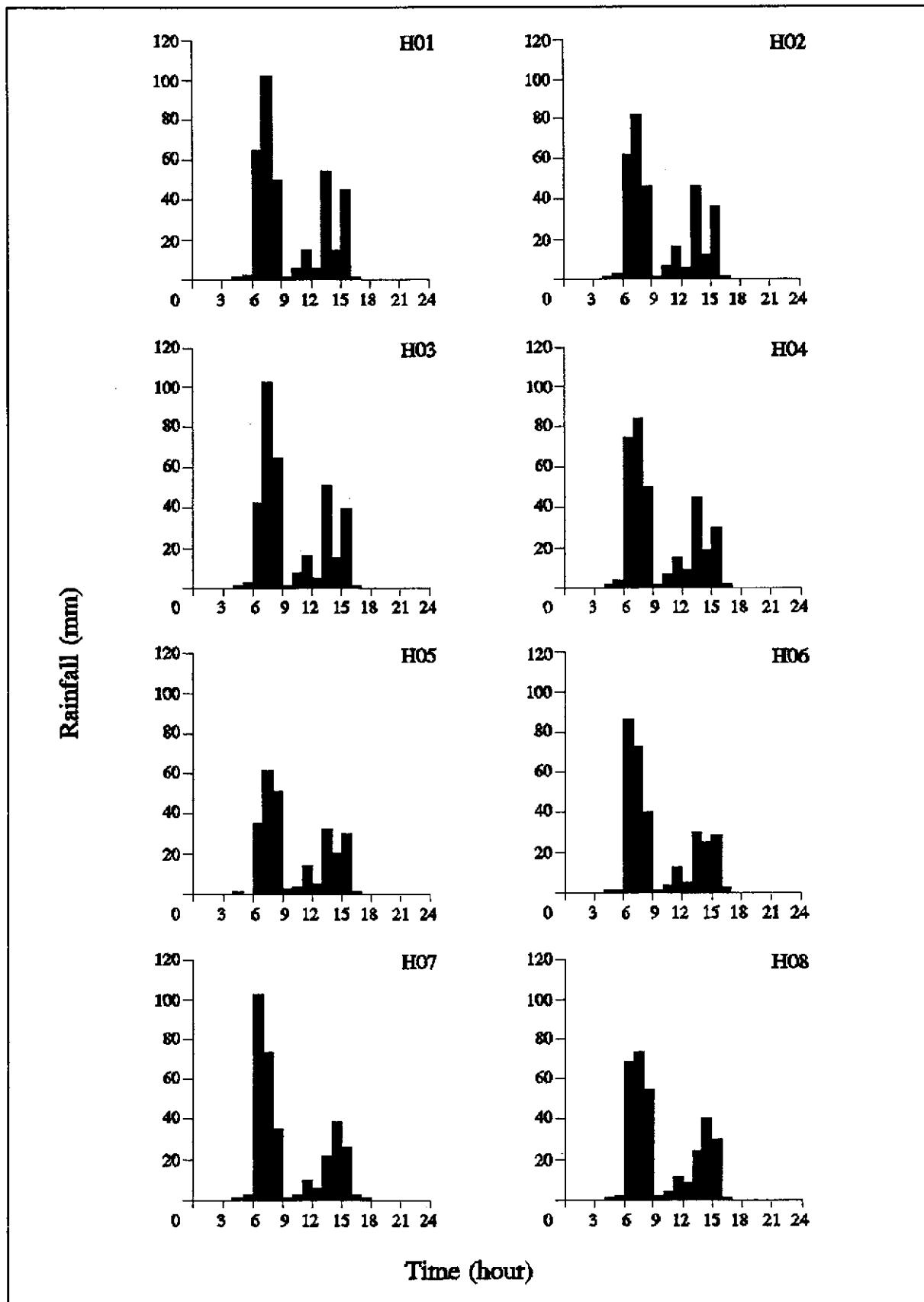


Figure B1 - Histograms of Hourly Rainfall Recorded by GEO Raingauges
on 8 May 1992 (Sheet 1 of 6)

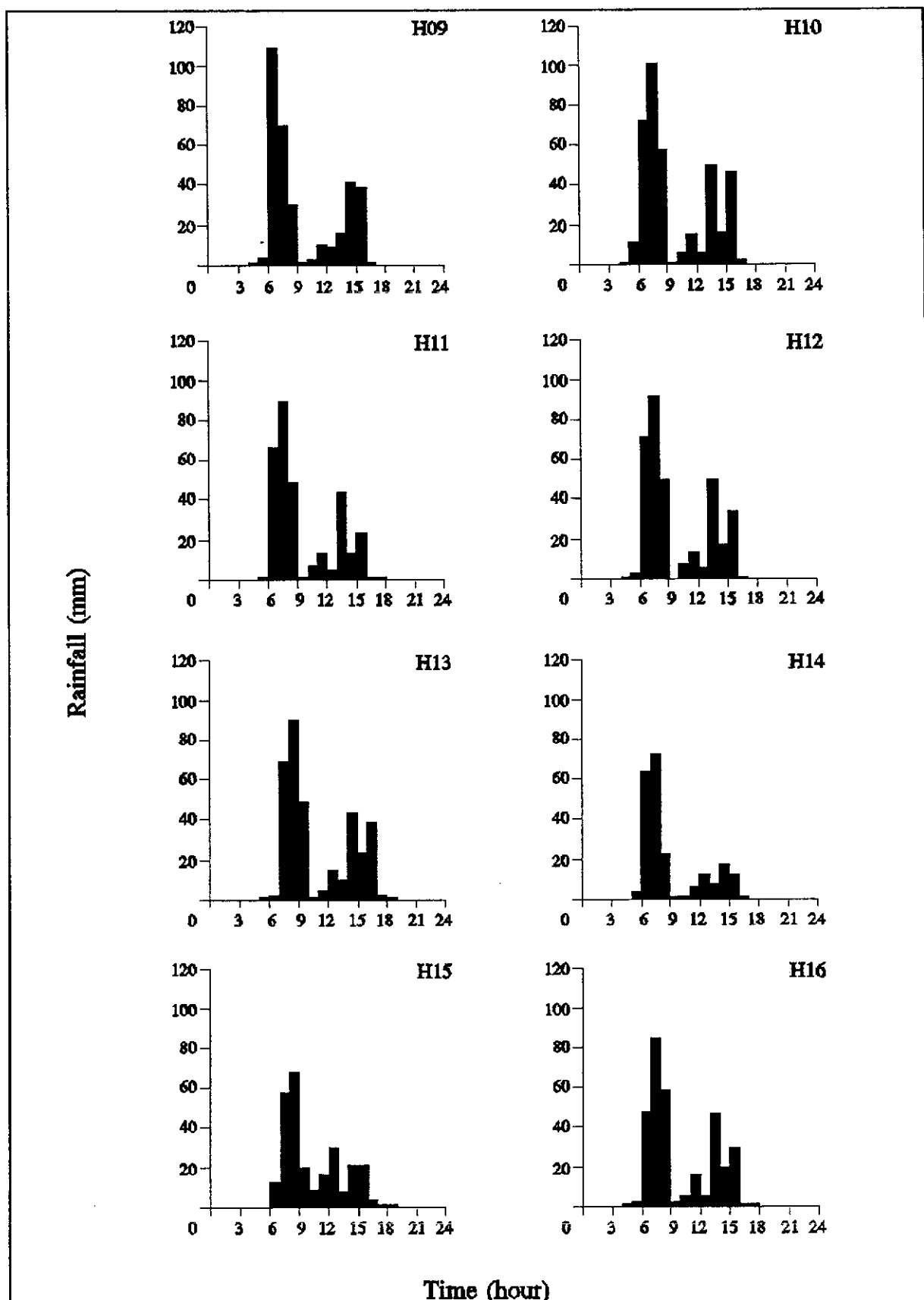


Figure B2 - Histograms of Hourly Rainfall Recorded by GEO Raingauges
on 8 May 1992 (Sheet 2 of 6)

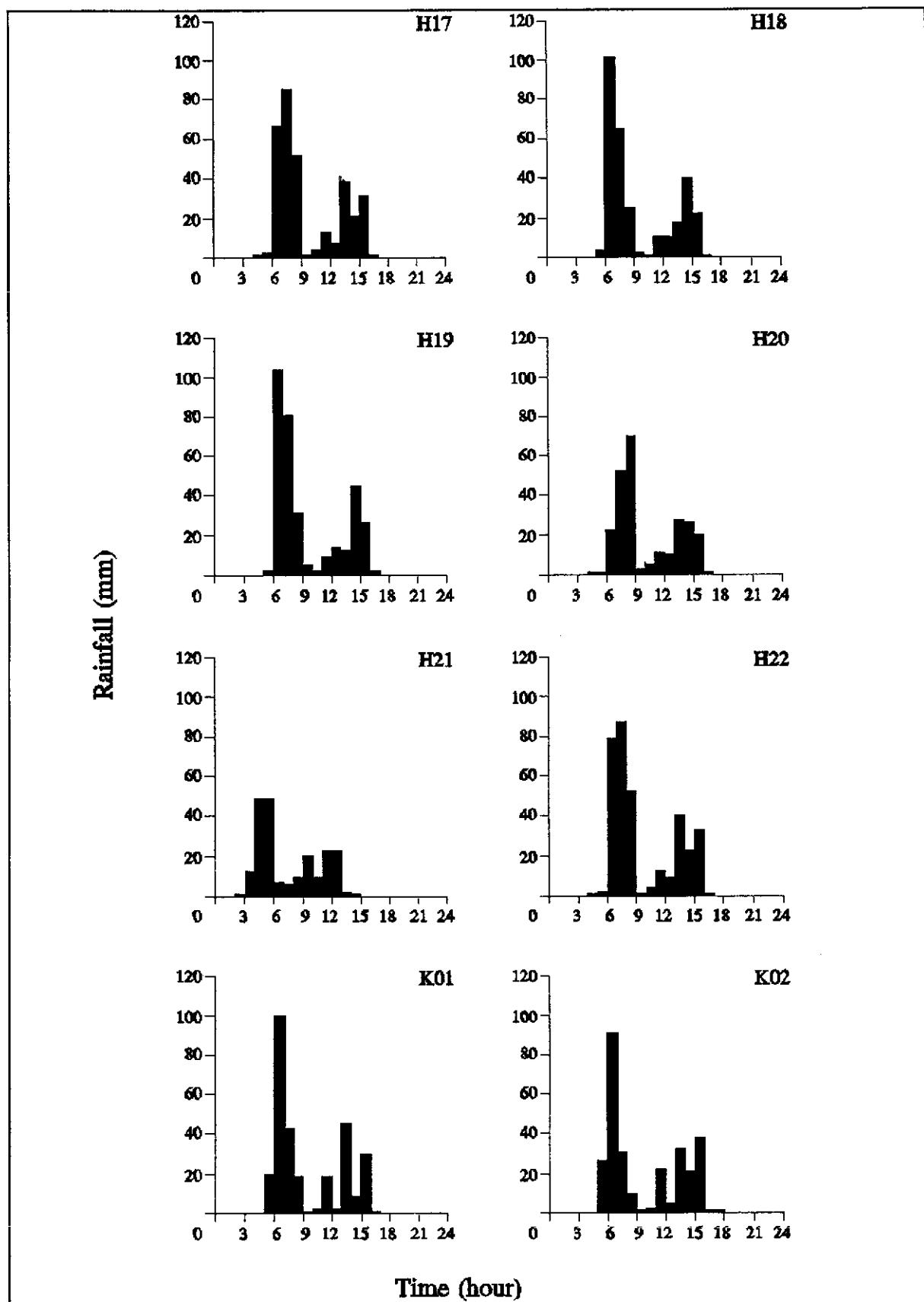


Figure B3 - Histograms of Hourly Rainfall Recorded by GEO Raingauges
on 8 May 1992 (Sheet 3 of 6)

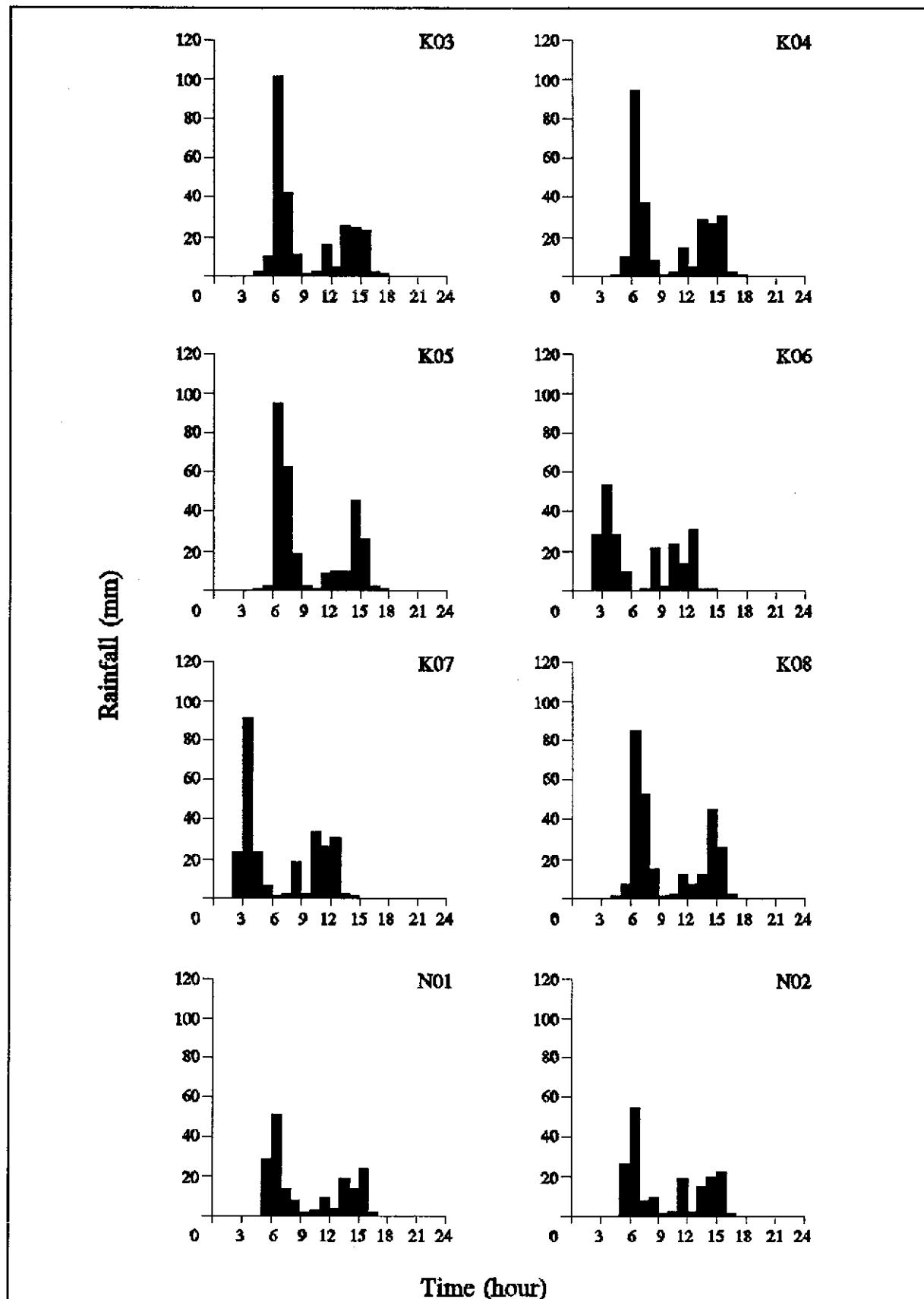


Figure B4 - Histograms of Hourly Rainfall Recorded by GEO Raingauges
on 8 May 1992 (Sheet 4 of 6)

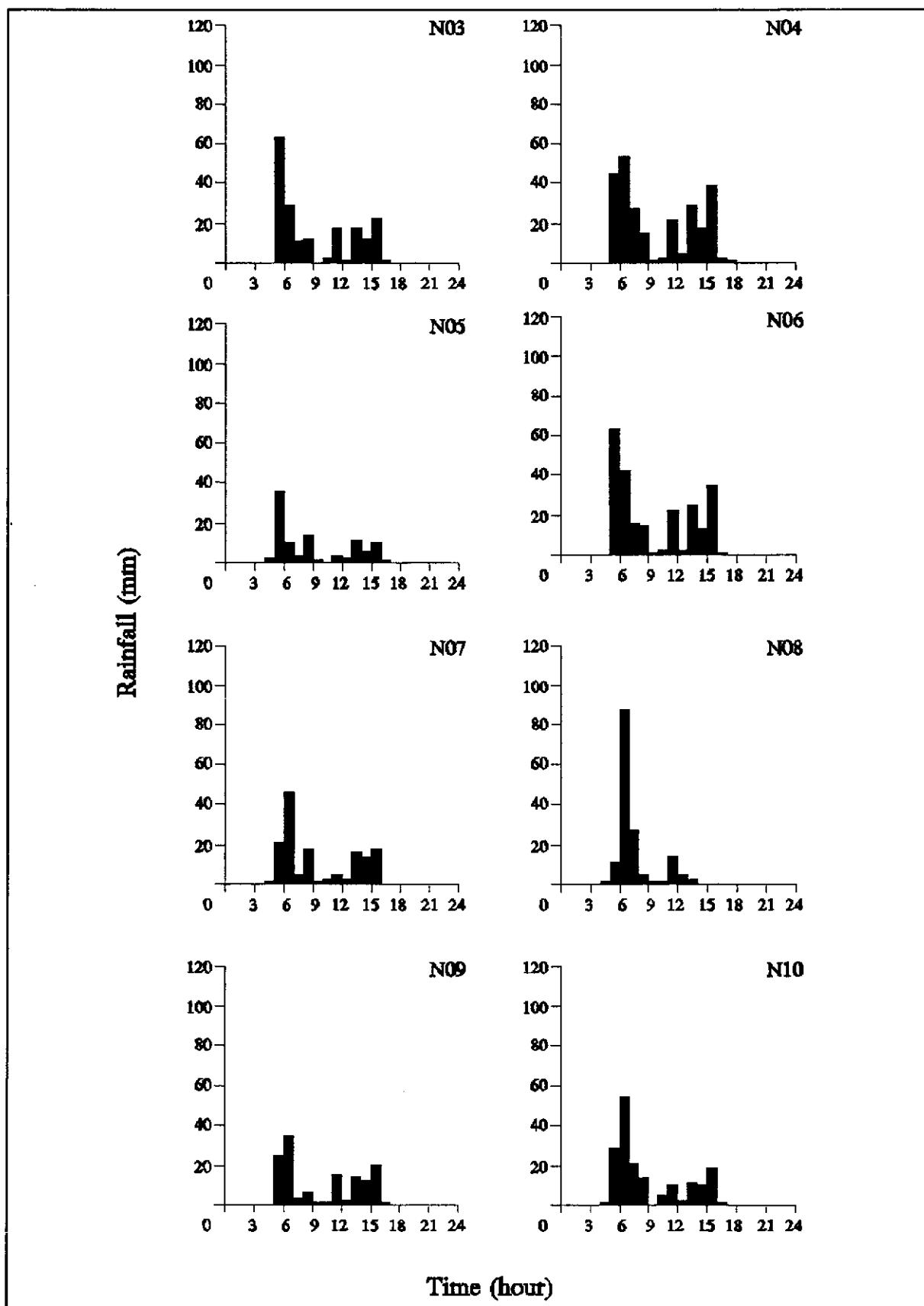


Figure B5 - Histograms of Hourly Rainfall Recorded by GEO Raingauges
on 8 May 1992 (Sheet 5 of 6)

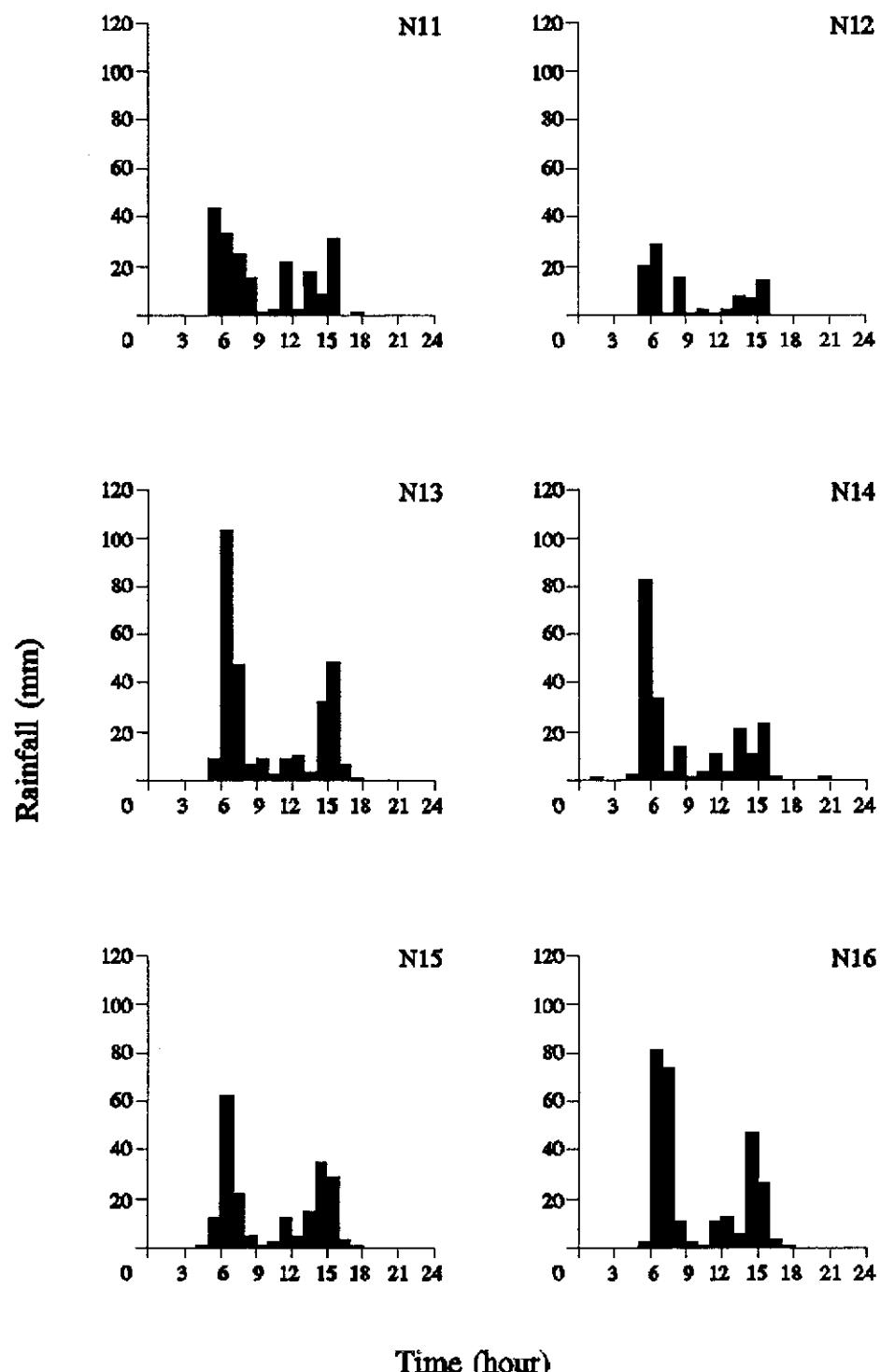


Figure B6 - Histograms of Hourly Rainfall Recorded by GEO Raingauges
on 8 May 1992 (Sheet 6 of 6)

LIST OF DRAWINGS

Drawing
No.

- GCSP 8/9 Location Map of Landslides and Related Incidents, 8 May 1992 -
 Hong Kong Island
- GCSP 8/10 Location Map of Landslides and Related Incidents ,8 May 1992 -
 Kowloon and the New Territories