

**DIG PERMIT PROCEDURES  
FOR EXCAVATION WORKS IN  
PENNY'S BAY DEVELOPMENT AREA**

June 2005

## Dig Permit Procedures

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# **1 Introduction**

## **1.1 Purpose**

A part of the Penny's Bay Development Project Area ("PBDA") was reclaimed using material from the East Lamma Channel Marine Borrow Area. Reclamation material taken from that Borrow Area ("East Lamma sand") contained unexploded ordnance ("UXO"). Remediation works were carried out by the Government and the Hong Kong International Theme Parks Limited ("HKITP") during their construction of the infrastructure works within the East Lamma sand. The extent of East Lamma sand and the remediation works completed by the Government and the HKITP are shown on Attachments A-1, A-2, A-3 and A-4.

A Dig Permit must be obtained before making any excavation within the East Lamma sand areas as shown on Attachment C-1 or within the Hong Kong Disneyland Resort and any facility operated/owned by HKITP as shown on Attachment C-3. A copy of the Dig Permit application proforma is shown on Attachment B-1.

These procedures explain how to apply a Dig Permit and provide guidance on how to conduct excavation works anywhere within the areas shown on Attachment C-1 except land wholly owned by the Mass Transit Railway Corporation Limited.

The PBDA has been separated into three primary zones as shown on Attachment C-2. A Dig Permit is required for excavation work within each zone or defined sub-zone. It should be noted that works within some zones required the implementation of special procedures or application of an Excavation Permit issued by Highway Department ("HyD") or Lands Department ("LandsD") of the Hong Kong Special Administrative Region.

## **2. How to Complete a Dig Permit**

To complete a Dig Permit, the applicant should:-

- (i) Obtain a copy of the Dig Permit application proforma (Refer to Attachment B-1). For excavation in public roads/streets (including those in Penny's Bay Public Transport Interchange) within the East Lamma sand areas or unleased government land within the East Lamma sand areas, the Dig Permit application proforma will be attached to the Excavation Permit issued by HyD or LandsD as appropriated. For excavation within the Hong Kong Disneyland Resort and facilities operated or owned by HKITP Resort Operations, the Dig Permit application proforma can be obtained from the HKITP Resort Operations. For excavation within licensed/allocated land within the East Lamma sand areas, the Dig Permit application can be obtained from the licensee/allocattee of the concerned land. The aforesaid parties are the "authorities" handling the applications and issue of Dig Permits;
- (ii) Identify the anticipated commencement date and duration of the excavation work;
- (iii) Identify the contractor or department that will carry out the excavation works (Refer to Section 7.2);
- (iv) Identify the Zone of the PBDA in which the excavation works will occur (Refer to

Attachment C-2);

- (v) Identify whether the excavation works will occur solely within the Theme Park, public roads or other facilities. An additional application must be completed for excavation works in public roads using HyD Form HyD14 (Refer to Section 4.2) or in unleased government land with the respective District Land Office (“DLO”) for an Excavation Permit;
- (vi) Identify the purpose, location, depth width and length of the excavation works;
- (vii) Identify the remediation works previously completed within the East Lamma sand area (Refer to Attachments A-1 to A-4);
- (viii) Define the types of equipment and the excavation procedure to be used based upon the location and depth of excavation and the remediation works previously completed;
- (ix) Identify whether road/footway closures or diversions are necessary;
- (x) Define and review whether existing utilities/services are located within the excavation and identify precautionary measures to locate insitu utilities/services. Should any fire hydrant be affected, comments from Fire Services Department should be sought;
- (xi) Provide drawings showing the location of the excavation works at no less than 1:1000 scale;
- (xii) Submit the completed application together with the supporting documents identified on the application form to the respective “authorities” described in (i) above for processing.

Allow 10 working days for processing this application.

HKITP Resort Operations can be contacted at 3550 2101.

### **3. Zone 1: Preparation Works and Requirements during Excavation**

#### **3.1 Setting out the Excavation**

The Zoning of the theme park is shown on Attachment C-2.

The setting out of the proposed excavation and the proposed works area required around the excavation will be set out using setting out markers. The excavation setting out markers will utilise a colour coding scheme similar to that used in other Disney Theme Parks.

The proposed excavation shall be identified by a continuous white colour line markings that is at least 50mm in width.

Temporary survey markings that define the extent of the works area, within which the proposed excavation is located, can be established with wooden stakes coloured pink or continuous pink colour line markings that are at least 50mm in width around the perimeter of the works area.

The setting out of all excavation shall take due cognisance of the exclusion zones described in Section 5.2 of these procedures.

**3.2 Locating and Marking Existing Utilities**

The location of all existing utilities across the PBDA are shown on the record plans held by the respective “authorities” or the respective utility companies/government services departments. Prior to any excavation, these drawings should be examined to plan and identify those existing utilities that occur within the limits of the proposed excavation. The Dig Permit application should be completed to record all affected existing utilities with the proposed excavation.

The existing utilities within the limits of the proposed excavation shall be located on site by hand dug trial holes and the proposed utility corridor width and estimated utility depth below existing ground level should be marked on site in accordance with the guideline tabulated below:

<b>Utility</b>	<b>Colour</b>
Power cables and conduits	Red
Gas mains	Yellow
Communications cables and ducts	Orange
Freshwater, saltwater mains and irrigation lines mains	Blue
Sewers and storm drains	Green

No mechanical excavation shall be permitted within a 300mm tolerance zone of any existing utility. Excavation within the tolerance zone of any existing utility requires hand digging methods to be adopted.

Known utility locations shall be marked out in the field. In the event the precise locations of utilities are uncertain, utility clearance work shall only be carried out by an approved utility locating specialist. The excavation contractor shall submit to the respective “authorities” for approval details of the utility locating specialist including his qualifications and experience.

In the event that a utility is damaged during the course of excavation, the contractor shall suspend all excavation works and contact the owner of the utility to facilitate a repair. Excavation shall only proceed once the existing utility has been repaired to the satisfaction of the utility owner and the respective “authorities”.

**3.3 Excavation Approach within Zone 1**

**3.3.1 Zone 1.0 (Non East Lama sand areas)**

Zone 1.0 defines the areas known to be formed from sands or materials free of UXO. This zone covers areas of the Theme Park, Car Park, Coach Park, Penny’s Bay Public Transport Interchange, Government Landscape Area, Water Recreation Centre and landscape berms.

Normal excavation techniques should be applied in Zone 1.0 in accordance with the procedures and awareness measures defined in Section 8.4.

**3.3.2 Zone 1.1 (East Lamma sand pockets)**

Zone 1.1 is a sub-zone of Zone 1 and defines pocket/lenses of sand that may contain UXO and are located at depth greater than 5m below reclamation formation level within Zone 1. The sand pockets are randomly located within Zone 1 as shown on Attachment C-2.

The excavation procedure within Zone 1.1 varies depending upon the depth of the excavation. The table below defines the excavation procedure to be adopted for different depth ranges.

<b>Depth of Excavation below Reclamation Formation Level</b>	<b>Excavation Procedure to be Applied</b>
Depth $\leq$ 4m	Normal Excavation Techniques (Refer to Section 8.4)
Depth $>$ 4m	Excavation Procedure A (Refer to Section 8.1)

**3.3.3 Zone 1.2 (Theme Park expansion areas)**

Zone 1.2 is a sub-zone of Zone 1 and defines the areas for theme park expansion area located within sand predominately free of UXO. Normal excavation procedures, as defined in Section 8.4, can be adopted within the upper 4m of the reclamation formation level.

The excavation procedure within Zone 1.2 varies depending upon the depth of the excavation. The table below defines the excavation procedure to be adopted for excavations greater than 4m depth.

<b>Depth of Excavation below Reclamation Formation Level</b>	<b>Excavation Procedure to be Applied</b>	<b>Excavation Procedure to be Applied in Exclusion Zones</b>
4m $<$ Depth $\leq$ 6m	Excavation Procedure C (Refer to Section 8.3)	Excavation Procedure B (Refer to Section 8.2)
Depth $>$ 6m	Excavation Procedure A (Refer to Section 8.1)	

Note: Exclusion Zones defined in Section 5.2

**3.4 Barriers and Signs around Excavations**

The approved Dig Permit shall be posted next to all excavations for inspection by all staff.

Guardrails shall be placed around the perimeter of all excavations. The guardrail shall be at least 1.0m high and offset at 2m, if space permits, from the perimeter of the works area. Lighting signals shall be provided along the guardrails for excavation at night.

Signage shall be provided to warn all persons of the excavation activities and identify alternative routes in the event that footways or roads require temporary closure and diversion.

### **3.5 Pre-Excavation Checklist**

Prior to the commencement of any excavation activity, a pre-excavation checklist as shown on Attachment E-1 shall be completed by the works supervisor and filed with the original of the approved Dig Permit with the respective “authorities”.

The completion of this checklist may require the preparation of other supporting documents such as method statements.

### **3.6 Trench Shoring and Stabilisation Apparatus**

Prior to commencing any excavation, the depth and method of support for the excavation should be determined. The contractor shall be responsible for the design of all temporary excavation support subject to the approval of the respective “authorities”.

Typically, excavation less than 1.2m in depth will normally be sufficiently stable to be self supporting and no formal submissions are normally necessary.

For those excavations between 1.2m and 4.5m in depth, the use of shoring or trench boxes will be sufficient to support the excavation. The contractor should verify whether submissions to the Building Authority in case of non-government works, or the responsible Engineer/Architect for the contract in case of government works are necessary.

For those excavations greater in depth than 4.5m, it will be necessary to submit excavation and lateral support plans to the Building Authority or the responsible Engineer/Architect for the government contract as appropriate for approval prior to commencement of excavation.

### **3.7 Reinstatement at Surface Level**

The original surface level shall be reinstated to its original condition upon completion of the excavation works.

If feasible, the original surface materials shall be removed without causing any damage and safely stored so that they can be reused for later reinstatement works.

Prior to any excavation, a photographic record of the original surface condition shall be maintained and filed with the respective “authorities”.

### **3.8 Inspection and Supervision**

Inspection and supervision of the excavation works will be performed by the responsible Engineer/Architect for the government contract or the HKITP Resort Operations for non-government contracts.

## **4. Zone 2: Preparation Works and Requirements during Excavation**

### **4.1 Special Conditions for Zone 2**

Excavation works within Zone 2 occur within the public roads. In addition to the preparation works and excavation procedures applied to Zone 1, the following special conditions apply:

- All excavation works require application of a Highways Department Excavation Permit (Refer to Section 4.2);
- All excavation works shall take due cognisance of the exclusion zones described in Section 5.2 of these procedures;
- Special excavation procedures are to be followed (Refer to Section 4.3).

### **4.2 Excavation Permit**

A Highways Department Excavation Permit is required for excavation works that occur in the public roads within Zone 2.0 as shown on Attachment C-2.

Form HyD14 can be downloaded from the government website: [www.hyd.gov.hk](http://www.hyd.gov.hk) together with the latest guidelines on how to make an application. Guidance Notes on how to complete the forms can be downloaded from the website:

[www.hyd.gov.hk/eng/publicforms/index.htm](http://www.hyd.gov.hk/eng/publicforms/index.htm).

As regards excavation works for drainage connections, water connections and other points of connection in roads or irrigation system which are the maintenance responsibility of HKITP Resort Operations, a copy of the Excavation Permit issued by Highways Department should be submitted together with the Dig Permit application for the above works to the HKITP Resort Operations.

### **4.3 Excavation Approach in Zone 2**

Zone 2.0 defines the areas along the public roads that are defined as unscannable areas of the PBDA, due to the magnetic interference caused by the existing utility infrastructure or existing structures.

Excavation Procedure B shall be applied in Zone 2.0 (including exclusion zones) in accordance with the procedures and safety awareness measures defined in Section 8.2 unless modified by the UXO Specialist overseeing the excavation works. All modifications shall be approved by the respective “authorities”.

Normal excavation techniques may be applied for excavation works in connection with maintenance of permanent works within the top 2m of the reclamation formation level.

## **5. Zone 3: Preparation Works and Requirements during Excavation**

### **5.1 Special Conditions for Zone 3**

Excavation works within Zone 3 occur within areas of the PBDA formed from sands known to contain UXO. In addition to the preparation works and excavation procedures applied to Zone 1, the following special conditions apply:

- East Lamma sand is known to contain UXO and special excavation and reporting procedures are necessary for all excavations (Refer to Sections 5.2 to 6.3);
- Exclusion zones occur within the East Lamma sand that prevent the use of equipment to scan for the presence of ordnance (Refer to Section 5.2);
- Special excavation procedures are to be followed (Refer to Section 5.3);
- All workers shall receive UXO safety awareness training (Refer to Section 6.1).

### **5.2 Exclusion Zones**

Attachments A-1 to A-4 show the reclamation contours, the extent of the East Lamma sand scanned, the remediation works completed during the original construction of the infrastructure works within the PBDA and the exclusion zones at reclamation formation level prior to earthworks grading and landscaping across the PBDA. The exclusion zones represent areas where metallic interference has prevented effective scanning of the site.

The Dig Permit should identify if the excavation works occur within the exclusion zones.

The excavation procedures described in Section 5.3 define how excavation works should proceed within the exclusion zones.

### **5.3 Excavation Approach in Zone 3**

The excavation procedures to be adopted will depend upon the location and depth of the excavation works within Zone 3.

The depth of the excavation should be defined relative to existing ground level and reclamation formation level. The establishment of the penetration depth of any excavation below the original reclamation formation level is essential since excavations may be necessary for excavation works below the original reclamation formation level or within exclusion zones.

#### **5.3.1 Zone 3.0 (Scanned East Lamma sand)**

Zone 3.0 defines the areas that have been constructed with sands known to contain UXO.

Typically, the upper 1m of the reclamation formation level and backfill to utility trenches is predominately free of UXO in this Zone. Nonetheless safety awareness precautions should be exercised.

The excavation procedure within this Zone varies depending upon the depth of the excavation. The table below defines the excavation procedure to be adopted for all areas

clear of UXO to minimum one meter below original reclamation formation level as shown on Attachments A-1 to A-4.

<b>Depth of Excavation below Reclamation Formation Level</b>	<b>Excavation Procedure to be Applied</b>	<b>Excavation Procedure to be Applied in Exclusion Zones</b>
Depth $\leq$ 1m	Normal Excavation Techniques (Refer to Section 8.4)	Excavation Procedure B (Refer to Section 8.2)
1m < Depth $\leq$ 3m	Excavation Procedure C (Refer to Section 8.3)	
Depth > 3m	Excavation Procedure A (Refer to Section 8.1)	

For excavations in all other areas of Zone 3.0, normal excavation techniques shall be applied to the areas indicated to be clear of UXO in Attachments A-1 to A-4. At depths below the UXO clear area, excavation procedure A shall be applied.

## **6. Safety Awareness**

### **6.1 Safety Awareness Training**

All staff and contractors involved in excavation work within the East Lamma sand areas or the Hong Kong Disneyland Resort and facilities operated/owned by HKITP shall receive UXO safety awareness training which shall describe the UXO history of the PBDA, how to determine which excavation procedure is applicable across the site, the type of ordnance that could be encountered and procedures to follow in the event that UXO is encountered during any excavation works. The training shall be certified by the HKITP Resort Operations or the Engineer/Architect for the government contract as appropriate and no workers shall be permitted to start excavation work on site until they have successfully completed the safety awareness training.

An information handout is shown on Attachment G-1 and training material is available from the HKITP Resort Operations.

### **6.2 Procedures to follow if UXO is encountered during Excavation**

The following procedures are to be adhered to if a suspected UXO item is encountered during excavation:

- Upon discovery of a suspected UXO during excavation, the person who first discovers the suspected UXO shall stop work immediately and inform his supervisor;
- The supervisor shall evacuate personnel to 20m from the suspected UXO, stop construction activity, secure the site by erecting a 20m safety perimeter around the suspected UXO and remain at site to ensure entry to the secured area is prohibited until the arrival of the Hong Kong Police Force;
- The supervisor shall immediately inform his Safety Manager who shall notify the

Hong Kong Police Force Control Centre at 2860 2400 that a suspected UXO item has been found and provide the following information:

- Caller's name and contact number;
  - Location of the suspected UXO within the PBDA and time of discovery;
  - Description of item, type of suspected UXO if possible, i.e. grenade/projectile etc.
- The Safety Manager shall also notify the HKITP Resort Operations immediately of the suspected UXO discovery;
  - The Hong Kong Police Force Explosive Ordnance Disposal Bureau ("HKPF EODB") will make contact with the Safety Manager and establish:
    - Security escort rendezvous location;
    - Meeting point at the site;
    - Safety perimeter has been established.
  - The HKPF EODB will arrive on site and determine what further actions should be taken. All instructions issued by the HKPF EODB shall be observed and implemented by the Safety Manager or the HKITP Resort Operations;
  - Only once the HKPF EODB confirmed the area safe should workers and other persons be allowed to re-enter the area;
  - The Safety Manager shall complete and submit a UXO Find Activity Log Record as shown on Attachment D-1 to the respective "authorities" with a copy to the HKITP Resort Operations for record;
  - All media enquiries related to the incident shall be referred to the Chief Information Officer of the Secretariat Press Office (Works) at 2848 2002 or the HKITP Public Affairs at 3550 2335 as appropriate.

### **6.3 UXO Incident Log**

The HKITP Resort Operations will maintain a UXO incident log. The incident log will be updated from the UXO Activity Find Log Records shown on Attachment D-1. A UXO Activity Find Log will be completed for each incident that requires the HKPF EODB to attend the site.

## **7. Guidelines for Completing the Dig Permit**

### **7.1 When do I need to apply for a Highways Department Excavation Permit?**

A Highways Department Excavation Permit is only required for excavation works in public roads including those in the Penny's Bay Public Transport Interchange.

### **7.2 Who is approved to carry out the excavation works?**

Excavation works shall only be carried out by approved contractors.

Contractors on the Government's List of Approved Contractors for Public Works under the Roads, Drainage and Waterworks categories are considered approved contractors for

performing the excavation works.

The list of approved contractors can be downloaded from governmental website:  
[www.etwb.gov.hk](http://www.etwb.gov.hk)

Excavation procedures that define scanning and intrusive investigation by a specialist UXO contractor shall only be carried out by UXO specialist approved by the respective “authorities”.

The UXO specialist contractor shall be defined as a firm experienced and qualified in the safe detection and remediation of ordnance. The UXO specialist contractor shall have capabilities satisfactory to the respective “authorities” including scanning equipment with abilities to detect and map UXOs of 152mm diameter or greater at depth to 3 metres below the scanned surface. The mapping capabilities shall include digital documentation with coordinates. Output shall be both in electronic and hard copy. Firms that have previously provided similar services for the PBDA are listed in Attachment H-1.

### **7.3 How do I determine if existing utilities occur within the excavation?**

As-constructed records of the line and level of all existing utilities across the PBDA are held by the respective “authorities” or the respective utility companies/government services departments.

The location and depth of the excavation should be cross referenced with these plans and the existing utilities that occur within the defined excavation limits shall be recorded on the Dig Permit application so that they can be marked on site prior to excavation in accordance with the guidelines defined in Section 3.2.

### **7.4 When do I need a Construction Noise Permit?**

A construction noise permit should be obtained from the Local Control Office of the Environmental Protection Department if work will utilize powered mechanical equipment or will involve prescribed construction work (e.g. hammering and handling of rubble) between the hours of 1900hrs and 0700hrs or any time on General Holidays or Sunday.

Typically, a construction noise permit will only be required for works in the public roads that could cause a potential noise disturbance to facilities not operated by HKITP.

### **7.5 How is the process streamlined for Emergency Events?**

Emergency Dig Permit will only be issued under the following circumstances:

- i) The excavation is necessary to protect life or property;
- ii) There is a material or substance escaping from an underground utility;
- iii) There is a vital public service that has been interrupted;
- iv) There is a break in an underground utility.

Work scheduling problems are not considered emergency events.

Emergency Dig Permit will be processed immediately upon receipt.

## **8. Excavation Procedures for Use in Zones 1 to 3**

### **8.1 Excavation Procedure A**

- **Step 1:** No special precautions are required for excavation in any area shown in Attachments A-1 to A-4 as clear of UXO other than normal safety awareness. Before the start of any excavation below the depth of any UXO clear area as shown in Attachment A-1 to A-4, perform magnetic resonance detection (hereinafter “scanning”) in suitable increments as determined by the UXO specialist. All scanning shall be performed by a UXO specialist and the contractor shall provide such logistical and general labour support as the UXO specialist may require to perform the scanning.
- **Step 2:** Following completion of scanning, excavate locally to expose all buried objects detected by scanning (hereafter “intrusive investigation”) and remove and dispose of any buried objects thus exposed. All intrusive investigation shall be performed by a UXO specialist and the contractor shall provide such logistical and general labour support as the UXO specialist may require to perform the intrusive investigation. Workers and other persons not actively performing or supporting the intrusive investigation shall keep such distance away from the intrusive investigation works as the UXO specialist directs. In the event that UXO is exposed by the intrusive investigation, the procedures in Section 6.2 shall follow.
- **Step 3:** Following completion of intrusive investigations, perform any excavation for building or utility works in increments that do not exceed the limits of the scanned material. All workers and other persons shall stand-off no less than 20m from the excavation unless they are the operator of the excavating machine seated in a cabin protected by a fragmentation shield (frame mounted 6mm polycarbonate, V50, 17 grain fragment @250/sec meeting the requirements of DIN53455) or outside the excavating machine cabin, but either behind a portable fragmentation shield or wearing personal protective equipment endorsed by the UXO specialist.
- **Step 4:** Observe all extracted material for signs of UXO. If any UXO is exposed during excavation, the procedures in Section 6.2 shall follow.
- **Step 5:** If the bottom of the excavation for building or utility works are not at least 1m above the bottom of the previously scanned depth, then perform additional scanning and intrusive investigation (as set forth in Step 1 and Step 2) such that at least 1m of scanned and cleared material is present below the finished bottom of the excavation for building or utility works.
- **Step 6:** Backfill the excavation using only material that has been scanned and intrusively investigated in accordance with Step 1 and Step 2, in which case a visual inspection of all materials used during the backfilling process shall be performed to determine evidence of UXO, or imported material from a location known to be free of UXO, or excavated from Zone 1.0.
- **Step 7:** Surplus material from any area shown in Attachments A-1 to A-4 as clear of UXO or from the excavation that was within the top-most 1m of the new insitu scanning may be moved without further scanning. Any other surplus material to be moved must be spread in a secure location to a depth of no more than 1m and

scanned and investigated intrusively prior to being moved. Alternatively, material may be scanned and excavated insitu in 1m increments. Other equivalent measures may be considered as recommended by the UXO specialist and approved by the respective “authorities”.

Refer to Attachment F-1 for an illustrative representation of the requirements set forth as Excavation Procedure A.

## **8.2 Excavation Procedure B**

- **Step 1:** Perform any excavation within exclusion zones or unscannable areas in maximum 1m depth increments. All workers and other persons shall stand-off no less than 20m from the excavation unless they are the operator of the excavating machine seated in a cabin protected by a fragmentation shield or outside the excavating machine cabin, but either behind a portable fragmentation shield or wearing personal protective equipment endorsed by the UXO specialist. The excavating machine shall utilize an extended arm such that the machine operator can be located at least 10m from the excavation bucket at all times.
- **Step 2:** The excavated material shall be spread in a secured location away from magnetic interference, the perimeter of which should be labeled with red flags to indicate the material potentially contains UXO, to a depth of no more than 1m and scanned and investigated intrusively prior to being declared free of UXO. The scanning equipment shall be a handheld magnetometer, schonstadt or equivalent or as recommended by the UXO specialist. Once the material has been scanned and investigated intrusively, the perimeter of the flags around the perimeter of the spread material should revert to green flags. Alternatively, material may be scanned and excavated insitu in maximum 1m increments. Other equivalent measures may be considered as recommended by the UXO specialist and approved by the respective “authorities”.
- **Step 3:** No mechanical excavation shall be permitted within 300mm of any existing utility. Excavation within the 300mm utility tolerance zone shall be performed by hand by a UXO specialist.
- **Step 4:** Backfill the excavation using only material that has been scanned and intrusively investigated in accordance with Step 1 and Step 2, or imported material from a location known to be free of UXO, or excavated from Zone 1.0.
- **Step 5:** Surplus material from the excavation may be moved without further scanning.
- **Step 6:** Maintain records to identify the extent of the exclusion zone that have been declared free of UXO, so that the exclusion zones record plans, as shown on Attachments A-1 to A-4 can be updated.

Refer to Attachment F-2 for an illustrative representation of the requirements set forth as Excavation Procedure B.

## **8.3 Excavation Procedure C**

- **Step 1:** Perform any excavation for building or utility works in increments that do

not exceed the limits of the scanned material. All workers and other persons shall stand-off no less than 20m from the excavation unless they are the operator of the excavating machine seated in a cabin protected by a fragmentation shield or outside the excavating machine cabin, but either behind a portable fragmentation shield or wearing personal protective equipment endorsed by the UXO specialist.

- **Step 2:** Observe all extracted material for signs of UXO. If any UXO is exposed during excavation, the procedures in Section 6.2 shall follow.
- **Step 3:** Place all excavated material on polyethene sheet so that the excavated material is not mixed with the insitu ground. Placement directly into trucks shall be permitted as long as the material is not taken off site. All material that is proposed for disposal offsite shall be scanned to verify that it is free of UXO prior to disposal in accordance with Step 5.
- **Step 4:** Backfill the excavation using only material that has been removed from the excavation, in which case a visual inspection of all materials used during the backfilling process shall be preformed to determine evidence of UXO, or imported material from a location known to be free of UXO, or excavated from Zone 1.0.
- **Step 5:** Surplus material from any area shown in Attachments A-1 to A-4 as clear of UXO or from the excavation that was within the top-most 1m of the new insitu scanning may be moved without further scanning. Any other surplus material to be moved must be spread in a secure location away from magnetic interference to a depth of no more than 1m and scanned and investigated intrusively prior to being moved.

### **8.4 Normal Excavation Techniques**

Normal excavation techniques shall be governed by the prevailing guidelines and statutory regulations that apply in the Hong Kong Special Administrative Region.

For excavation works within the Hong Kong Disneyland Resort, licensed and allocated land, the prevailing guidelines and regulations comprise:

- Highways Department publication “Guide to Trench Excavation (Shoring Support & Drainage Measures)”
- PNAP 148: Requirements for an Excavation and Lateral Support Plan – Building (Administration) Regulation 8(1)(bc), Nov 1993
- Buildings Ordinance & Regulations

For excavation works within the public roads and unleased land, the prevailing guidelines and regulations comprise:

- Land (Miscellaneous Provisions) Ordinance
- Highways Department publication “Excavation Permit Processing Manual”
- Highways Department publication “Guide to Trench Excavation (Shoring Support & Drainage Measures)”

**ATTACHMENTS**

- Attachment A-1 – UXO Remediation Plan within Hong Kong Disneyland Resort
- Attachment A-2 – Scope of UXO Scanning Works at Reclamation Formation Level undertaken by Government
- Attachment A-3 – UXO Remediation Plan (Sheet 1 of 2)
- Attachment A-4 – UXO Remediation Plan (Sheet 2 of 2)
- Attachment B-1 – Dig Permit Proforma
- Attachment C-1 – Site Zoning Plan (Sheet 1 of 3)
- Attachment C-2 – Site Zoning Plan (Sheet 2 of 3)
- Attachment C-3 – Site Zoning Plan (Sheet 3 of 3)
- Attachment D-1 – UXO Incident Record
- Attachment E-1 – Pre-Excavation Check-off Sheet
- Attachment F-1 – Excavation Procedure A
- Attachment F-2 – Excavation Procedure B
- Attachment G-1 – Safety Awareness Training
- Attachment H-1 - UXO Specialist Contractors