

## 13. IMPACT ON CULTURAL HERITAGE

### 13.1 Legislation, Guidelines and Criteria

13.1.1 Legislation, Guidelines and Criteria relevant to the consideration of Cultural Heritage impacts include the following:

- Environmental Impact Assessment Ordinance;
- Technical Memorandum on Environmental Impact Assessment Process;
- Antiquities and Monuments Ordinance

13.1.2 The *Environmental Impact Assessment Ordinance* (EIAO) was implemented on 1 April 1998. Its purpose is to avoid, minimise and control the adverse impact on the environment of designated projects, through the application of the EIA process and the Environmental Permit (EP) system.

13.1.3 The *Technical Memorandum on Environmental Impact Assessment Process* (EIAO-TM) lists the general criteria and guidelines for evaluating and assessing impacts in Annexes 10 and 19. The guidelines state that preservation in totality and measures for the integration of sites of cultural heritage into the proposed project will be a beneficial impact. It also states that destruction of a site of cultural heritage must only be taken as a last resort.

13.1.4 The *Antiquities and Monuments Ordinance* (Cap.53) provides the framework for the Antiquity Authority to declare any place, building, site or structure to be of public interest by reason of its historical, archaeological or palaeontological site or structure. The Antiquities Authority will consult the Antiquities Advisory Board and seek approval of the Chief Executive to declare a monument. The Declared Monument will be protected under the Ordinance from acts such as demolishing or destruction.

13.1.5 Under section 6 and subject to subsection (4) of the Ordinance, the following acts are prohibited in relation to certain monuments, except under permit;

- To excavate, carry on building works, plant or fell trees or deposit earth or refuse on or in a proposed monument or monument
- To demolish, remove, obstruct, deface or interfere with a proposed monument or monument

13.1.6 The discovery of an Antiquity, as defined in the Ordinance must be reported to the Authority, or a designated person. The Ordinance also provides that, the ownership of every relic discovered in Hong Kong after the commencement of this ordinance shall vest in the Government from the moment of discovery. The Authority on behalf of the government may disclaim ownership of the relic.

13.1.7 No archaeological excavation or search may be carried out by any person, other than the Authority, without a licence issued by the Authority. A licence will only be issued if the Authority is satisfied that the applicant has sufficient scientific training or experience to enable him (or her) to carry out the excavation and search satisfactorily, has sufficient staff and financial support.

### 13.2 Project Background

13.2.1 No archaeological excavation or search may be carried out by any person, other than the Authority, without a licence issued by the Authority. A licence will only be issued if the Authority is satisfied that the applicant has sufficient scientific training or experience to enable him (or her) to carry out the excavation and search satisfactorily, has sufficient staff and financial support.

13.2.2 The site formation and slope works will consist of cut and fill works, slope works, earth retaining walls, irrigation buffer lake, detention ponds and tanks, sand bunker and golf course capping and turfing. Based on the topography of the golf course it is estimated that 530,000 m<sup>3</sup> of soil and rock will have to be excavated and recompacted to form the course.

13.2.3 Temporary works will involve the formation of temporary working platforms and material storage areas. The earthworks will include excavation of temporary ditches along the sides of the excavations for collection of surface water to sump pits/desilting traps from where desilted water will be discharged into existing drainage system.

13.2.4 The works for the cart path subgrade include sub-base, concrete paving, road marking and fencing. The permanent bridge works include formwork assembly, steel fixing, concrete casting to the footing/cap and abutment wall, striking and lifting formwork after concreting and lifting precast concrete beam.

### **13.3 Methodology**

#### *Archaeology*

13.3.1 The objectives of the Archaeological Impact Assessment are as follows:

- Identification of the heritage issues;
- Review of the existing data on archaeological resources;
- Assessment of the impacts arising from the proposed golf course extension works;
- Recommendation of mitigation measures to minimize impacts on archaeological resources.

13.3.2 The background to the assessment will include a review of all previous investigations, including a preliminary environmental review that was undertaken in 2000 (Archaeological Assessments Ltd. Nov. 2000), which identified archaeological potential in the proposed public golf course extension area. Following this assessment an archaeological survey was commissioned by the Antiquities and Monuments Office and conducted by the Hong Kong Institute of Archaeology in November 2001. The survey found archaeological material in Wan Chai and recommended rescue excavation focused on the flat-topped hill (an area of approximately 400 sq metres) to be undertaken prior to construction works.

13.3.3 The Field Archaeology Unit of the Antiquities and Monuments Office undertook the excavation works in 2004 (AMO 2005). The findings concluded that archaeological material can still be recovered during the golf extension works and therefore a Watching Brief should be undertaken during the construction programme.

13.3.4 The methodology of the EIA will consist of the following three steps:

(1) Review of previous investigations;

- (2) Assessment of the results of the previous investigations and impacts arising from the proposed extension;
- (3) Recommendations for follow-up action, if required.

### ***Built Heritage***

13.3.5 The objectives of the Built Heritage Impact Assessment are as follows:

- Identification of the built heritage resources and issues;
- Review of the existing data on historical background and built heritage resources;
- Assessment of the impacts arising from the proposed golf course extension works;
- Recommendation of mitigation measures to minimise impacts on identified built heritage resources.

13.3.6 The background to the assessment will include review of all previous investigations, including a built heritage survey commissioned by the Antiquities and Monuments Office and conducted by the Hong Kong Institute of Archaeology in November 2001. The survey found built heritage resources in the form of historical graves in the golf course extension area. A grave survey conducted by the Jockey Club in early 2005 identified four additional graves.

13.3.7 The methodology of the BHIA will consist of the following four steps:

- (1) Review of previous investigations;
- (2) Built Heritage Survey and compilation of catalogue of all identified built heritage resources;
- (3) Assessment of the results of the previous investigations and impacts arising from the proposed extension;
- (4) Recommendations for mitigation measures, if required.

## **13.4 Results of the Desk-based Study**

### ***Archaeology***

13.4.1 The archaeological potential of Kau Sai Chau is well-documented. Schofield first recorded the discovery of three prehistoric archaeological sites, followed with recorded surface material by Mrs. Welch in early 1960's (Welch 1962). During the survey conducted prior to development of the existing golf course archaeological material from the late Neolithic and Bronze Age as well as Han and Tang Dynasties was recovered (Meacham 1994). The territory-wide surveys conducted in 1986 (Peacock and Nixon 1986) and 1998 (Rogers et al.1998) did not identify any additional deposits, although the islands archaeological potential was never disputed.

13.4.2 The preliminary environmental review carried out in 2000 (Archaeological Assessments Ltd. 2000) identified the potential for deposits in the proposed golf course extension area and recommended field evaluation to be undertaken. The field evaluation was proposed to consist of three steps: systematic field scan to identify any material on the surface; a systematic auger survey to identify subsurface deposits or cultural soils and test pit excavations to verify the deposits and associated stratigraphy. Figure 13.1 identifies the areas where proposed works may impact on areas of archaeological potential and for which field evaluation was recommended.

13.4.3 The survey was conducted in 2001 on the eastern side of the island and the entire eastern extension area was scanned for surface material (HKIA 2001). The survey results indicated 54 locations of surface material and a late Neolithic archaeological site at Wan Chai (Figure 13.2). The team conducted a total of 35 auger hole and four test pit excavations. While a late Neolithic cultural layer was established at Wan Chai, surface material belonging to Warring States, Song, Ming and Qing dynasties were also recovered.

13.4.4 The subsequent rescue excavation conducted by the AMO in 2004 confirmed the presence of late Neolithic

material all over the flat-topped hill and a cultural layer dated to the same period at its southern end; a total area covering c.300 sq metres was excavated (Figure 13.3) (AMO 2005). The Wan Chai Archaeological Site is located within the former firing range and impacts from the firing range have resulted in soil erosion and subsequent artefact displacement, hence only in one area a cultural layer was recorded. The rescue excavation yielded prehistoric remains such as stone tools and pottery dated to the Late Neolithic (about 4900-4200 BP). The rescue excavation also found two ash pit features of unknown date and function.

### ***Built Heritage***

#### *Historical Background*

13.4.5 Archaeological finds dating as far back as the Late Neolithic period has been discovered on Kau Sai Chau, confirming that the island was used by people in the prehistoric period. Historically, surface ceramic material from the Song (960-1279), Ming (1368-1644) and Qing (1644-1911) dynasties has been identified (HKIA 2001). The 2001 survey, did not, however, identify any cultural deposits or evidence of settlement in the Study Area. The only extant settlement on the island Kau Sai Tsuen is located at the southern tip of the island and not in the vicinity of the Study Area. The village contains a Hung Shing temple, probably dating originally to the 19<sup>th</sup> Century. The temple was renovated in 2000. In 1952 parts of Kau Sai Chau were turned into a firing range. In 1954, a number of the residents moved to Pak Sha Wan (Kau Sai Sang Tsuen). The main occupation of the Kau Sai Chau inhabitants was fishing, although agriculture was also practiced.

13.4.6 The following information was gathered in the desk-based study;

#### *Declared Monuments*

13.4.7 There are no Declared Monuments in the Study Area.

#### *Graded Historical Buildings*

13.4.8 There are no Graded Historical Buildings in the Study Area.

#### *Ungraded Historical Buildings*

13.4.9 There are no Ungraded Historical Buildings in the Study Area.

#### *Cultural Landscape Features*

13.4.10 No cultural landscape features have been previously recorded in the Study Area.

#### *Graves*

13.4.11 Previous surveys have identified graves in the Study Area, most of which have been renovated recently, i.e. within the past forty years. The families associated with these graves are Yeung, Lee, Tsui, Wong and Ng. The HKIA 2001 survey also identified two stone terrace features in the Study Area, which were most likely associated with former graves that have been removed.

## **13.5 Results of the Built Heritage Field Survey**

### ***Identified Resources***

13.5.1 The Study Area is located on the central part of the coast along the eastern side of the island, see Figure 13.4. The proposed layout can be roughly divided into northern and southern sections. The northern section is overgrown, but not too difficult to access. The ground cover consists of a thick covering of ferns and shrubs, with the higher sections being rocky and having minimal soil cover. The southern section (Kap Lo Kok) is currently only accessible by speedboat. It consists of hill slopes and small valleys leading down to for the most part rocky coastlines. The vegetation cover in most places is very thick with bushes, small trees and vines.

13.5.2 A field survey was undertaken in 2001 by the Hong Kong Institute of Archaeology to identify the full range of built heritage resources in a broad Study Area. The only resources identified in the current Study Area were 11 grave sites. The majority of these graves were modern renovations (i.e. all structural material post-dates 1945), several were structurally historical and one consisted only of recently relocated Kam Tap in a modern shelter (the kam tap were not included in the current study). More recently an additional 10 grave sites were identified, bringing the total to 20. A detailed inventory can be found in Appendix 13.1 and a map showing the location of all recorded graves in Figures 13.5 and 13.6. A short description of the graves, however, will be presented in this below section.

13.5.3 Grave #1 (Wong Family) is an excellent example of a grave Late Qing Dynasty grave. It is a large semi-circular structure, constructed of concrete and green brick. The stone plaque is framed with moulded concrete and the enclosure wall of the worshipping platform contains cut stone blocks and green brick.

13.5.4 Grave #2 (Lin Family) consists of a concrete enclosure built into the hillside and facing North East. There are some traces of red painted decoration. The plaque is set into a plain concrete frame. The worshipping platform is covered in concrete. The inscription states that the grave was last renovated in either 1918 or 1978. From the condition of the grave it is most likely that the correct date is 1918. The grave is quite heavily overgrown with vegetation.

13.5.5 Grave #3 (Diu Family) is a much smaller grave than the two described above. It consists of a concrete front wall built directly into the hillside with small enclosure for a worshipping platform directly in front. The plaque is granite with inscribed lettering with traces of red paint. The grave was renovated in 1969 and contains no structural elements.

13.5.6 Grave #4 (Diu Family) is very similar to grave #3 and belongs to the same family. It was also renovated in 1969 and contains no historical structural elements.

13.5.7 Grave #5 (Lau Family) very little of this grave is still intact. The stone plaque is only partially legible, but apart from the family name a renovation date of 1862 is also still visible. The only other structural features remaining are green bricks around the plaque. There is evidence of shaped earth around the plaque that would have formed the enclosure and a few pieces of broken concrete/ chunam like material could be also be seen. There is no evidence that the grave underwent any renovations after the 1862 date inscribed on the plaque.

13.5.8 Grave #6 (Lee family) is a very simple grave with a small concrete front wall containing the plaque built into the hill side. The plaque is granite with cut inscription. The grave was renovated in 1963 and contains no historical elements.

13.5.9 Grave #7 (Yeung Family) Small grave with plain concrete front wall with curved moulded top, containing grey stone plaque with carved inscription. Traces of red paint visible in lettering. Concrete platform across front of grave and low concrete side walls of enclosure. The grave was renovated in 1964 and contains no historical structural elements.

13.5.10 Grave #8 (Wong Family) Small concrete front wall with granite plaque, carved inscription with traces of red paint. Red circle partially visible above the plaque. Renovation date not legible, but from observation grave does not contain any historical structural elements.

13.5.11 Grave #9 (Family name not legible) Small concrete front wall with curved and stepped top wall edge. Stone plaque. The grave was renovated in 1972 and does not contain any historical structural elements.

13.5.12 Grave #10 (Wong family) Black stone plaque with carved inscription, set into a green brick front wall with remnants of chunam covering. Concrete side walls, very low in front of grave. Grave is in poor condition. The grave was last renovated in 1912 and does not contain any modern structural elements.

13.5.13 Grave #11 (Family name not discernible) Large concrete/ chunam covered grave. Black stone plaque is inset into plain concrete front wall. Semi-circular enclosure wall above the plaque level. Worshipping platform also has a very low enclosure wall, concrete. The grave is very overgrown, but in generally good condition. The grave was last renovated in the 19<sup>th</sup> Century, though the exact date was not discernible.

13.5.14 Grave #12 (Chan Family) Small concrete front wall with granite plaque, carved inscription. The grave is not set directly into the hillside and there is a concrete covered dome behind the front wall. Low, plain concrete enclosure walls in front of the plaque. The grave was renovated in 1964 and does not contain any historical structural elements.

13.5.15 Grave #13 A cut stone terrace wall and platform, probably of a former grave, although there was no evidence of the grave itself. Possibly removed. The stones are large and oval in shape.

13.5.16 Grave #14 (Yuen Family) Medium sized grave. Grave walls are constructed of cut stone blocks of different sizes to produce an irregular pattern. The walls are topped with moulded concrete. The worshipping platform is covered by concrete. The plaque is made of white stone. The grave was renovated in 1968 and contains no historical structural elements.

13.5.17 Grave #15 (Ho Family) Small grave set into hill side. Plain concrete front wall with dark grey stone plaque with carved inscription, some red paint visible in the lettering. The grave was renovated in 1964 and contains no historical structural elements.

13.5.18 Grave #16 (Liu Family) A small grave built directly into the hillside. Irregular sized cut stone front wall with curved moulded concrete edge rim. Concrete frame around plaque, concrete with gold lettering. Thick concrete pointing has been added to the face of the stonework. Small concrete area in front of grave. The grave was renovated in 1966 and contains no structural historical elements.

13.5.19 Grave #17 (Ng Family) Armchair style grave with irregular sized cut stone walls and concrete floors and edge trimming. Three steps leading up to plaque, which is set into a concrete frame projecting from the back wall of the grave. Granite plaque with carved inscription. The grave was renovated in 1964 and does not contain any historical structural elements.

13.5.20 Grave #18 (Wong family) Medium sized grave, semi-circular design with irregular sized cut stone walls and Granite plaque with carved inscription. Small, two tiered platform in front of grave. The grave is set on a relatively flat section of the hillside and there is a domed concrete covering behind the grave face. The grave was renovated in 1969 and contains no historical structural elements.

13.5.21 Grave #19 (Ng Family) Very large multi-burial grave of the Ng family. The grave is constructed of concrete with several plaques (central plaque is stone set in a red painted concrete frame with red painted circle above. There is also a large red circle at the centre top of the back wall. The general shape is semi-circular. There is a large worshipping platform in front of the grave. The grave was renovated in 1970 and does not contain any historical structural elements.

13.5.22 Grave 20 (Ng Family) Small semi-circular shaped grave. Irregular cut stone wall with concrete top edging and frame around plaque. White stone plaque with carved inscription. The grave was renovated in 1968 and contains no historical structural elements.

### ***Potential for Additional Built Heritage Resources***

13.5.23 The northern coastal section of the Kap Lo Kok Study Area, see Figure 13.4, is currently very heavily overgrown it was not possible to access every part of it during the field survey. It is quite possible that historical graves (similar to Grave #5, i.e. unmaintained with only small portions still intact) could have been missed in the very thick undergrowth.

## **13.6 Impact Assessment**

### ***Archaeology***

13.6.1 During the period 1936 to mid-1970's the HK government used Kau Sai Chau as a firing range for aerial bombing and artillery shelling (Meacham 1994). The firing range activities have left scars in the landscape. These scars accelerate the natural erosion processes of the topography and have an adverse impact on any archaeological remains. No other existing impacts are known within the proposed golf course extension area.

13.6.2 The results of the previous investigations indicate that within the golf extension area there is potential for archaeology and c.300 sq metres of the main archaeological potential area identified during the 2001 survey has since been fully excavated. The erosional processes occurring largely due to the former firing range activities are adversely affecting the subsurface archaeological deposits and preservation *in situ* was not an option for the Wan Chai Site. The rescue excavation provided artefacts dated to the late Neolithic including stone tools and pottery, but potential for further remains exist.

13.6.3 The proposed construction impacts include earthmoving works and temporary stockpiling activities, landscaping and artificial filling.

13.6.4 The construction impacts may directly impact on any remaining archaeological material.

### ***Built Heritage***

13.6.5 The majority of the identified graves were found to be modern renovations and will not be dealt with in this section. Only five of the graves were found to contain historical structural elements. The following table shows the potential impacts.

**Table 13.1 Potential Adverse Impacts to Historical Graves during the construction phase**

<b>Grave #</b>	<b>Renovation Date</b>	<b>Potential Impact</b>
1	(Between 1862 and 1874)	Works are planned in the vicinity of the grave (site formation works for the 12 <sup>th</sup> hole fairway) and the grave structure may be affected by construction activities, such as cut and fill works, slope works, earth retaining walls.
2	Probably (1918)	None, as no works are planned in the vicinity of the grave and the grave will be left in-situ.
5	(1862)	The grave will have to be removed from its current location.

10	(1912)	None, as no works are planned in the vicinity of the grave and the grave will be left in-situ.
11	(1826, 1836 or 1846)	None, as no works are planned in the vicinity of the grave and the grave will be left in-situ.

**Table 13.2 Potential Impacts to Graves renovated after 1960 during the construction phase**

Grave #	Renovation Date	Potential Impact
3	1969	None, grave will be left in situ, nearest works are 5 metres away.
4	1969	None, grave will be left in situ, nearest works are 12 metres away.
6	1963	None, grave will be left in situ, nearest works are 10 metres away.
7	1964	None, grave will be left in situ, nearest works are 10 metres away.
8	Renovation date not visible, but all structural elements are modern.	None, grave will be left in situ, nearest works are 10 metres away.
9	1972	None, grave will be left in situ, nearest works are 10 metres away.
12	1964	None, grave will be left in situ, nearest works are 20 metres away.
13	Grave removed (only terrace intact)	None, as grave site will be left in situ, nearest works are 5 metres away.
14	1968	None, grave will be left in situ, nearest works are 30 metres away.
15	1964	None, grave will be left in situ, nearest works are 10 metres away.
16	1966	None, grave contains no historical structural elements will be left in situ, nearest works are 2 metres away.
17	1964	None, grave contains no historical structural elements will be left in situ, nearest works are 2 metres away.
18	1969	None, grave contains no historical structural elements will be left in situ, nearest works are 2 metres away.
19	1970	None, grave will be left in situ, nearest works are 12 metres away.
20	1968	The grave will be removed as part of the project.

## 13.7 Environmental Monitoring and Audit Requirement

### *Archaeological Resources*

13.7.1 The potential for further artefactual remains at the Wan Chai Archaeological Site exist and a watching brief is recommended (Figure 13.7).

13.7.2 A watching brief is a process whereby a qualified and licenced archaeologist monitors the excavation



works during the construction stage in identified (and agreed with AMO) areas of archaeological potential. The watching brief methodology is set out in the EM&A. The archaeologist conducting the watching brief should obtain a licence prior to commencement of works as stipulated in Section 12 of the Antiquities and Monuments Ordinance (Cap. 53). The granting of the licence may take up to 8 weeks after the submission of the licence to the Antiquity Authority.

## ***Built Heritage Resources***

### *Construction Phase*

13.7.3 Two of the identified historical graves (Graves #1 and #5) may be impacted by the proposed construction works. As well, there is a potential for the presence of unidentified historical graves in the Kap Lo Kok section of the Study Area (in the vicinity of the planned location for the 12<sup>th</sup> hole). The recommended mitigation is presented below.

13.7.4 Grave #1: There are works planned in the vicinity of the grave for the construction of the 12<sup>th</sup> hole fairway. A three metre buffer zone will be maintained and clearly marked by a temporary fence during the construction phase;

13.7.5 Grave #5: The grave will be removed prior to the commencement of construction works. It is recommended that the grave be preserved by record. The structural remains of the grave are minimal (a plaque and a small section of green bricks around the plaque). The preservation by record should include a cartographic, photographic and written record as well as a measured drawing. If AMO requires the retention of any historical structural elements associated with the grave, i.e. the plaque. The contractor will ensure the safe removal and transport of the material off the site.

13.7.6 Grave #20: This grave will be removed prior to commencement of construction works. It is recommended that the grave be preserved by record. The preservation by record should include a cartographic, photographic and written record as well as a measured drawing. If AMO requires the retention of any historical structural elements associated with the grave, the Contractor will ensure the safe removal and transport of the material off the site.

13.7.7 The northern coastal section of the Kap Lo Kok Study Area of the proposed golf course extension is currently very heavily overgrown and parts of it were not accessible during the field survey. The area has the potential to contain as of yet unidentified historical graves and it is recommended that during the construction phase, that if during the course of works a grave is found that the AMO is contacted immediately and that works stop in the immediate vicinity of the grave until it can be inspected by AMO staff.

## **13.8 Environmental Monitoring and Auditing Requirements**

### *Archaeology*

#### Wan Chai Archaeological Site.

13.8.1 A watching brief should be undertaken by a qualified and licenced archaeologist during excavation works at the construction stage in the identified area marked on Figure 13.7. A qualified archaeologist should inspect the site at an interval of not less than once a month when there is excavation work on site. A construction programme should be provided to the archaeologist to arrange the inspection schedule. The archaeologist should be notified no less than 2 working days prior to any changes on the commencement of the excavation works so arrangements can be made to monitor the works. The ET and IEC should facilitate arrangements and liaise between the archaeologist and construction contractor.

13.8.2 Monitoring is a form of mitigation which is required when engineering works impact on areas that have been assessed as having archaeological potential and where conventional testing methods are deemed not sufficient. The range of archaeological resources that require monitoring include both historical and prehistoric material and features.

13.8.3 The watching brief process entails the observation of the engineering works by qualified archaeologists in order to identify any archaeological material or features revealed during the excavation phase of the works schedule. Upon identification of such material or features the archaeologists will require immediate access to the excavation area for recording of the material/features *in situ* location, antiquities retrieval and sample collection.

13.8.4 These guidelines serve for two basic purposes, firstly, that the archaeological resources are adequately recorded and recovered and secondly, that appropriate measures are taken on site to create a minimum of delays to the engineering schedule.

13.8.5 Methodology of the Watching Brief:

#### Monitoring personnel

13.8.6 Watching brief should be undertaken by a qualified archaeologist, who must apply for a licence under the Antiquities and Monuments Ordinance (Cap. 53) from the Antiquity Authority before the monitoring works commence.

#### Areas to be monitored

13.8.7 The areas which require watching brief shall be defined in figure 13.7 to be submitted by the qualified archaeologist under the project and agreed with AMO prior to commencement of works.

#### Site access

13.8.8 Archaeologists should be allowed reasonable access to relevant areas of groundworks, so that deposits can be examined and recorded. Trenches may require temporary shoring and groundworks might need to be temporarily rescheduled, to provide a safe environment for such works. Provision should be made, at the earliest stage of construction programming, for unrestricted archaeological access to areas of groundworks in the identified area of archaeological potential (figure 13.7).

#### Monitoring and retrieval methodology

13.8.9 Table 1, below, shows the various categories of archaeological material and features that are most likely to occur in local contexts. Also listed are the recommended type and degree of recording and retrieval required for each category. Upon discovery of any archaeological materials and features, the archaeologist shall report to the AMO immediately.

#### Recording forms for watching brief

13.8.10 A set of forms for the recording of any archaeological material identified during the watching brief process must be agreed by the AMO. They should include the following:

- | Registers to record the finds, special finds, contexts, photographs, drawings, levels and samples
- | Context description forms
- | A daily record form designed specifically for archaeological watching brief. This form must locate clearly

the area of works monitored, the nature and extent of the works, summaries of the days findings and cross reference to all register numbers used that day.

### Safety requirements

13.8.11 Archaeologists and staff employed in monitoring must follow the safety procedures enforced by the contractors on site.

### **Mitigation Measures**

13.8.12 The project proponent should allow a flexibility to undertake the contingency arrangements. Should significant archaeological materials be discovered, appropriate mitigation measures will be designed and implemented by the project proponent.

### Progress Report

13.8.13 The archaeologist should keep the AMO informed of the progress of watching brief. The archaeologist should submit progress reports every 3 months during the programme of the watching brief.

### Watching brief report

13.8.14 The procedures and result of the Watching Brief should be presented in report form, following standards set by the AMO for reports on other types of archaeological field work. This includes details of the overall programme, methodology, sampling strategy, implementation, findings and interpretation. All data, material and records forming the site archive must be submitted to the AMO upon completion of the project.

13.8.15 The monitoring report should contain, as a minimum, the following elements:

- | Non-technical summary
- | Site location (including maps and relevant drawings) and descriptions
- | Context of the project
- | Geological and topographical background
- | Archaeological and historical background
- | General and specific aims of field works monitoring
- | Reference to relevant legislation
- | Field methodology
- | Collection and disposal strategy for artefacts and ecofacts
- | Arrangement for immediate conservation of artefacts
- | Publication and dissemination proposals
- | Archive deposition
- | Timetable
- | Contingency arrangement (if appropriate)

**Table 13.3**  
**Categories of archaeological finds and recommended action**

Categories of Archaeological Material	Retrieval Procedure
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Human burial Skeleton remains Items associated with human burial, i.e. grave goods	Full recording and recovering of human remains and associated features Complete recoding by photography, drawing, written description Full measurement of burial and surrounding matrix Retrieval of human remains and associated materials Retrieval of surrounding soil for further analysis
Intact features Structural/architectural remains Undisturbed context, such as hearth, midden, habitation area, assemblages of artefacts and/or environmental material	Limited recording and recovery of archaeological features Recording and measurement of salient features by photography, drawing and written description Retrieval of all archaeological material Retrieval of samples from the surrounding matrix
Intact artefacts Complete objects such as pottery, metal objects, stone and bone tools. The objects are complete but isolated and are no part of assemblages or feature.	Recovery of artefacts Recovery of objects Sampling of the surrounding matrix Proper treatment with cleaning, marking and packing under international acceptable standards
Isolated material Sherds, non-human bone, artefact fragments (metal, pottery, glass). There are no complete objects, the material is isolated and fragmentary in nature.	Recovery of artefact fragments/archaeological material Recovery of material, such as artefact fragments, environmental material and sampling of surrounding matrix
Deposits with archaeological potential Soil deposits which exhibit characteristics associated with archaeological remains in Hong Kong	Sampling of the deposit Collection of soil samples from deposits displaying archaeological potential

### ***Built Heritage***

13.8.16 The following measures will be necessary to mitigate the adverse impacts arising from the proposed works during the construction phase;

- A three metre fenced off buffer zone will be maintained around Grave #1 during the construction phase;
- Graves #5 and #20 will be preserved by record. This will include a cartographic, photographic and written record as well as a measured drawing to be undertaken prior to the commencement of site formation works. As well if AMO requires the retention of any historical structural elements associated with the grave, i.e. the plaque. The contractor will ensure the safe removal and transport of the material off the site; and
- For the northern coastal section of the Kap Lo Kok Study Area, it is recommended that if during the course of construction works, a grave is found that the AMO is contacted immediately and that works stop in the immediate vicinity of the grave until it can be inspected by AMO staff.

**Table 13.4  
Summary of Mitigation Measures and Implementation Schedule**

<b>Resources</b>	<b>Proposed Works</b>	<b>Mitigation</b>	<b>Implementation Agent</b>	<b>Implementation Date</b>
Wan Chai Archaeological Site	Site formation and construction works	Archaeological Watching Brief	Contractor	Construction Phase

Grave #1	Site formation and construction works	Fenced of three metre buffer zone around the grave	Contractor	Construction Phase
Grave #5	Site formation and construction works	Preservation by record; and recovery of structural elements (if required by AMO)	Contractor	Construction phase (prior to commencement of works)
Grave #20	Site formation and construction works	Preservation by record; and recovery of structural elements (if required by AMO)	Contractor	Construction phase (prior to commencement of works)
Any, as of yet unidentified graves at Kap Lo Kok	Site formation works	If a grave is found works will stop in the immediate vicinity of the grave until it can be inspected by AMO staff.	Contractor	Construction Phase

### 13.9 Conclusions

#### *Archaeology*

13.9.1 The archaeological impact assessment for the extension of the golf course concluded that the bay at Wan Chai is an archaeological site. The site was excavated and assessed that some potential for archaeological material remains and a watching brief should be conducted to fully record this site. The extent of area which requires monitoring under the watching brief is shown in Figure 13.7.

#### *Built Heritage*

13.9.2 The Built Heritage Impact Assessment has identified that the impacts can be mitigated with the implementation of the following measures; the creation of a three meters buffer zone around Grave #1 during the construction phase and the preservation by record (and removal of structural elements if required by the AMO) of Graves #5 and #20. It is also required that the contractor notify the AMO if any additional graves are encountered during works in the along the northern coastal section of the Kap Lo Kok Study Area.

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