# 12. CULTURAL HERITAGE

## 12.1 Introduction

This Section of the Report presents the environmental assessment of the potential impacts on archaeological and historical sites associated with the implementation of the Route 10 (NLYLH). It includes details of the surveys and site visits and the recommended mitigation measures. Key issues addressed include the assessment of the extent and importance of known sites and the evaluation of potential sites. Project constraints include the extent of vegetative cover, built environment which affects surface visibility and the refusal of access to private land for test excavation if required.

## 12.2 Environmental Legislation and Standards

The EIA Ordinance (EIAO) was implemented in April 1998 and requires the formal assessment of specified projects. Under the accompanying Technical Memorandum (TMEIA) issued under Section 16 of the Ordinance, the technical scope of assessment undertaken under the new provisions has been defined; *Annex 10* states that the criteria for evaluating impacts to sites of cultural heritage include:

*(a) The general presumption in favour of the protection and conservation of all sites of cultural heritage because they provide an essential, finite and irreplaceable link between the past and the future and are points of reference and identity for culture and tradition.*

*(b) Adverse impacts on sites of cultural heritage shall be kept to the absolute minimum.*

In addition to the EIAO, the heritage resources of Hong Kong are governed by a range of legislative and planning mechanisms. The Antiquities and Monuments Ordinance (Cap. 53), provides powers for the designation of Antiquities and Monument Sites or Declared Monuments in Hong Kong. The Ordinance provides statutory protection against the threat of development of declared monuments, historic buildings and archaeological sites which have been recommended by the Antiquities Advisory Board (AAB) approved by the Chief Executive and gazetted in the Government gazette to enable their preservation for posterity.

Deemed Monuments have been identified by the Antiquities and Monuments Office (AMO) and agreement reached with the owners of the Monuments to ensure their preservation within an agreed period. Deemed Monuments have the potential to be upgraded to statutory Declared Monuments.

A wide range of sites of cultural heritage are identified and recorded by the AMO. Recorded historic buildings and structures are classified into grades I, II and III to indicate their relative importance. Although the grading is for AMO's internal reference and carries no statutory status, the recorded and graded historic buildings and structures might have to be protected under the EIAO or by administrative measures. Consideration must be given to protect the sites of cultural heritage including the known and unknown sites, at the planning stage.

Surveys commissioned by Government have provided considerable data on archaeological sites and historical structures, but detailed impact assessment is still required for projects which will involve large-scale construction or landscaping works. Although Section 11 (and its relevant sub-sections) of the Antiquities and Monuments Ordinance require any person who discovers an antiquity or supposed antiquity to report the discovery to the Antiquities Authority, there is a need to ensure that the potential impact of any project on all archaeological and historical resources, including sites or features that may be at present unknown, is assessed prior to the commencement of actual construction.

## 12.3 Assessment Scope and Methodology

### 12.3.1 Scope of Assessment

Potential impacts to cultural heritage resources within the proposed alignment have been assessed through study of all available data and through field survey. The scope of the assessment comprises the following potential heritage resources:

- Historic Buildings and Structures, which include a variety of forms with a wide range of different functions including domestic, working and cultural uses. These include places of worship, houses, agricultural buildings, boundary and milestones and industrial buildings and workshops;

- Landscape Features, including sites of historical events, historic field patterns, tracks and fish ponds, and cultural elements such as fung shui woodlands and clan grave sites; and

- Archaeological Remains, including a variety of buried and upstanding forms dating from the prehistoric to historical times and comprising upstanding ruins, earthworks, finds scatters and evidence of landuse management, settlements and cultural attributes.

The key issue addressed is the extent and importance of known sites and the evaluation of other potential sites.

### 12.3.2 Assessment Methodology

*Introduction*

The following methodology was adopted:

- study of existing data to identify known sites;
- study of topographic maps to identify other potential sites;
- surface survey of the entire impacted area, with special attention to areas of erosion and old terrace walls;
- small diameter probes at known and suspected sites to determine presence and extent of cultural deposits;
- limited test excavation where indicated by the results of the probes; and
- evaluation of all available data on each site in order to draw up a conservation programme for each site.

*Archaeological Resources*

Initially, a baseline study was carried out to assemble all available data regarding known or suspected sites within the alignment area. A search of the following sources was conducted:

- archives of the AMO;
- "Journal of the Hong Kong Archaeological Society" vols. 1-14;
- "Journal of the Hong Kong Branch of the Royal Asiatic Society" vols. 1-21;
- the "Report of the Archaeological Survey of Hong Kong" submitted to Government in 1985;
- a database of archaeological sites in HK prepared by the HK Archaeological Society in 1992-5;
- an annotated bibliography of published material on HK archaeology prepared in 1992;
- the "Archaeological Map of Hong Kong" published by Government Printer in 1972;
- an archaeological map of HK prepared by Prof. S.G. Davis ca. 1960;
- a map of 129 sites compiled from work done in the 1930's;
- archives of the University Archaeological Team 1956-67; and
- various records and unpublished reports held by the HK Archaeological Society and the University of HK.

In addition to the baseline study, aerial photographs and maps from various periods were also studied, with a view to identifying potential sites within the alignment area not previously reported in the literature and archives. This approach was based on previously reported site types and distribution patterns in the Hong Kong region. Landforms and topographic features were identified within the alignment area which have yielded archaeological remains in other parts of Hong Kong.

Proceeding from the baseline archive and topographic studies, a field survey of the entire alignment area was undertaken to examine potential sites and to test for the presence of cultural deposits.

*Historic Buildings and Landscape Features*

Buildings of historical significance in the vicinity of the alignment area that have been listed by the AMO were considered. Assessment of possible direct or indirect impacts on these buildings due to the construction and operation of Route 10 (NLYLH) have been considered with reference to physical factors such as vibration, lowering of water table, air pollution, etc as well as to more subjective factors such as visual intrusion.

*Discussion of Methodology*

Standard archaeological field survey methods were followed. Areas such as back-beach sand deposits, headlands and low, gently inclined hillslopes near sheltered bays which are known locally as likely archaeological sites were given highest priority for investigation, but other topographic features were also investigated. The coastal rock of North Lantau was surveyed for possible rock carvings. In many areas, thick vegetation prevailed and surface visibility was nil. However the evidence from topography was strong enough to assess the likelihood of cultural deposit as extremely low. In other areas identified by topographic study as possible sites, fields were under cultivation and provided excellent ground visibility for artifacts. Finally, at one site (Siu Lam), even though there were fields under cultivation and excellent visibility, it was felt that the possibility of cultural deposit was high enough to justify a series of probes, and a small archaeological site was found.

Hand augering in the form of small diameter probes (SDP's) was chosen over instrument augering for the several reasons. The first and foremost consideration was artifact capture. Instrument augering with a core diameter of between 5 and 15 cm will often fail to bring up any artifacts. While entirely adequate for soil sampling, the results are often inconclusive for local cultural deposits which often are not marked by obvious colour changes. Merely the presence of "soil" or "sand" can be ascertained, not the existence of a cultural deposit. An augerhole of 10 or 15 cm diameter typically would not bring up any sherds from an average cultural layer. On the other hand, an SDP of 30 cm diameter which did not yield any sherds would be a strong indication that either there was no cultural deposit or it was extremely sparse. Another important advantage of the bigger diameter SDP is that large roots or cobbles can be removed, whereas instrument augering would be forced to terminate.

*Discussion of Assessment*

Every archaeological site should be preserved for proper, unhurried study of the information it contains, and in an ideal world this might be achieved. Pressure on the land for modern construction means, on the contrary, that a salvage excavation is often required on relatively short notice prior to a site's total destruction. An attempt has been made to assess what potential for new information each site has, and how many resources should be invested in a rescue operation if part or the entire site has to be destroyed. Different archaeologists would naturally have different opinions on these questions, and an attempt was made to adopt a moderate course, seeking to balance real concerns regarding the possible irretrievable loss of cultural artifacts and information against the practical consideration that many sites have very little or relatively minor new data.

## 12.4 Evaluation of Impact

*Buildings*

There are numerous ancestral halls, temples and other historical buildings and features in the villages near Route 10 (NLYLH). A list of historical monuments provided by the AMO cited the following buildings:

- Chan Ancestral Hall, So Kwun Wat Tsuen;
- Tin Hau Temple, So Kwun Wat Tsuen;
- Lau Ancestral Hall, Pak Long Village;
- Lau Ancestral Hall, Tuk Mei Chung Village;
- Tin Hau Temple, Tai Lam Kok;
- Wong Kui-on Tong Ancestral Hall, Wong Uk Tsuen;
- Wu Fa-wong Ancestral Hall, Tai Lam Chung Tsuen; and
- On Ting Study Hall, Tai Lam Chung Tsuen.

In all of the above cases, no significant impact on the building or its immediate environ will take place from either construction or operation of Route 10 (NLYLH). Specifically, no physical disturbance in the form of change of water table, vibration etc. will be encountered. Other impacts, such as air and noise pollution, will be kept to levels acceptable in Hong Kong. Visual impact is judged to be not significant in view of the distance involved and the blending of the Route 10 (NLYLH) with the natural topography. In no case will any major feature of the landscape surrounding the buildings be significantly altered or destroyed by the construction of Route 10 (NLYLH). These factors are reviewed more thoroughly in other sections of the Environmental Impact Assessment Report.

Four other historic buildings are in the Study Area as follows:

- Indian House, Tai Chuen, Lantau Island;
- Old Study Hall at So Kwun Wat Lee Uk Tsuen, Tuen Mun;
- Chun Ying Study Hall at So Kwun Wat Lee Uk Tsuen, Tuen Mun; and
- Ham Ying Study Hall at So Kwun Wat Lee Uk Tsuen, Tuen Mun.

The latter three buildings are at 100m from the alignment and will not be affected by the construction/operation of the Route 10 (NLYLH). The "Indian House" has been located within the proposed area of the contractor's compound for the work site on Lantau to ensure protection (although it will not be directly affected by the works) during the construction phase. Once construction is complete there will be no effect as the alignment is located some 50m from this uninhabited and derelict building.

*Upper So Kwun Wat Burial Hill*

Route 10 (NLYLH) will impact on an area of 20th century burials on a small hill in Upper So Kwun Wat (*Figure 12.3*). Hillside graves are normally subject to removal when an area is required for public purposes, and generally there is no cultural heritage issue involved. Burial grounds of the late 19th and 20th centuries have obvious importance to the relatives of those interred therein, but in the larger scheme of heritage considerations, recent burials are not considered to be of importance unless they demonstrate some unique character or aspect not commonly found. No such character seems apparent in this instance.

The hill in question stands at the back of So Kwun Wat valley, about 2 km from the sea, and is surrounded by valley floor. It was identified as a potential site in the initial stage of the study purely for topographic reasons, namely its flat plateau just below the summit and its prime location at the back of the valley. Field walking revealed no artifacts in the adjacent fields; three SDPs were excavated (Plate 1) on the plateau, with the following results:

No. 1 -- topsoil to 15cm, transition to clayey DG-like material 15-20, DG at 20;

No. 2 -- same as No. 1;

No. 3 -- topsoil to 15 cm, brown gritty subsoil to 80 cm. No artifacts.

Approximately 10m to the west of SDP No. 3, a cut face (Plate 2) was observed at the edge of a large grave. This face revealed the same stratigraphy as seen in SDP No. 3, and no artifacts were found along the entire cut or in the vicinity of this grave and others. It was concluded that the plateau area has no cultural deposit.

The 20th century burial activity is concentrated on eastern and western ends of the hill. Quite a few recent burials were noted, as well as large pits from which the remains had been disinterred. Most of the burials seem to be of this type, ie destined for secondary burial in a bone jar. Rows of bone jars could be seen in enclosures at various places on the eastern and western ends of the hill, and in isolated groups in the southern slopes.

Pre-war graves and jar burials may be present, and it is recommended that these be identified and documented once the precise limits of the works zone has been established and the impact on individual graves is determined.

In view of the absence of artifacts from earlier periods, coupled with the degree of ground disturbance evident on the hill, it considered unlikely that any burials from earlier periods would be found there. However, the possibility cannot be ruled out entirely. Furthermore, 19th century graves or jar burials may well be present. For this reason it is further recommended that an archaeologist be present when the initial clearing of vegetation and earth-moving works are carried out on the hill.

*North Lantau*

Close to the alignment of Route 10 (NLYLH) on Lantau are two small archaeological sites known since the 1930s namely, Fa Peng and Tso Wan. Both sites appear to be of minor importance; the consultant engaged by Government in 1985 for a territory-wide survey concluded that it was "unlikely that any further significance remains." The sites were not surveyed in the present project, since they are well outside the impact zone for construction of Route 10 (NLYLH). The preliminary design has been developed to avoid impinging in the hinterland of these two embayments to avoid impacts on drainage regimes and ecological resources and to avoid land resumption. However, since reclamation is involved for the toll plaza (note that there are two "sea bridges" to allow tidal exchange between the embayments and the main tidal flows) an impact at or slightly above High Water Mark was deemed possible in the event of a change in currents and wave energies. However, both Fa Peng and Tso Wan beach and back-beach areas were examined to determine whether any cultural deposits are exposed and eroding at present. It was found that the back beach areas are covered in vegetation and well protected.

A greater impact will occur on the coastal rock of north Lantau, where Bronze Age rock carvings could possibly exist, since several are known in remote coastal settings on other nearby islands. The areas of rock that will be impacted were identified (*Figure 12.2*) and surveyed, with special attention to area 2 where a dyke of fine-grained rock occurs. No rock carvings were found. It should be noted however that much of the coastal rock above about 6m PD is covered in vegetation.

*Siu Lam*

Much of the terrain in the Siu Lam area is rugged upland country that is very unlikely to have archaeological sites. Field walking revealed no artifacts in those areas where the ground surface could be seen. Areas of cultivation and erosion in upper Siu Lam and Tai Lam Chung afforded better visibility but again no artifacts were found. Finally, the eastern half of lower Siu Lam was searched, and a few small pieces of fired clay associated with Tang lime kiln activity were found. Cultivation in this case proved a hindrance as well since the farmers were most suspicious and kept close guard over their fields, which were well fenced in any event. In order to make an appraisal of the extent and nature of cultural deposit present, a series of SDPs (*Figure 12.4*; *Plate 12*) was excavated around the fringes of the intense cultivation area.

The data obtained was rather surprising. The entire area, even back to the edge of the Tuen Mun highway, was a massive sandbody. An area of cultural deposit was finally located in the northeastern corner of the remaining fields.

The results of the SDPs were as follows:

No. 1 -- silty (loamy) sandy soil to 50cm, silty soil to 70cm;

Nos. 2 and 3 -- clean light brown sand to 120cm. No artifacts;

No. 4 -- brown sand to 30cm, with a few small fragments of kiln debris at 20-30, clean light brown sand to 120cm without artifacts;

No. 5 -- dark brown sand with thick kiln debris 20-90cm, at which point the probe was ended.

A test square was contemplated, but the existence of two graves just a few metres to the east of SDP No. 4, and the suspicious attitude of the farmers, made such an undertaking inadvisable. The limits of the site could be surmised from the surrounding topography as occupying the slightly higher ground just below the embankment for the Tuen Mun highway. This seems to have been a rich kiln site, and quite possibly kiln structures may be preserved here. There is no indication of any earlier cultural layers, but the possibility cannot be ruled out. However, the site has been severely truncated, and a considerable portion of it destroyed or buried, during the widening of Castle Peak Road and various other developments in the immediate vicinity.

The AMO informs that this site has already been the subject of a salvage excavation in connection with the widening of Castle Peak Road. A Tang limekiln was unearthed and is now covered by the embankment. It is unnecessary to conduct further salvage excavations.

However, should the alignment of the proposed road be shifted northward, the AMO would have to be consulted to assess the necessity for a rescue excavation to retrieve the remains of the kiln structure and associated deposits.

*So Kwun Wat*

One of the first archaeological sites to be investigated in some detail was So Kwun Wat. The site, which was apparently discovered in the late 1920s, is on a small hill just south of the stream mouth and overlooking the then beach. On the top and seaward slope of this hill, archaeologists found a large quantity of high-fired Bronze Age pottery, stone tools and debris from stone-working. However, in the 1985 territory-wide survey commissioned by Government, the consultant reported as follows:

"...no artifacts were observed [on the low hill] and despite a thorough search, no archaeological remains or evidence of any in situ deposits were noted... intensive search failed to reveal the existence of any surviving in situ deposit."

In the recently concluded second territory-wide survey of 1997-98, the AMO reports that the survey team "located the original sand bar deposit at So Kwun Wat" and also discovered a Ming dynasty site at nearby Perowne Barracks.

The proposed alignment of Route 10 (NLYLH) is across the valley from what remains of the old archaeological site on the small hill, and is well above the original sand bar that formed in a back-beach zone. But the proposed construction does impact on a small portion of land adjacent to Perowne Barracks where a field system is still under cultivation. Other cultivated fields were noted along the path of Route 10 (NLYLH) near the village of Lo Tsing San and in Upper So Kwun Wat near the burial hill. Each of these areas was surveyed by intensive field walking, with the following results:

AREA: Perowne Barracks Fringe
DATE OF VISIT: Dec. 28, 1998
TERRAIN: cultivated fields on moderate slope
*FIGURE 12.5*
PLATES: 3-5
SURFACE VISIBILITY: very high; fields had been freshly ploughed; no weeds or grass obscuring view of the clean terrace faces
TERRACING: mostly 40 to 80 cm cuts, but some as high as 150cm.; excellent viewing of soil stratigraphy
OTHER EXPOSURES: sides of water course are 60-70cm
SUB-SURFACE DISTURBANCES: many houses above the fields, ponds and sheds amongst the fields.
DEPTH TO RESIDUAL SOIL/DG: 40 -60 cm.
ARTIFACTS: none

AREA: Lo Tsing San
DATE OF VISIT: Dec. 28, 1998
TERRAIN: upland slope and plateau (about +45mPD)
*FIGURE 12.6*
PLATES: 6-8
SURFACE VISIBILITY: very high; fields had been freshly ploughed; no weeds or grass obscuring view of the clean terrace faces
TERRACING: mostly 40 to 80 cm cuts, but some as high as 120cm.; excellent viewing of soil stratigraphy
OTHER EXPOSURES: cuts for houses of up to 250 cm.
SUB-SURFACE DISTURBANCES: ponds, latrines and sheds amongst the fields
DEPTH TO RESIDUAL SOIL/DG: 30-50 cm
ARTIFACTS: none

AREA: Upper So Kwun Wat, southeast of burial hill
DATE OF VISIT: Jan. 5, 1998
TERRAIN: flat back valley
*FIGURE 12.3*
PLATES: 9-11
SURFACE VISIBILITY: high; some freshly ploughed fields, other abandoned fields had little vegetation and various sub-surface disturbances
TERRACING: 20-40 cm.
OTHER EXPOSURES:
SUB-SURFACE DISTURBANCES: shed, pond, latrine
DEPTH TO RESIDUAL SOIL/DG: unknown
ARTIFACTS: none

All of these fields were surveyed by systematic field walking at intervals of 5m. It was noted that a series of terraces had been cut and the terrace walls were clear of vegetation. Some fields had been recently ploughed and others recently harvested. In summary, the areas provided excellent visibility and significant turbation of the soil down to 60-80 cm had taken place. No artifacts of any kind except modern material were found. The areas can be considered as devoid of cultural deposit.

In summary, the proposed path of Route 10 (NLYLH) poses no impact on archaeological or historical features in the So Kwun Wat valley, with the exception of the burial hill at Upper So Kwun Wat.

## 12.5 Summary of Impact and Recommended Mitigation Measures

A survey was conducted between November 1998 and March 1999. Fieldwork took place mainly during December 1998. Initial investigations did not reveal any known archaeological or historical sites directly in the path of the proposed Route 10 (NLYLH). Studies of topographic maps and aerial photos did suggest several areas where potential sites might be located.

Two sites have been identified with possible or probable impact resulting from the planned construction of Route 10 (NLYLH): Siu Lam and Upper So Kwun Wat. For Siu Lam, the AMO has advised that a salvage excavation of the site has already been conducted in connection with the widening of Castle Peak Road, and no further salvage work is necessary. However, the AMO has advised that if the alignment of the

proposed road is shifted northward then they would have to be consulted to assess the necessity for rescue excavation to retrieve the remains of the kiln structure and associated deposits. For the burial hill at Upper So Kwun Wat, it is recommended that a detailed recording of the graves be made at a later stage, when it has been determined which graves need to be relocated.

This assessment of the proposed construction of Route 10 (NLYLH) has found only minor and acceptable impact on cultural heritage sites. No historical building or feature is directly affected, and indirect affects will be minor and at acceptable levels. The mainly 20th century burial site in Upper So Kwun Wat appears to have no earlier burials and thus to be of no significance in terms of broad cultural heritage.

It has further been decided that the Detailed Design and Construction Supervision Study Brief shall include a Marine Archaeological Investigation in those areas where reclamation and dredging works are to be undertaken.