PROJECT PROFILE
工程項目簡介

CLP Power Hong Kong Limited
中華電力有限公司

TETRA Radio Base Station at Kai Kung Leng, Lam Tsuen Country Park, Yuen Long, New Territories

元朗林村郊野公園雞公嶺陸地集群無線通訊基站

September 2010
2010 年 9 月

Environmental Resources Management
21/F Lincoln House, Taikoo Place
979 King's Road, Island East
Hong Kong

香港環境資源管理顧問有限公司
香港鰂魚涌英皇道九七九號
太古坊林肯大廈二十一樓

Tel 電話 852 2271 3000
Fax 傳真 852 2723 5660

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GMS#0115156

For and on behalf of 代表 CLP Power Hong Kong, Limited 中華電力有限公司	
Endorsed by: 批核 :	朱永源先生 (Mr Chu Wing Yuen)
Position: 職位 :	Telecommunications Manager, Technical Service Department 技術服務部電訊經理
For and on behalf of 代表 ERM-Hong Kong, Limited 香港環境資源管理顧問有限公司	
Approved by: 批核 :	溫志雄 (Mr Frank Wan)
Position: 職位 :	Partner 合伙人
Date: 日期 :	13 September 2010 2010 年 9 月 13 日

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1 BASIC INFORMATION

1.1 PROJECT TITLE

TETRA Radio Base Station at Kai Kung Leng, Lam Tsuen Country Park, Yuen Long, New Territories (the Project)

1.2 NAME OF PROJECT PROPONENT

CLP Power Hong Kong Limited (CLP)

1.3 NAME AND TELEPHONE NUMBER OF CONTACT PERSON

Name: Mr Chu Wing Yuen

Title: Telecommunications Manager, Technical Services Department, PSBG, CLP Power Hong Kong Limited

Phone No: 2678 6018

1.4 PURPOSE AND NATURE OF THE PROJECT

CLP proposes to construct and operate a TETRA radio base station at Kai Kung Leng within Lam Tsuen Country Park (LTCP) in Yuen Long to improve the TETRA radio coverage and safety for CLP field staff. The improvement of radio coverage is essential to ensure the continued operational safety of CLP staff. The upgrade also facilitates remote monitoring and control of the power transmission system such that power supply reliability in the area can be enhanced.

1.5 LOCATION AND SCALE OF PROJECT AND HISTORY OF THE PROJECT SITE

The Project Site is located at Kai Kung Leng within the LTCP (*Figure 1.1*). It lies north of Pat Heung, east of Fung Kat Heung and northeast of Kam Tin at a level of approximately +289 mPD.

The Project will occupy an area of approximately 18m^2 [4.5 m (L) x 4.0 m (W)] and all structures of the Project will be built on a concrete plinth. The scale of the construction activities for the Project will be very small and will mainly involve the construction of a concrete plinth, fabrication of an equipment shelter and installation of antennae and the associated mast (*Figures 1.2* and *1.3*). The construction works will require the use of only small powered mechanical equipment (PME) and hand tools. No haul road will be constructed. The Project Site layout plan is shown in *Figure 1.4*.

The proposed radio base station will be unmanned. During its operation, CLP may require to maintain the radio equipment on an *ad hoc* basis at an

extremely low frequency. The maintenance will mostly be light-duty work using hand tools by a maximum of two workers travelling to the radio base station on foot from the nearest access road.

1.6 NUMBER AND TYPES OF DESIGNATED PROJECTS TO BE COVERED BY THE PROJECT PROFILE

The proposed TETRA radio base station at Kai Kung Leng qualifies as a Designated Project under *Schedule 2*, Part I, Category Q Item Q.1 of the *Environmental Impact Assessment Ordinance* (EIAO) – a project within an existing Country Park.

CLP has appointed European Aeronautic Defence and Space Company Secure Networks Limited (EADS) to design the radio station and carry out the construction works. The design and permitting work for the Project has commenced. The tentative start date for the construction is March 2011 and the tentative operation commencement date is September 2011. An indicative programme showing the key milestones for the Project as currently envisaged is provided in *Table 2.1*.

Table 2.1 Indicative Project Programme

Key Stage of the Project	Duration
Construction of concrete plinth	5 weeks
Fabrication of equipment shelter	4 weeks
Electrical and mechanical installation inside equipment shelter	3 week
Installation of antenna tower	4 weeks
Telecommunication equipment installation	3 weeks
System testing and commissioning	2 weeks

There is no vehicular access leading directly to the Project Site. During the construction stage, all necessary equipments and materials will be delivered by helicopter to the Project Site with the assistance of construction workers on the ground. Minor excavation works and the construction of the concrete plinth will be carried out using small PME items and hand tools. Fabrication of the fibre glass equipment shelter and the installation of electrical, telecommunication and mechanical equipment will be undertaken using hand tools.

It is understood that the expansion works of the existing hill-top transposer station has been planned by Television Broadcasts Limited (TVB) to the northwest of the Project Site and an Environmental Permit (EP-386/2010) has been granted for its expansion. According to the approved Project Profile of the TVB transposer station (PP-405/2009 submitted for Application No. DIR-195/2009), the expansion works for the transposer station are scheduled from March to September 2010. It is however observed from site visits during late April 2010 that the expansion works for the transposer station have not yet commenced and no official update on the implementation programme for the expansion works is available from TVB at the time when this Project Profile is prepared. With reference to PP-405/2009, the key elements of the expansion works for the transposer station would include small-scale excavation, construction of an L-shaped concrete platform (13.5m X 14.2m) with a 0.1m paved finish and the erection of a group of structures with a total gross floor area (GFA) of approximately 70m^2. All expansion works for the transposer station were expected to be completed within a six-month period, likely before the start of the Project. Even with overlapping periods in between the Project and the expansion works by others, potential cumulative impact is expected to be minor given the small scale of the works and the short construction programme for the projects.

The existing environment of the Project Site and its surroundings are shown in *Figure 3.1*. The existing TVB transposer station and its expansion works are located to the northwest of the Project Site. No residential uses are identified within 500 m from the Project Site boundary. Fung Kat Heung, Mo Fan Heung and Wah Shing Tsuen are located to the southwest, Long Ha is located to the northwest and Ngau Tam Mei to the north of the Project Site (all are more than 500 m away from the Project Site). Wing Kei Tsuen and Pok Wai are both all located to the west at more than 1km from the Project Site. Site visits in April 2010 revealed no running streams in proximity to the Project Site.

The Project Site and its surrounding area, apart from the areas occupied by the TVB transposer station, are currently grassland. There is no direct vehicular access to the Project Site and the closest paved vehicular road is Fung Kat Heung Road at about 600 m to the southwest of the Project Site.

The construction of the Project is expected to involve the clearance of existing vegetation from an area of approximately 18m², construction of the concrete platform, equipment fabrication and installation.

During the construction phase, a maximum of 10 workers (all personnel included) are expected to be on the Project Site at any one time. During the operational phase, the TETRA radio base station will be unmanned. *Table 4.1* identifies the potential environmental impacts that may arise from the construction and operation of the proposed radio base station. The key potential impacts are related to air quality, noise, site runoff, waste management, cultural heritage and terrestrial ecology during the construction phase. Potential operational phase impact is limited to landscape and visual impact caused by the antennae and the associated structures of the station. Further details on the consideration of the potential environmental impacts are provided in subsequent sections.

Table 4.1 Potential Environmental Impacts Arising from the Project

Potential Impact	Construction	Operation
• Gaseous Emission	–	–
• Dust	✓	–
• Odour	–	–
• Noise	✓	–
• Night-Time Operations	–	–
• Traffic (Land)	–	–
• Liquid Effluents, Discharge or Contaminated Runoff	✓	–
• Generation of Waste or By-products	✓	–
• Manufacturing, Storage, Use, Handling, Transport, or Disposal of Dangerous Goods	–	–
• Hazard to life	–	–
• Disposal of Spoil Material	✓	–
• Unsightly visual Appearance	–	✓
• Cultural and Heritage	✓	–
• Terrestrial Ecology	✓	–
• Cumulative Impacts	–	–

Note:
'✓' = Possible; '–' = Not Expected

4.1 AIR QUALITY

4.1.1 Construction Phase

No air sensitive receivers (ASRs) are identified within 500m of the Project Site boundary. The closest residential use in the area is the village houses at Fung Kat Heung, which is at a distance of about 600 m to the southwest of the Project.

Dust may arise from the general construction works including minor excavation and the formation of a concrete platform. As the scale of construction works (eg manual installation of prefabricated equipment) are small, air quality impact to the surrounding environment is expected to be minimal. Inhabited villages are more than 500m away from the boundary of the construction site, and construction dust impact is therefore not anticipated. With the implementation of dust suppression measures stipulated under the *Air Pollution Control (Construction Dust) Regulation* and the adoption of good site practice, no adverse air quality impact of construction work is expected.

4.1.2 Operational Phase

Since the TETRA station will be unmanned and will only require infrequent maintenance involving the use of hand tools when necessary, air emission is not anticipated during the operation of the Project.

4.2 NOISE

4.2.1 Construction Phase

No noise sensitive receivers (NSR) are identified within 500m of the boundary of the construction site. Only daytime work will be carried out for the construction of the Project. As a result of the small scale of the Project, only a limited number of small equipment is expected to be used. Due to the lack of direct vehicular access to the Project Site, all equipment and materials required for construction of the base station will be delivered by a helicopter or carried manually to site by workers. The need for material delivery by helicopter is expected to be required infrequently (most likely at the commencement and the end of the construction stage) and the associated noise disturbance will be transient and insignificant. Adverse impacts from construction noise are not envisaged.

4.2.2 Operational Phase

Noise impact is not expected during the operation of the Project. As the station will be unmanned and the infrequent maintenance of the radio equipment will only involve the use of hand tools or devices, the noise impact during such events is expected to be negligible.

4.3 WATER QUALITY

4.3.1 Construction Phase

No running streams passing through or in proximity to the Project Site were identified during the site visits. The works that may have the potential to generate silty surface runoff are expected to include minor excavation works and the construction of the concrete platform, especially during the wet season. Adverse water quality impact is however not expected with the implementation of proper site runoff control measures considering the small scale and short duration of works activities. Water quality impact on other

fresh water courses from the works is also unlikely as none were observed in proximity to the Project Site during the site visit.

4.3.2 Operational Phase

No effluent discharge will be generated during the operation of the radio base station and no water quality impact is anticipated.

4.4 WASTE MANAGEMENT

4.4.1 Construction Phase

The construction activities associated with the Project may generate the following broad categories of waste:

- construction and demolition (C&D) materials, mainly inert materials from the minor excavation works;
- very small quantities of chemical wastes, such as batteries and lubricating oils from the maintenance of construction equipment; and
- small quantities of general refuse, including food waste from the on-site work force and the packaging from the construction materials.

Owing to the small scale of works, the amount of C&D materials generated will be limited (ie, about 6.5 m^3). All inert materials generated from the construction works will be properly segregated and reused on the Project Site for backfilling. Other wastes will be disposed off-site by helicopter or by workers. Based on the above, the potential impacts associated with the handling and disposal of C&D materials during the construction phase are considered negligible.

The construction activities will involve only a very small number of construction equipment. The quantities of chemical waste to be generated from regular maintenance of equipment should be minimal and no impact is expected in this respect. General refuse will be taken away from the construction site by the workers for proper disposal on a daily basis. With proper housekeeping measures and refuse collection in place, minimal or no impact is expected to result from refuse generated during the construction phase of the Project.

4.4.2 Operational Phase

With the infrequent need for maintenance of the Project, no waste management issue is anticipated during the operation of the Project.

4.5 ECOLOGY

4.5.1 Legislation and Guidelines

The following legislation and guidelines provide the framework for the protection of species and habitats of ecological importance for ecological impact assessment in Hong Kong:

- *Country Parks Ordinance* (Cap 208);
- *Forests and Countryside Ordinance* (Cap 96);
- *Town Planning Ordinance* (Cap 131);
- *Wild Animals Protection Ordinance* (Cap 170);
- *Protection of Endangered Species of Animals and Plants Ordinance* (Cap 586); and
- *Hong Kong Planning Standards and Guidelines Chapter 10* (HKPSG).

Reference was also made to the *Technical Memorandum on Environmental Impact Assessment Process* (EIAO-TM) issued under the EIAO in the evaluation of potential ecological impacts.

4.5.2 Literature Review of Ecological Characteristics of the Study Area

A literature review was conducted for the Project Site (1) (2) (3) (4). There is very limited ecological information available regarding the Study Area from the literature review but there is one record of a Ferret-Badger (*Melogale moschata*) and one of a Masked Palm Civet (*Paguma larvata*) in the foothills of Kai Kung Leng in LTCP in 2002 (5). Kai Kung Leng peak is situated over 2 km due east from the Project Site.

Subsequently, a field survey was conducted in April 2010 to determine the existing ecological conditions within the Study Area.

4.5.3 Ecological Baseline Conditions

Habitat and Vegetation

Terrestrial habitats found within the Study Area consisted of young woodland, grassland and the existing transposer station, which was classified as developed area (*Figure 4.1*). Within the Study Area, 46 species were found in grassland; 26 species in the young woodland and 15 species in the Project Site (grassland) (see *Annex A*).

(1) *Porcupine!* Newsletter of Department of Ecology & Biodiversity, University of Hong Kong Issues 1 to 33.
(2) AFCD Biodiversity Newsletters (2002-2010)
(3) AFCD (2003). New View Points-Country Park in Focus. *Friends **of the Country Park**.*
(4) Project Profile 405/209 Hill-top Transposer Station Expansion at Hill 374, Lam Tsuen Country Park, STT No. 1985, DD 104 .(DIR-195/2009)
(5) *Porcupine!* Newsletter of Department of Ecology & Biodiversity, University of Hong Kong Issue 28. Available at http://www.hku.hk/ecology/porcupine/por28/28-wildcorner.htm [Accessed May 2010].

Grassland was by far the dominant habitat within the Study Area, covering 62.5% of area. Plant species recorded in this habitat were mainly very common or common and no plant species of conservation interest were found. Overall, grassland is considered to be of low ecological value.

Young woodland was mainly located on the lower ground within the valleys of the Study Area. It is likely that during periods of heavy rain, there could be some water flow within these valleys. However, the site visits in April 2010 (the start of the wet season) revealed no running streams in proximity to the Project Site. Young woodland was the second most common habitat within the Study Area, covering 37.5% of it. No plant species of conservation interest were found within this habitat. Overall the young woodland was young in age and considered to be of low to moderate ecological value.

The developed area in the Study Area was made up of the area occupied by the existing TVB transposer station and accounted for approximately 0.01% of the whole Study Area. Several individuals of exotic Horsetail Tree (*Casuarina equisetifolia*) were planted along the boundary of the station as a visual mitigation measure (see *Figure 4.2*). Overall, developed area is considered to be of low ecological value.

The Project Site is located within an area shown as grassland on the habitat map in *Figure 4.1* and has the same characteristics as the grassland habitat in the Study Area. No rare or protected plant species were found within the Project Site and it is considered to be of low ecological value. The habitat within the Project Site area and on the immediately adjacent land has been slightly modified by the existing TVB transposer station, situated just northwest of the Project Site.

Photographic records of habitats identified within the Study Area are presented in *Figure 4.2*. The area of each habitat found within the Study Area and their ecological value are presented in *Table 4.2*.

Table 4.2 Area and Ecological Value of Each Habitat Identified within the Study Area

Habitat	Area	Ecological Value	Note
Young Woodland	29.7 ha	Low to moderate	Young woodland was dominated by the native trees *Litsea glutinosa* and *Schefflera heptaphylla*. The average height of mixed woodland was 3 - 4 m. The understorey was dominated by the climber *Mussaenda pubescens*, shrubs *Ilex pubescens* and *Glochidion wrightii*, and fern *Pteridium aquilinum var. latiusculum*. No plant species of conservation interest were recorded in the developed area.

Habitat	Area	Ecological Value	Note
Grassland	49.6 ha	Low	Grassland was dominated by a few very common, native species including the herb *Arundinella setosa,* the shrub *Baeckea frutescens* and the fern *Dicranopteris pedata.* Although *Baeckea frutescens* when fully grown is considered a shrub, plants found were young. Since almost no other woody species were found in this habitat, it was termed grassland. No plant species of conservation interest were recorded in the grassland.
Developed Area	.~83 m²	Low	Developed area consisted of the existing transposer station. No plant species of conservation interest were recorded in the developed area.
Project Site (Grassland)	~18 m²	Low	Like the rest of the grassland in the Study Area, the Project Site was dominated the very common, native species, *Arundinella setosa*, *Baeckea frutescens* and *Dicranopteris pedata*. Neither rare protected nor plant species of interest were recorded in the site.

Bird and General Wildlife

The abundance and species richness of general wildlife in the Study Area is low with the majority of the recorded wildlife species being common or very common in Hong Kong. The Ferret-Badger and Masked Palm Civet recorded in the foothills of Kai Kung Leng in 2002 are not considered of direct relevance to the Project due to the age of the record (8 years ago) and the distance of the 'foothills of Kai Kung Leng' from the Project Site.

Overall 14 bird species were recorded in the Study Area during the survey including 3 birds of conservation interest (*Table 4.3*).

Table 4.3 Bird Species recorded within the Study Area (April 2010)

Chinese name	Common name	Species names	Commonness*	Status in HK†	CITES/PRC List /China Red Data Book	Location and Activities (for Species of Conservation Interest)
麻鷹	**Black Kite**	*Milvus migrans*	**CW**	**R, WV**	**Class II Protected Animal of PRC. Protected under *Protection of Endangered Species of Animals and Plants Ordinance* (Cap. 586). Appendix 2 of CITES**	Recorded flying over young woodland and grassland habitats.
蛇鵰	**Crested Serpent Eagle**	*Spilornis cheela*	**R**	**R, PM**	**Class II Protected Animal of PRC. Protected under *Protection of Endangered Species of Animals and Plants Ordinance* (Cap. 586). *China Red Data Book* Status - Vulnerable Appendix 2 of CITES**	Recorded flying over young woodland and grassland habitats.
小雨燕	Little Swift / House Swift	*Apus nipalensis / affinis*	CW	R, PM		
小鴉鵑	**Lesser Coucal**	***Centropus bengalensis***	**U**	**R**	**Class II Protected Animal of PRC *China Red Data Book* Status - Vulnerable**	Heard calling in grassland near the boundary of the Study Area and outside the Project Site.
純色山鷦鶯	Plain Prinia	*Prinia inornata*	U	R		
大嘴烏鴉	Large-billed Crow	*Corvus macrorhynchos*	CW	R		
鷹鵑	Large Hawk Cuckoo	*Hierococcyx sparverioides*	CW	PM, SV		
噪鵑	Common Koel / Koel / Asian Koel	*Eudynamys scolopacea*	CW	R		
八聲杜鵑	Plaintive Cuckoo	*Cacomantis merulinus*	U	SV		
灰頭鵐	Black-faced Bunting	*Emberiza spodocephala*	CW	WV, PM		
家燕	Barn Swallow	*Hirundo rustica*	CW	PM, SV		
田鷚	Richard's Pipit	*Anthus richardi*	CW	R, PM, WV		
山鷚	Upland Pipit	*Anthus sylvanus*	R	R		
白頭鵯	Chinese Bulbul / Light vented Bulbul	*Pycnonotus sinensis*	CW	R, WV		

Notes:

- * Commonness according to Viney *et al.* The Birds of Hong Kong and South China (2006)
  CW = Common and widespread, U = Uncommon and localised, R = Rare and localized, VR = Very rare
- † Status according to Viney *et al*. The Birds of Hong Kong and South China (2006)
  R = Resident, WV = Winter Visitor, SV = Summer Visitor, OV = Occasional Visitor, PM = Passage Migrant
  NB All birds in Hong Kong are protected under the *Wild Animals Protection Ordinance* (Cap. 170)
- The names of the three bird species of conservation interest are highlighted in **bold** type.

Two Black Kites (*Milvus migrans*) were observed flying above the Study Area at the time of the survey. Despite being a common and widespread resident in Hong Kong, the Black Kite is considered a bird species of conservation interest in Hong Kong for the purpose of ecological evaluation. In the People's Republic of China (PRC), it is a *Class II Protected Animal* due to over-hunting. The Black Kites were observed soaring in the sky, in the north east of the Study Area, and an indication of their location is shown in *Figure 4.1*.

One Crested Serpent Eagle (*Spilornis cheela*) was observed flying above the Study Area at the time of the survey (Indication of location shown in *Figure 4.1*). Being a member of the Falconiformes it is listed in CITES *Appendix 2*. In the PRC it is a *Class II Protected Animal* and is categorised as "Vulnerable" in *China Red Data Book*. In Hong Kong it is protected under *Protection of Endangered Species of Animals and Plants Ordinance* (Cap. 586) and is a rare resident and passage migrant found mostly in woodland areas or soaring near woodlands.

One Lesser Coucal (*Centropus bengalensis*) was heard calling in the grassland in the Study Area at the time of the survey (Indication of location shown in *Figure 4.1*). In the PRC it is a *Class II Protected Animal* and is categorised as "Vulnerable" in *China Red Data Book*. In Hong Kong it is an uncommon resident, which occupies many types of habitats favouring scrub- and tree-covered hillsides (1).

4.5.4 Construction and Operational Phase Impacts

The potential ecological impacts that may arise during the construction and operational phases are evaluated based on the results of the field survey and the information gathered from the literature review.

Construction Phase

As a result of the construction activities (minor excavation works), the following are likely sequential outcomes to the habitat in the immediate proximity of the Project Site.

- Direct habitat loss from land take for the construction activities for the surface structures of the Project;
- Direct loss of inactive/less mobile/habitat-specific birds and general wildlife nesting/inhabiting the affected habitat (none recorded during the survey);
- Associated impacts to birds and general wildlife, including restriction of utilisation (ie transit, feeding and roosting), temporary and permanent loss of ecological habitat by birds and general wildlife; and

(1) Viney, C. *et al.* Birds of Hong Kong and South China (2006).

- Impacts to the surrounding habitat and associated birds and general wildlife due to physical disturbance of this habitat including disturbance, inappropriate storage or dumping of construction material, or hill fire.

The potential impacts on the habitat affected by the Project are presented in *Table 4.4*.

Table 4.4 Potential Impacts to Habitat Identified within the Project Site

Impacted Habitat	Project Component	Area of Habitat Impacted	Ecological Value	Overall Ecological Impact	Note
Grassland	TETRA radio base station	~18 m² (<0.004% of this habitat in the whole Study Area)	Low	Low	The impacted area is very small in the context of the large extent of similar habitat in the vicinity. No rare or protected species were found within the Project Site.

Given the anticipated small scale of construction activities and limited area of grassland to be disturbed on the Project Site as presented in *Table 4.4*, and assuming good construction practices are followed (*Section 5.5.1*), the ecological impact during the construction phase is expected to be low.

Operational Phase

Ecological impact is not anticipated during the operational phase.

4.6 LANDSCAPE AND VISUAL IMPACT

4.6.1 Construction Phase

The vegetation surrounding the Project Site is dominated by young woodland and grassland. The site visit in April 2010 also confirmed that the Project Site was covered in grasses, which will need to be removed for the construction of the Project. Extensive vegetation clearance or tree felling will however not be required. With the limited scale of vegetation removal, the small size of Project Site, the small number of construction equipment required and short construction period, impact on the existing landscape is expected to be low.

4.6.2 Operational Phase

The equipment shelter is about 2.6m tall and the antenna mast, which is the tallest structure of the Project, will be 5m tall. Taking into account the large separation distance between the Project and the nearest village of Fung Kat Heung (more than 500m) (*Figure 3.1*) and the elevation of the Project Site (290mPD), the new structures of the Project are expected to be hardly visible to the villagers at Fung Kat Heung and no adverse visual impacts on the villagers are anticipated.

The structures of the Project may be visible to hikers passing through the area but the effect will only be transient and the visual impact to the occasional

hikers will be minimal. In addition, the Project will only contribute slightly to changes in the full view of hikers on the footpath leading to Kai Kung Leng in LTCP by blending in with the existing TVB transposer station and its future expansion. Views of the structures of the Project to hikers on the footpaths to the north and west of the Project Site are also anticipated to be shielded by the trees and the structures of the TVB transposer station.

The equipment shelter and all antenna poles of the TETRA radio base station will be painted in subdue and non-reflective colour. The colour scheme and finishing will also match the country park environment and complement that of the existing structures of the immediate surrounding area. The landscape and visual impact of the Project is therefore considered to be low.

In addition, broadcasting facilities, including antenna masts of sizes and scale larger than that of the Project, have already been installed at the existing TVB transposer station. The introduction of the new antenna mast and the associated radio base station equipment, which will be of approximately half the height and only about one fifth of the footprint of the existing TVB transposer station, will not give rise to significant additional landscape and visual impacts. Taking the above into consideration, including the existing TVB transposer station and its future expansion works that are visually dominant in the area, the overall cumulative landscape and visual impacts of the Project are considered to be low and no adverse landscape and visual impacts are anticipated. A graphical illustration of the Project from the footpath west of the Project Site is presented in *Figure 4.3*.

4.7 CULTURAL HERITAGE

4.7.1 Legislation and Guidelines

The following legislation and guidelines are applicable to the assessment of impacts on sites of cultural heritage in Hong Kong:

- EIAO;
- *Annexes 10* and *19* of EIAO-TM;
- *Guidance Notes on Assessment of Impact on Sites of Cultural Heritage in EIA Studies* published under EIAO*;*
- *Antiquities and Monuments Ordinance (Cap. 53);*
- *Guidelines for Cultural Heritage Impact Assessment (CHIA Guidelines)* published by Antiquities and Monuments Office (AMO) of Leisure and Cultural Services Department *;* and
- *Hong Kong Planning Standards and Guidelines (HKPSG).*

4.7.2 Assessment Methodology

The methodology adopted follows AMO's CHIA Guidelines and comprised the following tasks:

Task 1 - Desktop Study

A desktop review was undertaken to compile a comprehensive inventory of cultural heritage resources as defined in the CHIA Guidelines. *Table 4.5* presents the classification of the cultural heritage resources.

Table 4.5 Categories of Cultural Heritage

Categories	Description
Declared Monuments	Statutorily protected against the threat of development under the *Antiquities and Monuments Ordinance (AM Ordinance)* to enable preservation for posterity.
Deemed Monuments	They are sites identified by the AMO and agreements reached with the owners of the Monument to provide for specific measures to ensure preservation.
Existing/ Proposed Graded Historic Buildings	Graded by the Antiquities Advisory Board (AAB) based on an internal guidelines adopted by the AAB and the AMO for the preservation of historic buildings. Existing/proposed graded historic buildings and government historic sites are included in this category. • Grade I - Buildings of outstanding merit, which every effort should be made to preserve if possible. • Grade II - Buildings of special merit; efforts should be made to selectively preserve. • Grade III - Buildings of some merit; preservation in some form would be desirable and alternative means could be considered if preservation is not practicable. • No Grade – Buildings Assessed and considered not to be graded as I, II or III.
Sites of Archaeological Interest	Sites with archaeological interest listed by AMO.
Other Cultural Heritage Resources	Cultural heritage resources falling outside the above categories but need to be addressed in accordance with the CHIA Guidelines. They comprise: • Unknown areas of archaeological interest not listed by AMO; • Historic buildings and structures; and • Landscape features.

Information was obtained from the internet, the Hong Kong Heritage Discovery Centre Reference Library, public libraries and libraries of tertiary institutions. Footnotes are provided in relevant sections regarding materials referenced.

Task 2a - Built Heritage Survey

A built heritage survey was conducted to confirm the on-site condition of cultural heritage resources recorded by AMO and identified from desktop

research, if any, and to identify any additional built heritage resources not recorded.

Photographic records and interviews with locals, if possible, were conducted to obtain information in relation to the identified resources. The survey included the identification of:

- All pre-1950 buildings and structures;
- Selected post-1950 buildings and structures of high architectural and historical significance; and
- Landscape features such as historical field patterns, traditional trackways, fish ponds, fung shui woodlands/trees, shrines and historical clan graves.

Task 2b - Archaeological Survey

A desktop review was conducted as the first step to evaluate the archaeological potential of the Project Site. The information from the desktop review combined with observations during a site inspection was considered adequate for ruling out the requirement for an archaeological survey. Further discussions are provided below.

Task 3 - Impact Assessment & Recommendations of Mitigation Measures

Preservation in totality is always taken as the first priority and the assessment has taken into account the requirement as specified in the CHIA Guidelines published by AMO.

Potential direct and indirect impacts on the identified cultural heritage resources have been evaluated. Should potential impacts be identified, appropriate mitigation measures will be recommended.

4.7.3 Baseline Condition

The area within a distance of 500m from the boundary of the Project Site was inspected in April 2010. No declared monuments, deemed monuments, existing/proposed graded historic buildings and sites of archaeological interest were identified (1). Four graves and one urn were, however, identified and they are listed in *Table 4.6*. The detailed records of these cultural features are presented in *Annex B* and their locations shown in *Figure 4.4*.

(1) Declared Monument as at 7 November 2008. Information on line; available from http://www.lcsd.gov.hk/CE/Museum/Monument/en/monuments.php; List of Sites of Archaeological Interest as at 16 February 2009

Table 4.6 Graves and Urn Identified within the Study Area

Feature Code	Feature Name	Feature Description	Construction or Renovation Date	Distance from the Nearest Project Site Boundary (m)
G1	Man (文) Clan Grave	A grave of 21st generation Man clan members.	Renovated in 1979	5.5
G2	Man (文) Clan Grave	The grave comprises three headstones and only one of them is legible. According to the legible headstone information, it is a grave of 19th generation Man clan members.	Renovated in 1925	106
G3	Man (文) Clan Grave	A grave of 21st generation Man clan members. According to site observations, the burial appears to have been removed.	Renovated in 1979	72
G4	Wei (魏) Clan Grave	A grave of Wei clan members.	Renovated in 1932	105
U1	Urn	An urn burial in the ground with the urn lid expose on the ground	Unknown	64

A review of literature, geology, topography and observations during the site inspection indicate that the Project Site is on the exposed slope of a hill, which is commonly considered unfavourable for human settlement. The topography of the Project site is also unfavorable for the build-up of sediments, hence archaeological deposits usually associated with sedimentation. Based on the above, the Project Site is considered to have negligible archaeological potential, and therefore archaeological survey is considered not necessary.

4.7.4 Evaluation of Impacts

Construction Phase

Since no declared monuments, deemed monuments, existing/ proposed graded historic buildings and sites of archaeological interest were identified within the Study Area, no impact is anticipated.

Three of the four identified graves (G2 to G4) and an urn (U1) are located at about 50 to 110 m from the Project Site. With the large separation distance between graves/urn and the Project Site, no impact is anticipated.

A Man Clan grave (G1) is located at 5.5m west of the Project Site. As the construction works will only be conducted within the Project Site boundary,

direct physical disturbance of this grave is not expected. As the construction work is small in scale and undertaken with only small construction equipment, vibration impact on the grave is not anticipated. With the implementation of the mitigation measures recommended in *Section 5.7*, the impact on this grave is not envisaged.

Operational Phase

As the station will be unmanned during the operational phase and the operations will be confined within the Project Site boundary fence, cultural heritage impact is not anticipated.

5 ENVIRONMENTAL PROTECTION MEASURES

5.1 AIR QUALITY

5.1.1 Construction Phase

The potential dust impacts associated with the construction of the Project will be mitigated through the implementation of construction site management practices for dust control. This includes covering of dusty stockpiles or the exposed surfaces if any with impervious sheeting.

5.1.2 Operational Phase

No operational air emission is anticipated and no mitigation measure is required.

5.2 NOISE

5.2.1 Construction Phase

Implementation of standard construction site management measures for noise control, such as the use of well-maintained construction plant and planning of the construction plant team, will be sufficient to ensure compliance with the construction noise limits.

5.2.2 Operational Phase

No operational noise impact is anticipated and no mitigation measure is required.

5.3 WATER QUALITY

5.3.1 Construction Phase

Appropriate measures will be implemented in accordance with the guidelines stipulated in EPD's *Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN1/94)* during the construction works to properly control site run-off and drainage and to minimise potential water quality impacts.

5.3.2 Operational Phase

No operational water quality impact is anticipated and no mitigation measure is required.

5.4 WASTE MANAGEMENT

5.4.1 Construction Phase

Owing to the small scale of the Project and the reuse of excavated soils for backfilling, a minimal amount of construction waste is expected to arise from the construction of the Project. To minimise the amount of construction waste, careful design, comprehensive planning and good site management practice will be adopted by the contractors of the Project and waste on-site will be properly segregated to increase the potential for reuse and recycling. Chemical waste generated during the construction of the Project, if any, will be properly stored in accordance with *Code of Practice on the Packaging, Labelling and Storage of Chemical Waste* by EPD before collection for disposal by a licensed Chemical Waste Collector. The quantity of general refuse generated on-site will be minimal owing to the small number of workers involved and will be taken away from the Project Site by the workers for proper disposal on a daily basis.

Non-reusable excavated material and construction waste produced over the project period will be transported off the site by a helicopter.

5.4.2 Operational Phase

No waste management issue is anticipated during the operation of the radio base station and no waste mitigation measure is required.

5.5 ECOLOGY

5.5.1 Construction Phase

Potential ecological impacts associated with the Project during the construction phase will likely be disturbance of grassland and associated birds and general wildlife. With the low ecological value of the habitat and the very small area that will be affected (<0.004% of this habitat in the Study Area), potential ecological disturbance caused by the Project is anticipated to be low. Further ecological disturbance could be minimised by implementation of good construction practices which are listed as follow:

- Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the remaining and surrounding natural grassland habitat;
- Regularly check the Project Site boundaries to ensure that they are not breached and that no damage occurs to surrounding areas;
- Prohibit and prevent open fires within the site boundary during construction and provide temporary fire fighting equipment in the work areas; and
- Reinstate temporary work sites/disturbed areas, immediately after completion of the construction works.

5.5.2 Operational Phase

Ecological impact is not anticipated during the operational phase.

5.6 LANDSCAPE AND VISUAL IMPACT

5.6.1 Construction Phase

No adverse landscape and visual impact is expected during the construction phase and no mitigation measure is required.

5.6.2 Operational Phase

The equipment shelter and all antenna poles of the TETRA radio base station will be painted in subdue and non-reflective colour. The colour scheme and finishing will also match the country park environment and complement that of the existing structures of the immediate surrounding area.

5.7 CULTURE HERITAGE

5.7.1 Construction Phase

The following good site practices to protect the Man clan grave should be implemented:

- Maintain access to the grave during construction;
- Avoid construction work on the day of Ching Ming Festival and Chung Yueng Festival; and
- Inform construction workers of the presence of the grave before commencement of construction work to avoid potential physical disturbance of the grave.

5.7.2 Operational Phase

No adverse cultural heritage impact is expected during the operational phase and no mitigation measure is required.

6 *COMMENT ON POSSIBLE SEVERITY, DISTRIBUTION AND DURATION OF ENVIRONMENTAL EFFECTS*

The proposed TETRA radio base station will improve the radio communication coverage in the Kai Kung Leng area, the safety level of CLP outdoor maintenance operators and therefore the reliability of power supply. The selection of the Project Site has taken into consideration the relatively isolated location but modified nature of the area to further minimise potential environmental disturbance to sensitive receivers arising from the implementation of the Project.

The scale of the construction works is extremely small, requiring the use of only limited small construction equipment and hand tools for a short duration of approximately thirteen weeks. The Project will be unmanned in the operational phase and will not impose any adverse environmental impacts. The overall environmental impacts potentially arising from the Project are considered to be extremely minor. With the implementation of appropriate environmental control measures discussed in the preceding sections, no adverse residual environmental impacts are anticipated.

7 *USE OF PREVIOUSLY APPROVED EIA REPORTS/DIRECT ENVIRONMENTAL PERMIT APPLICATIONS*

Reference has been made to the following Project Profiles for direct application of Environmental Permit due to the similarity in location, purpose and characteristics of the projects.

- *Hill-top Transposer Station Expansion at Hill 374, Lam Tsuen Country Park, Short Term Tenancy No.1985, DD 104; PP-405/2009 submitted for Application No DIR-195/2009*
- *TETRA Radio Base Station at Tai Long Au, Sai Kung East Country Park, Tai Po, New Territories; PP-399/2009 submitted for Application No DIR-189/2009*
- *TETRA Radio Base Station at Yuen Ng Fan, Sai Kung; PP-323/2007 submitted for Application No DIR-154/2007*

目錄

附錄

1 基本資料

1.1 工程項目名稱

元朗林村郊野公園雞公嶺陸地集群無線通訊基站（以下簡稱「本工程項目」）

1.2 工程項目倡議人名稱

中華電力有限公司（以下簡稱「中電」）

1.3 聯絡人姓名及電話號碼

姓名： 朱永源先生

職位： 中華電力有限公司技術服務部電訊經理

電話： 2678 6018

1.4 工程項目目的和性質

中電倡議在元朗林村郊野公園內的雞公嶺興建及營運一個陸地集群無線通訊基站，以改善無線通訊覆蓋範圍和保障在戶外工作的中電員工的安全。此改善工程對保障在戶外工作的中電員工的安全至爲重要，並使遙距監察和控制輸電系統的工作更加有效，從而加强電力供應的可靠性。

1.5 工程項目的地點、規模和工地簡史

本工程項目地點位於元朗林村郊野公園內的雞公嶺（*圖 1.1*）。本工程項目地點位於八鄉以北、逢吉鄉以東和錦田東北。基準水平以上約 289 米。

本工程項目佔地約 18 平方米（長 4.5 米、闊 4.0 米），而工程項目的所有建築物將會興建在混凝土地台上。是次工程的規模甚小，主要包括興建混凝土地台、安裝電訊器材保護外罩和安裝天線及相關的天線桿（*圖 1.2* 和 *1.3*）。本工程只需使用小型的機械設備和手提工具。本工程不需要興建行車通道。*圖 1.4* 展示了本工程項目的佈局。

擬建的無線通訊基站將會是無人操作的。基站在運作期間，絕少需要進行電訊設備的維修。一般的維修工作只需用一般的手提工具，而最多需要兩名維修工人。他們可以由最近的道路步行到基站。

1.6 工程項目簡介所涵蓋的指定工程項目數目及種類

根據《環境影響評估條例》（以下簡稱爲《環評條例》）附表 2 第 I 部 Q.1 類別 - 位於郊野公園內的工程項目，擬建的雞公嶺陸地集群無線通訊基站屬於「指定工程項目」。

2 *計劃大綱及執行時間表*

中電已委託歐洲宇航防務集團（EADS）負責無線通訊基站的設計和建造工程。相關的設計及申請各種批核的工作經已展開。項目暫定於 2011 年 3 月動工，及於 2011 年 9 月投入運作。根據現時的工程計劃，工程項目將會依*表 2.1* 所述進行。

表2.1 工程計劃概略

本工程項目的主要階段	**所需時間**
興建混凝土地台	五星期
製作和安裝電訊設備保護外罩	四星期
安裝機電設備	三星期
安裝設天線塔	四星期
安裝電訊設備	三星期
系統測試和投入運作	四星期

現時並無行車道路可直達本工程項目地點。在施工階段，所需的機械及物料將會由直升機運送到工地，地面的建築工人也會協助運送過程。小型挖掘工程及興建混凝土地台將會使用小型機械設備與手提工具，而玻璃纖維電訊器材保護外罩、電力裝置、電訊設備和機械設備的安裝則只需使用手提工具。

據悉電視廣播有限公司建議擴建在本工程項目地點西北面山頂的轉播站，而此擴建工程已獲發環境許可證（EP-386/2010）。根據已獲批准的電視廣播有限公司轉播站的工程項目簡介（PP-405/2009），轉播站的擴建工程將於 2010 年 3 月至 9 月進行。然而，在 2010 年 4 月下旬的實地視察，該轉播站的擴建工程仍未動工。在草擬本工程項目簡介的期間，亦未能取得該轉播站擴建工程的最新施工時間表。按照 PP-405/2009 工程項目簡介所述，該轉播站的擴建工程的主要工程包括：小型挖掘、興建一個 0.1 米厚的 L 形混凝土地台（13.5 米 x 14.2 米）以及一些建築物，其總建築面積約爲 70 平方米。該轉播站的擴建工程預計於六個月內完成，估計會在本工程項目動工前竣工。由於本工程項目及該轉播站擴建工程的規模都很小，而兩項工程的施工時間又很短，縱使兩項工程的施工期有所重疊，預計亦只會造成輕微的累積影響。

圖 3.1 顯示本工程項目地點及附近區域的環境。現有的電視廣播有限公司的轉播站及其擴建工程位於本工程項目地點的西北面。在本工程項目地點邊界以外 500 米範圍內並沒有任何住宅。逢吉鄉、模範鄉和華盛村位於工程項目地點之西南面，朗廈位於西北面，而牛潭尾則位於北面，全部距離工程項目地點超過 500 米。榮基村和塱圍則位於本工程項目地點西面逾一公里外。在 2010 年 4 月的實地考察並沒有發現在本工程項目地點附近有任何河溪流經。

除了電視廣播有限公司的轉播站外，本工程項目地點及附近地方現時都是草地。工程項目地點現時並沒有行車通道可以直達。最近的行車路，是本工程項目地點西南約 600 米的逢吉鄉路。

4 *對環境可能造成的影響*

本工程項目的工程包括清除在工地內約 18 平方米的草地、興建混凝土地台以及安裝電訊設備。

在施工期間，工地內最多只有十名工人在同一時間工作。在運作期間，無線通訊基站不會有工作人員駐守。*表 4.1* 展示了擬建的無線通訊基站在施工和運作期間可能造成的環境影響。主要的潛在影響包括了在施工期間可能對空氣質素、噪音、工地徑流、廢物管理、文化遺產和陸地生態的影響。至於在運作期間的潛在影響，則只局限於由天線桿和相關的基站結構所產生的景觀及視覺影響。各項潛在的環境影響的詳情於後文闡述。

表4.1 工程項目可能造成的環境影響

潛在影響	**施工階段**	**運作階段**
• 氣體排放	–	–
• 塵埃	✓	–
• 氣味	–	–
• 噪音	✓	–
• 晚間操作	–	–
• 交通（陸上）	–	–
• 污水、排放物或受污染徑流	✓	–
• 產生的廢物或副產品	✓	–
• 製造、儲存、使用、處理、運送或處置危險品	–	–
• 對生命的危害	–	–
• 廢棄物料的處置	✓	–
• 礙眼的外觀	–	✓
• 文化遺產	✓	–
• 陸地生態	✓	–
• 累積影響	–	–

註：
'✓' = 可能； '–' = 預計沒有

4.1 空氣質素

4.1.1 施工階段

本工程項目地點附近 500 米的範圍並無空氣敏感受體。最近的住宅是本工程項目地點西南面約 600 米的逢吉鄉村屋。

建築工程的小型挖掘工程和混凝土地台建造工程有可能會產生塵埃。但由於各項建造工程規模較小（例如以人手安裝預製組件等），預期工程對空氣質素所造成的影響會極輕微。再者，有人居住的鄉村均位於工地

邊界以外 500 米，因此預期不會受到塵埃影響。只要在施工期間實施《空氣污染管制（建造工程塵埃）規例》所規定的塵埃控制措施以及採用良好的工地守則，預計在施工時所產生的塵埃不會對環境造成不良的影響。

4.1.2 運作階段

由於陸地集群無線通訊基站在運作期間將不會有人員駐守，偶爾的維修保養工作亦只需使用手提工具進行，預計在運作期間不會產生大氣排放。

4.2 噪音

4.2.1 施工階段

在工程項目地點邊界以外 500 米範圍並沒有任何噪音敏感受體。本工程項目的建築工程只會在日間進行。因建築工程規模較小，只需要使用少量的小型機械設備。此外，由於附近沒有行車通道，直接通往工地，所有工程所需機械和物料將會由直升機運送，或由工人運至工地。由於需要使用直升機運送物料的次數並不頻密（主要在施工開始和結束時），因此所產生的噪音滋擾只屬短暫性質，程度亦極爲輕微。預計本工程項目在施工期間不會造成不良的噪音影響。

4.2.2 運作階段

預計本工程項目在運作期間不會產生噪音影響。由於基站在運作期間將不會有人員駐守，需要維修保養工作的頻率甚低，而且這些維修只需使用手提工具或器械，預計非經常的維修工作所引致的噪音影響是極輕微。

4.3 水質

4.3.1 施工階段

在實地考察期間，沒有發現任何溪流流經工程項目地點和附近地方。在施工期間，小型挖掘工程和興建混凝土地台可能會產生工地徑流（尤其在雨季）。然而，基於是次工程規模較小及施工期短，預計實施適當的工地徑流控制措施後，將不會造成不良的水質影響。此外，根據實地勘察資料所得，本工程項目地點及其附近地區均沒有溪流，因此，本工程項目不會對任何溪流造成不良的水質影響。

4.3.2 運作階段

無線通訊基站在運作期間不會產生任何污水排放，因此不會造成不良的水質影響。

4.4 廢物管理

4.4.1 施工階段

本工程項目的建築工程可能會產生下列各類別的廢物：

- 拆建物料，主要是來自小型挖掘工程的惰性建築物料；
- 極少量的化學廢物，例如維修施工設備所產生的廢電池和廢潤滑油；及
- 少量一般垃圾，包括現場工人所產生的棄置食物，以及建築材料的包裝物料。

由於工程規模較小，預計工程所產生的拆建物料亦很少（約 6.5 立方米）。建築工程所產生的惰性物料會在工地作適當分類，並就地回填。而其他廢物則會由直升機或工人運離現場作適當處置。因此，預計本工程項目在施工期間處理和處置拆建物料和廢物時，只會造成微不足道的影響。

建造工程只需使用小量機械。這些機械的維修也只會產生極少量的化學廢物，因此工程期間所產生的化學廢物並不會對環境造成不良的影響。另外，工人每天會將一般垃圾携離工地作妥善棄置。只要實施適當的工地管理及妥善收集垃圾，預計處理及棄置在施工期間所產生的一般垃圾亦不會對環境造成不良影響。

4.4.2 運作階段

在運作期間，無線通訊基站需要的維修保養頻率甚低，因此，預計不會產生任何廢物管理方面的問題。

4.5 生態

4.5.1 法例和指引

下列法例和指引是香港的生態影響評估及保護具有生態價值物種和生境的依據：

- 《郊野公園條例》（香港法例第 208 章）；
- 《林區及郊區條例》（香港法例第 96 章）；
- 《城市規劃條例》（香港法例第 131 章）；
- 《野生動物保護條例》（香港法例第 170 章）；
- 《保護瀕危動植物物種條例》（香港法例第 586 章）；及
- 《香港規劃標準與準則》第十章。

本工程項目簡介亦參考了根據《環境影響評估條例》而發出的《環境影響評估程序技術備忘錄》（以下簡稱《環評技術備忘錄》），評估潛在的生態影響。

4.5.2 有關研究範圍生態特點的文獻檢閱

是次評估探討了有關本工程項目地點現時生態情況的文獻 (1)(2)(3)(4)。文獻中有關研究範圍的生態資料極少，但在 2002 年時，曾於林村郊野公園的雞公嶺山腳，錄得一隻鼬獾（*Melogale moschata*）和一隻果子狸（*Paguma larvata*）的蹤跡(5)。雞公嶺山腳位於本工程項目地點東面超過兩公里。

因此於 2010 年 4 月進行了一次實地考察，以確定研究範圍內的現有生態情況。

4.5.3 生態基線情況

生境與植被

在研究範圍內發現的陸地生境包括未成長林地、草地和歸類爲已發展地區的現有轉播站（見*圖 4.1*）。在研究範圍內的草地發現 46 個品種、在未成長林地發現 26 個品種、而在工程項目地點（草地）則發現 15 個品種（見*附錄甲*）。

草地是研究範圍內的主要生境，覆蓋了 62.5%的研究範圍。在此生境中錄得的所有植物品種都是屬於十分常見或常見的品種，並沒有發現具保護價值的植物品種。整體而言，草地的生態價值屬於低。

未成長林地主要集中於研究範圍內的山谷內的較低位置。在大雨的時候，在山谷內可能會出現流水。然而，在 2010 年 4 月（雨季開始）的實地考察中，工程項目地點及附近地區並沒有發現任何有流水的河溪。而未成長林地是研究範圍內的第二常見生境，覆蓋了該區 37.5%的地方。在未成長林地內沒有發現任何具保育價值的植物。總括而言，未成長林地的年月尚短，因此，此林地的生態價值只屬偏低至中等。

研究範圍內的已發展地區，是現時電視廣播有限公司轉播站所佔用的地區，其面積約佔整個研究範圍的 0.01%。轉播站邊界種植了數株爲外來品種的木麻黃（*Casuarina equisetifolia*），作爲該站所產生視覺影響的緩解措施（見*圖 4.2*）。總括而言，已發展區的生態價值只屬偏低。

(1) *Porcupine!* 香港大學生態及生物多樣性學系系報第 1 至 33 期。
(2) 漁農自然護理署《香港物種探索》（2002-2010 年）。
(3) 漁農自然護理署（2003）。《郊野新角度》。*郊野公園之友會*
(4) 工程項目簡介 405/209 號《林村郊野公園 374 號山之山頂轉播站擴建工程》，短期租約編號 1985，丈量約份 DD 104 .(DIR-195/2009)
(5) *Porcupine!* 香港大學生態及生物多樣性學系系報第 28 期。可於以下網址取得：http://www.hku.hk/ecology/porcupine/por28/28-wildcorner.htm 〔於 2010 年 5 月瀏覽〕。

本工程項目地點位於*圖 4.1* 所示的生境地位置圖中所展示的草地內，與研究範圍內的其他草地生境特點相若。在工程項目地點內沒有發現任何稀有或受保護的植物品種，因此，工程項目地點內的生態價值只屬低。在工程項目地點範圍內和其附近土地的生境，都因位於工程項目地點西北面的電視廣播有限公司轉播站而有輕微改動。

圖 4.2 展示了研究範圍內已知生境的照片。*表 4.2* 則羅列了在研究範圍內每種生境的面積及其生態價值。

表4.2　　在研究範圍內發現的生境的面積和生態價值

生境	面積	生態價值	備註
未成長林地	29.7 公頃	低至中等	未成長林地以本地樹木潺槁樹和鴨腳木爲主。混合林地的平均高度是 3 至 4 米。林地底層則主要是攀爬植物玉葉金花、灌木毛冬青和白背算盤子，以及蕨類 - 蕨（*Pteridium aquilinum var. latiusculum*）。已發展區內沒有錄得任何具保育價值的植物品種。
草地	49.6 公頃	低	草地的主要植物是數種十分常見的本土植物，包括草本植物刺芒野古草（*Arundinella setosa*），灌木崗松和蕨類芒萁。雖然完全成長的崗松是一種灌木，但在範圍內發現的都尚未成長。由於這種生境中沒有發現其他木本植物，因此把這種生境界定爲草地。在此範圍內沒有錄得任何具保育價值的植物品種。
已發展地區	約 83 平方米	低	已發展地區包括現有的轉播站。已發展地區內沒有錄得任何具保育價值的植物品種。
工程項目地點（草地）	約 18 平方米	低	與研究範圍的其他草地一樣，工程項目地點的主要植物是一些十分常見的本土植物，包括刺芒野古草、崗松和芒萁。工程項目地點內沒有錄得任何稀有或具保育價值的植物品種。

鳥類和一般野生動物

在研究範圍內一般野生動物的數量和品種俱少，而在研究範圍內所錄得的野生動物品種大都是香港常見或十分常見的類別。在 2002 年，於雞公嶺山腳記錄到的鼬獾和果子狸與本項目沒有直接關連，因爲該項記錄較舊（八年前），而且雞公嶺山腳與工程項目地點的距離亦較遠。

在考察期間，於研究範圍內共錄得 14 種雀鳥，其中包括三種具保育價值的品種（*表 4.3*）。

表4.3　在研究範圍內記錄到的雀鳥品種（二零一零年四月）

中文名稱	英文名稱	學名	普遍程度*	在香港的狀況†	瀕危物種貿易公約／中國清單／中國瀕危動物紅皮書	具保育價值品種的雀鳥位置和活動
麻鷹	**Black Kite**	*Milvus migrans*	**CW**	**R, WV**	**中國二級受保護動物** **受到《保護瀕危動植物物種條例》（香港法例第 586 章）的保護** **《瀕危物種貿易公約》附件 2**	在未成長林地和草地生境上空飛行。
蛇鵰	**Crested Serpent Eagle**	*Spilornis cheela*	**R**	**R, PM**	**中國二級受保護動物** **受到《保護瀕危動植物物種條例》（香港法例第 586 章）的保護** **《中國瀕危動物紅皮書》中的狀況 – 易危** **《瀕危物種貿易公約》附件 2**	在未成長林地和草地生境上空飛行。
小雨燕	Little Swift / House Swift	*Apus nipalensis / affinis*	CW	R, PM	-	-
小鴉鵑	**Lesser Coucal**	***Centropus bengalensis***	**U**	**R**	**中國二級受保護動物** **《中國瀕危動物紅皮書》中的狀況 – 易危**	在研究範圍邊界附近和工程項目地點外的草地鳴叫。
純色山鷦鶯	Plain Prinia	*Prinia inornata*	U	R	-	-
大嘴烏鴉	Large-billed Crow	*Corvus macrorhynchos*	CW	R	-	-
鷹鵑	Large Hawk Cuckoo	*Hierococcyx sparverioides*	CW	PM, SV	-	-
噪鵑	Common Koel / Koel / Asian Koel	*Eudynamys scolopacea*	CW	R	-	-
八聲杜鵑	Plaintive Cuckoo	*Cacomantis merulinus*	U	SV	-	-
灰頭鵐	Black-faced Bunting	*Emberiza spodocephala*	CW	WV, PM	-	-
家燕	Barn Swallow	*Hirundo rustica*	CW	PM, SV	-	-
田鷚	Richard's Pipit	*Anthus richardi*	CW	R, PM, WV	-	-
山鷚	Upland Pipit	*Anthus sylvanus*	R	R	-	-
白頭鵯	Chinese Bulbul / Light vented Bulbul	*Pycnonotus sinensis*	CW	R, WV	-	-

中文名稱	英文名稱	學名	普遍程度*	在香港的狀況†	瀕危物種貿易公約／中國清單／中國瀕危動物紅皮書	具保育價值品種的雀鳥位置和活動

註：

- * 普遍程度是根據 Viney 等人的著作。香港及華南雀鳥（2006）
  CW = 常見及廣泛分佈、U = 不常見及只在局部地區分佈、R = 稀有及只在局部地區分佈、 VR = 十分稀有
- † 狀況是根據 Viney 等人的著作。香港及華南雀鳥（2006）
  R = 留鳥，WV = 冬候鳥，SV = 夏候鳥，OC = 偶見鳥，PM = 過境遷徙鳥
  注意：在香港的所有雀鳥均受《野生動物保護條例》（香港法例第 170 章）的保護。

三種具保育價值的雀鳥品種名稱均以**粗體字**顯示。

在進行考察時，考察人員看見兩隻麻鷹（*Milvus migrans*）在研究範圍上空飛行。雖然麻鷹在香港是常見而且分佈廣泛的雀鳥，但在生態評估方面，仍屬具有保育價值的鳥類。由於過度捕獵，此種雀鳥在中國屬二級受保護動物。考察人員在研究範圍東北面曾見過麻鷹在高空中翱翔。有關牠們的位置，請參閱*圖 4.1*。

在考察期間，考察人員看見一隻蛇鵰（*Spilornis cheela*）在研究範圍上空飛翔（*圖 4.1* 顯示了其位置）。由於這種雀鳥屬於隼形目，因此被列入《瀕危物種貿易公約》的附件 *2* 內。牠們在中國亦屬二級受保護動物，並在《中國瀕危動物紅皮書》中列爲「易危」類別。這種鳥在香港受到《保護瀕危動植物物種條例》（香港法例第 586 章）的保護，是一種稀有的留鳥和過路鳥，多在林地發現或在林地附近的上空飛翔。

在考察期間，考察人員聽見一隻小鴉鵑（*Centropus bengalensis*）在研究範圍的草地鳴叫（*圖 4.1* 顯示了其位置）。這種鳥是在中國分類爲二級受保護動物，並在《中國瀕危動物紅皮書》中列爲《易危》類別。牠是香港不常見的留鳥，生活於多種生境，但特別喜歡棲息於灌木和樹木覆蓋的山坡上(1)。

4.5.4 施工和運作階段的影響

本項目是根據實地考察的結果和文獻檢閱時所收集的資料來評估在施工和運作期間可能產生的生態影響。

施工階段

本工程項目的建築工程（包括小型挖掘工程）可能會對工地四周的生境造成下列影響：

- 地面工程直接導致生境損失；
- 直接損失各種不活躍／流動性較低／需要特定生境的雀鳥，以及在受影響生境內築巢／居住的一般野生動物（在調查時錄得沒有此類雀鳥／野生動物）；
- 因生境消失而對雀鳥和一般野生動物造成的相關影響，包括對生境的使用（即路過、覓食和棲息等）受到限制，以及暫時和永久失去對雀鳥和一般野生動物而言具有生態價值的生境；及
- 工程滋擾附近生境因而令相關鳥類和一般野生動物受到影響，包括實質滋擾、不適當地存放或傾倒建築物料、或山火。

本項目對各種生境可能造成的潛在影響均羅列於*表 4.4*。

(1) Viney, C.等人所著的《香港及華南的雀鳥》（2006 年）。

表4.4　　工程項目地點內已確認的生境的潛在影響

受影響生境	項目組成部份	受影響生境面積	生態價值	整體生態影響	備註
草地	陸地集群無線通訊基站	約 18 平方米（這種生境佔整個研究範圍不足 0.004%）	低	低	與附近一大片近似的生境比較，受影響地區的範圍十分細小。項目地點內沒有錄得任何稀有或受保護的品種。

由於施工工程的規模小，而且從*表 4.4* 所羅列的資料可見，工程項目地點內受影響的草地面積有限，因此，若能實施良好的施工方法（見 *5.5.1 節*），在施工階段可能產生的生態影響將屬於低。

運作階段

預計在運作階段不會對生態造成任何影響。

4.6　　景觀及視覺影響

4.6.1　　施工階段

工程項目地點及附近地區的植被主要是未成長林地和草地。於 2010 年 4 月進行的實地考察亦證實，工程項目地點被草地覆蓋。在本工程項目動工前需先清除草地，但無需大幅清除植物或砍伐樹木。由於清除植物的規模有限、工程項目地點面積細小、所需的施工設備亦有限，而且施工時間短暫，因此，現有景觀只會受到低程度的影響。

4.6.2　　運作階段

設備外罩的高度約爲 2.6 米，而本工程項目最高的結構爲 5 米高的天線。鑑於工程項目地點與最近的鄉村，即逢吉鄉距離遠（超過 500 米）（*圖 3.1*），並考慮到項目地點的位置（主基準水平以上 290 米），預計逢吉鄉的村民不會清楚看見基站的結構，因此本工程項目不會對村民造成不良的視覺影響。

路過此地方的遠足者可能會看見本工程項目的各項設施，但有關的影響只屬暫時性，因此，對於偶然經過的遠足者來說，視覺影響的程度屬於極輕微。此外，本工程項目會與現有的電視廣播有限公司轉播站及其擴建部份融合，只會對沿著林村郊野公園內通往雞公嶺的小徑行走的遠足者（望向工程項目地點方向）的整體視野造成輕微改變。對於使用工程項目地點西面和北面小徑的遠足者而言，他們的視線亦會被樹木和電視廣播有限公司轉播站遮擋，而不會看見基站的設施。

陸地集群無線通訊基站的設備外罩和所有天線塔都會油上不顯眼和不反光的顏色。整體色調和最後粉飾都會配合郊野公園的環境，亦會配合四周的現有設施。因此，本工程項目對景觀及視覺的影響屬低。

此外，現有的電視廣播有限公司轉播站裝有比本工程項目更大（無論體積和規模）的天線桿等廣播設施。而本工程項目的天線塔和通訊基站設備的高度，將會是現有電視廣播有限公司轉播站高度的一半，而佔地亦只及其五分之一，因此不會顯著增加景觀及視覺影響。鑑於上述情況，包括屬於研究範圍內的電視廣播有限公司現有轉播站及其擴建工程，本工程項目與附近設施的整體累積景觀及視覺影響只屬低，並且將不會造成不良的景觀及視覺影響。*圖 4.3* 展示了從工程項目地點以西小徑所見到基站設施的示意圖。

4.7 文化遺產

4.7.1 法例和指引

下列法例和指引適用於評估對香港文化遺產的影響：

- 《環境影響評估條例》（香港法例第 499 章）（簡稱《環評條例》）；
- 《環境影響評估程序技術備忘錄》*附錄 10* 和 *19；*
- 根據環評條例出版的《評估對文化遺產地點影響指南》；
- 《古物及古蹟條例》（香港法例第 53 章）；
- 康樂及文化事務署轄下的古物古蹟辦事處出版的《文化遺產影響評估指引》；及
- 《香港規劃標準與準則》。

4.7.2 評估方法

是次評估是按照古物古蹟辦事處的《文化遺產影響評估指引》的方法進行，並包括下列工作：

工作 1 – 案頭研究

是次研究根據《文化遺產影響評估指引》內有關文化遺產資源的定義，檢閱了相關文獻，並整理出一份文化遺產資源清單。*表 4.5* 羅列了各種文化遺產資源的類別。

表4.5 ***文化遺產類別***

類別	說明
法定古蹟	受《古物及古蹟條例》保護，免受發展威脅，及可保留予後代享用。
認定古蹟	這是由古物古蹟辦事處識別的地點，並與業主達成協議，爲該古蹟提供特定措施，以確保古蹟得以保存。
現有／建議的已評級歷史建築物	由古物諮詢委員會根據該委員會和古物古蹟辦事處所採用的內部指引予以評級，以便保存歷史建築物。現有／建議的「已評級歷史建築物」和「政府文物地點」均屬此一類別。 • 一級歷史建築－具特別重要價值而可能的話須盡一切努力予以保存的建築物。 • 二級歷史建築－具特別價值而須有選擇性地予以保存的建築物。 • 三級歷史建築－具若干價值，並宜於以某種形式予以保存的建築物；如保存並不可行則可以考慮其他方法 • 無級別建築－已被評估而不屬於一、二或三級的建築物。
具考古價值的地點	古物古蹟辦事處所羅列具考古價值的地點。
其他文化遺產資源	不屬於上述類別，但根據《文化遺產影響評估指引》必須處理的文化遺產資源。它們包括： • 古物古蹟辦事處未有記錄，但具考古價值的地點； • 歷史建築和結構；及 • 景觀特色。

有關研究資料取自互聯網、香港文物探知館內的參考圖書館、公共圖書館和大專院校圖書館。在相關的章節中，均有註腳說明這些資料的來源。

工作 2a – 建築文物調查

是次研究進行了一項建築文物調查，用以確定古物古蹟辦事處所記錄到和文獻研究所記載的文化遺產資源的實地情況，並找出未有記錄的其他建築文物資源。

調查時會透過拍照和訪問當地人來取得已知文物的資料。是次調查需要找出下列歷史建築物：

- 在 1950 年前建成的所有建築物和結構；
- 在 1950 後建成，而具有較高建築價值和歷史價值的選定建築物和結構；及
- 景觀特色，例如具歷史意義的田野模式、傳統小徑、魚塘、風水林／樹、神龕和具歷史意義的宗族墓地。

工作2b – 考古調查

是次研究首先以參考案頭文獻來評估工程項目地點的考古潛力。從案頭文獻研究和實地考察所取得的資料，已足以確定無需在研究範圍進行考古調查。下文會詳細探討。

工作3 – 影響評估及建議緩解措施

完整地保存建築文物是在制定緩解措施時應優先考慮的措施。是次評估亦已充份考慮《文化遺產影響評估指引》中的要求。

本工程項目簡介已就本工程項目對已知的文化遺產資源可能造成的直接和間接影響作出評估。若發現有潛在影響，便會建議適當的緩解措施。

4.7.3 基線情況

在 2010 年 4 月在工程項目地點邊界外 500 米範圍內已進行了實地考察。是次考察沒有發現任何法定古蹟、認定古蹟、現有／建議的已評級歷史建築物，以及具考古價值的地點 (1)。然而卻發現四個墓地和一個骨灰甕（見*表 4.6*）。這些文化特色地點的詳情，均在*附錄乙*闡述；其位置則可見於*圖 4.4*。

表4.6 研究範圍內找到的墓地和骨灰甕

特色地點代號	特色地點名稱	特色說明	建造或修葺日期	與最近的工程項目地點邊界距離（米）
G1	文氏祖墳	第廿一代文氏族人之墓。	曾於 1979 年修葺	5.5
G2	文氏祖墳	該墳有三塊墓碑，但只有一塊碑文可以辨識。根據該塊可以辨識的墓碑所載，該墳屬第十九代文氏族人之墓。	曾於 1925 年修葺	106
G3	文氏祖墳	第廿一代文氏族人之墓。據實地觀察所得，墓葬已被移走。	曾於 1979 年修葺	72
G4	魏氏祖墳	魏氏族人之墓。	曾於 1932 年修葺	105
U1	骨灰甕	一個埋於地下的骨灰甕，甕蓋外露於地面。	未知	64

根據文獻記載以及有關工程項目地點的地質、地勢和實地考察所見，該地點位於一個毫無屏蔽的山坡上，通常都被認爲不適宜作居住之用。工程項目地點的地勢亦不利於沉積物積聚，而考古遺蹟通常都在沉積層

(1) 在 2008 年 11 月 7 日公佈的法定古蹟。網上資料可見於以下網址：http://www.lcsd.gov.hk/CE/Museum/Monument/en/monuments.php; 截至 2009 年 2 月 16 日爲止的具考古價值地點清單。

中。基於上述原因，工程項目地點的考古潛質是微不足道，因此無需進行考古調查。

4.7.4 影響評估

施工階段

研究範圍內沒有發現任何法定古蹟、認定古蹟、現有／建議的已評級歷史建築物，以及具考古價值的地點，因此預計不會對任何古蹟文物造成影響。

在四個已知的墳墓中，有三個墳墓（G2 至 G4）和一個骨灰甕 (U1) 距離工程項目地點約達 50 至 110 米。這些墳墓／骨灰甕距離工程項目地點頗遠，因此不會受到本工程項目影響。

另一個文氏祖墳（G1）位於工程項目地點以西約 5.5 米處。由於建築工程只會在工程項目地點內進行，因此不會對該墳墓造成直接影響。此外，建築工程的規模較小，而且只會使用小型機械設備進行，因此不會對墳墓造成震動影響。若實施*第 5.7 節*中所建議的緩解措施，本工程項目將不會對該墳墓造成不良影響。

運作階段

由於無線通訊基站在運作期間不需人員駐守，而且所有運作都會在本工程項目地點的範圍內進行，因此不會對文化遺產造成不良影響。

5 環境保護措施

5.1 空氣質素

5.1.1 施工階段

本工程項目會實施適當的工地管理方法來控制塵埃，藉此緩解施工期間可能產生的塵埃影響。這些措施包括以不透水的布料覆蓋多塵的物料堆或外露的地面。

5.1.2 運作階段

預計本工程項目在運作期間不會有氣體排放，因此無需實施任何緩解措施。

5.2 噪音

5.2.1 施工階段

若能實施標準建築工地管理方法中所建議的噪音控制措施，例如使用有良好保養的機械設施，以及妥善規劃並適當使用這些機械設施等，便可確保本工程項目能符合建築噪音的限制。

5.2.2 運作階段

預計本項目在運作期間不會產生噪音影響，因此無需實施任何緩解措施。

5.3 水質

5.3.1 施工階段

在進行建築工程時，會按照環保署的《建築工地排水專業守則》（專業人士環保事務諮詢委員會專業守則 1/94 號）所闡述的指引，實施適當措施來妥善控制工地徑流和排水，並盡量減少對水質的影響。

5.3.2 運作階段

預計本項目在運作階段不會造成水質影響，因此無需實施任何緩解措施。

5.4 廢物管理

5.4.1 施工階段

本工程項目的規模較小，而大部份掘出的泥土將作回填，因此，在施工期間只會產生極少量的建築廢物。爲了盡量減少產生建築廢物，本項目的承建商會小心設計和全面規劃工程，並會採用良好的工地管理方法。產生的廢物亦會適當地加以分類，以增加重用和循環再造的機會。施工時若產生化學廢物，便會按照環保署的《包裝、標識及存放化學廢物的工作守則》妥當儲存，然後由持牌的化學廢物收集商收集和處置。本工程項目所須的建築工人數目少，所以只會產生少量的一般垃圾，並每天由工人攜離現場作妥善處置。

施工期間所產生的剩餘填料和建築廢物會以直升機運離工地。

5.4.2 運作階段

無線通訊基站的運作不會產生廢物管理問題，因此無需實施任何廢物緩解措施。

5.5 生態

5.5.1 施工階段

本工程項目在施工期間對草地及其相關鳥類和一般野生動物產生潛在的影響或滋擾。由於該種生境的生態價值低，而且受影響的面積亦很小（佔研究範圍內這類生境的不足 0.004%），因此本工程項目可能造成的生態滋擾會很少。至於對其他生態的滋擾，也可以透過實施下列各項良好的施工方法來盡量減低：

- 避免破壞和滋擾附近的天然草地生境，特別是不可堆填廢物和非法傾倒物料；
- 定期檢查工程項目地點的邊界，確保工程沒有越界，而且附近地區也沒有被破壞；
- 在施工期間禁止和預防在工地範圍內出現明火，並在工地提供臨時消防設備；及
- 在完成各項工程後，馬上復原臨時工地／受滋擾地方。

5.5.2 運作階段

預計運作階段不會產生任何生態影響。

5.6 景觀及視覺影響

5.6.1 施工階段

預計本工程項目在施工期間不會造成不良的景觀及視覺影響，因此無需實施任何緩解措施。

5.6.2 運作階段

陸地集群無線通訊基站的設備外罩和所有天線都會油上不顯眼和不反光的顏色。整體色調和最後粉飾都會配合郊野公園的環境，亦會配合附近的設施。

5.7 文化遺產

5.7.1 施工階段

承建商應實施下列良好的施工方法來保護文氏祖墳：

- 在施工期間維持來往墓地的通道暢通；
- 避免在清明節和重陽節當天進行建築工程；及
- 在動工前通知所有建築工人有關墓地的位置，以免他們對該墓地造成實質滋擾。

5.7.2 運作階段

預計本工程項目在運作期間不會造成不良的文化遺產影響，因此無需實施任何緩解措施。

由於擬建的陸地集群無線通訊基站將會改善中電在雞公嶺地區的無線通訊覆蓋，並提升員工在戶外工作安全，從而提高電力供應的可靠性。在選擇工程項目地點時，已考慮到相對偏遠的位置和該區經過改動的性質，藉以盡量減低對各個敏感受體的潛在環境影響。

本工程項目的建築工程規模較小，施工期只有十三個星期，期間只需使用少量的小型建築機械和手提工具。基站不需人手操作或駐守，在運作期不會對環境產生不良影響。整體來說，本工程項目可能引起的環境影響極少。只要實施上文闡述的緩解措施，預計本工程項目並不會引致剩餘環境影響。

基於工程項目的位置、類別和特點相似，本工程項目簡介參考了以下已批准的「申請環境許可證的工程項目簡介」：

- 林村郊野公園 374 號小山電視轉播站擴建工程，短期租約第 1985 號，丈量約份第 104 約；爲 DIR-195/2009 號申請表而提交的 PP-405/2009 號工程項目簡介；
- 大埔西貢東郊野公園大浪坳陸地集群無線通訊基站；爲 DIR-189/2009 號申請表提交的 PP-399/2009 號工程項目簡介；
- 西貢元五墳陸地集群無線通訊基站；爲 DIR-154/2007 號申請表提交的 PP-323/2007 號工程項目簡介。

Figures
附圖

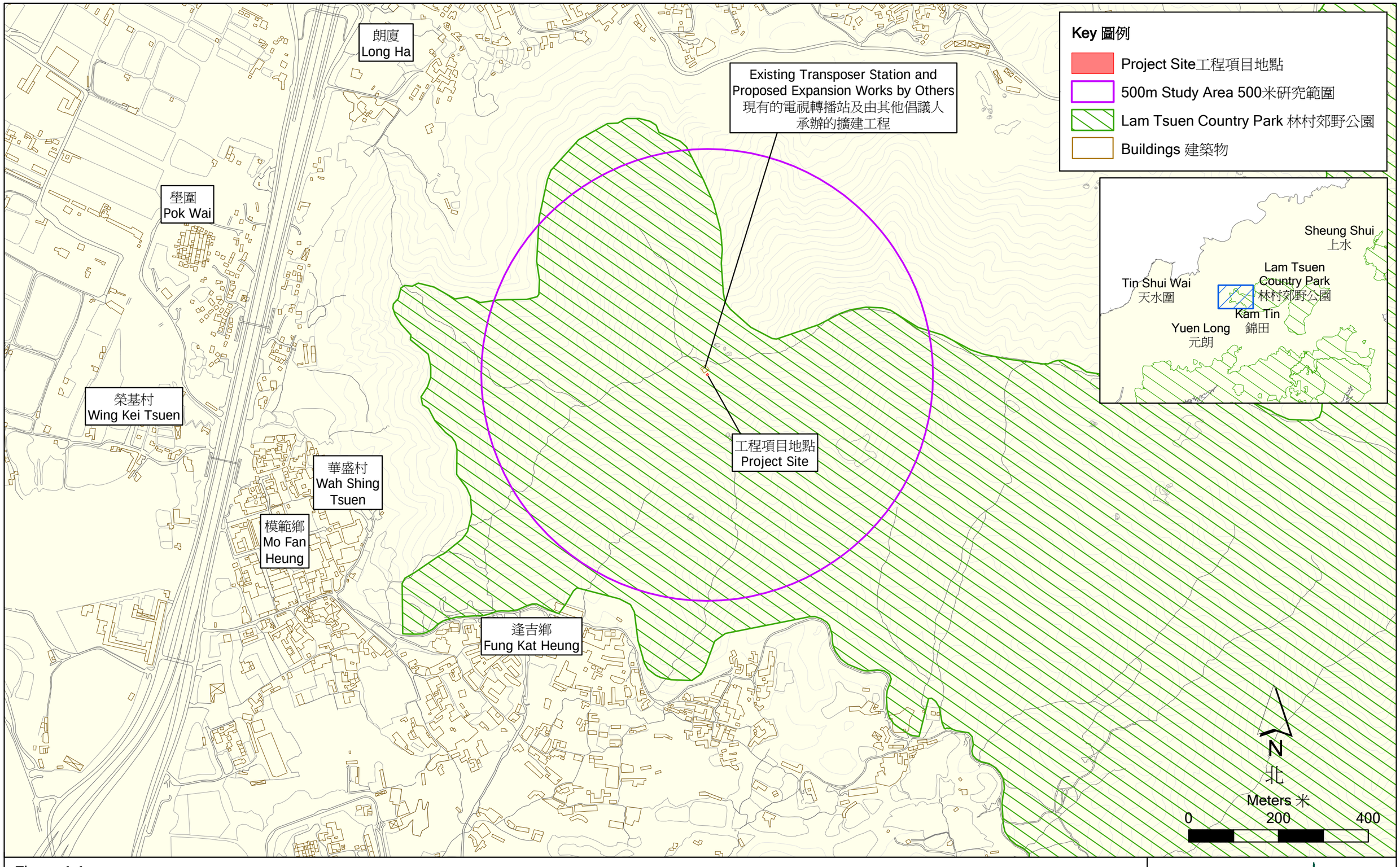


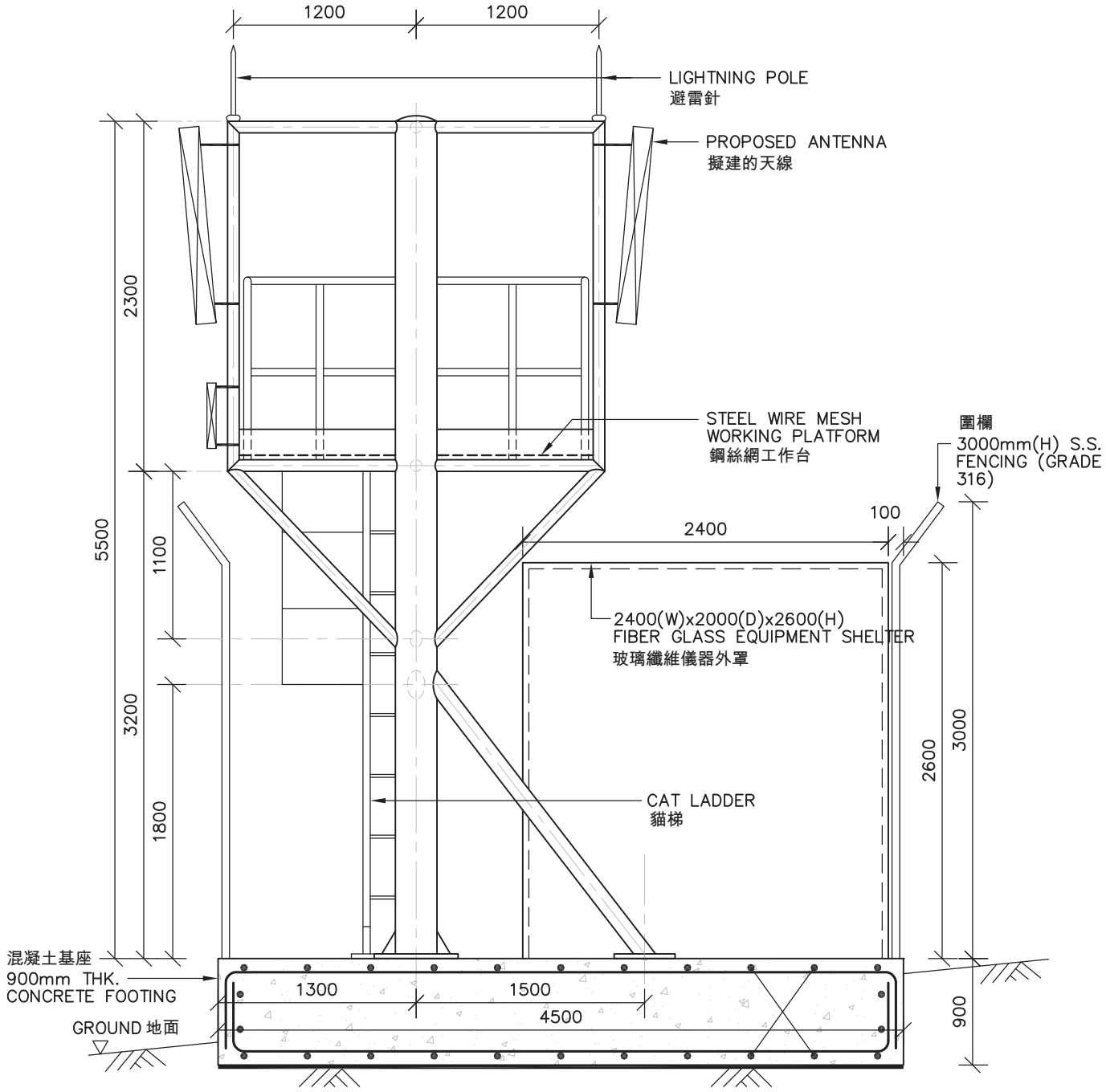
Figure 1.1
圖1.1

Location of Proposed TETRA Radio Base Station
擬建陸地集群無線通訊基站地點

File: 0115156_location of site.mxd
Date: 11/06/2010

Environmental Resources Management

ERM



Not to Scale
不按比例

Figure 1.2
圖1.2

TETRA Radio Station Front View
陸地集群無線通訊基站正面圖

FILE: 0115156b
DATE: 26/04/2010

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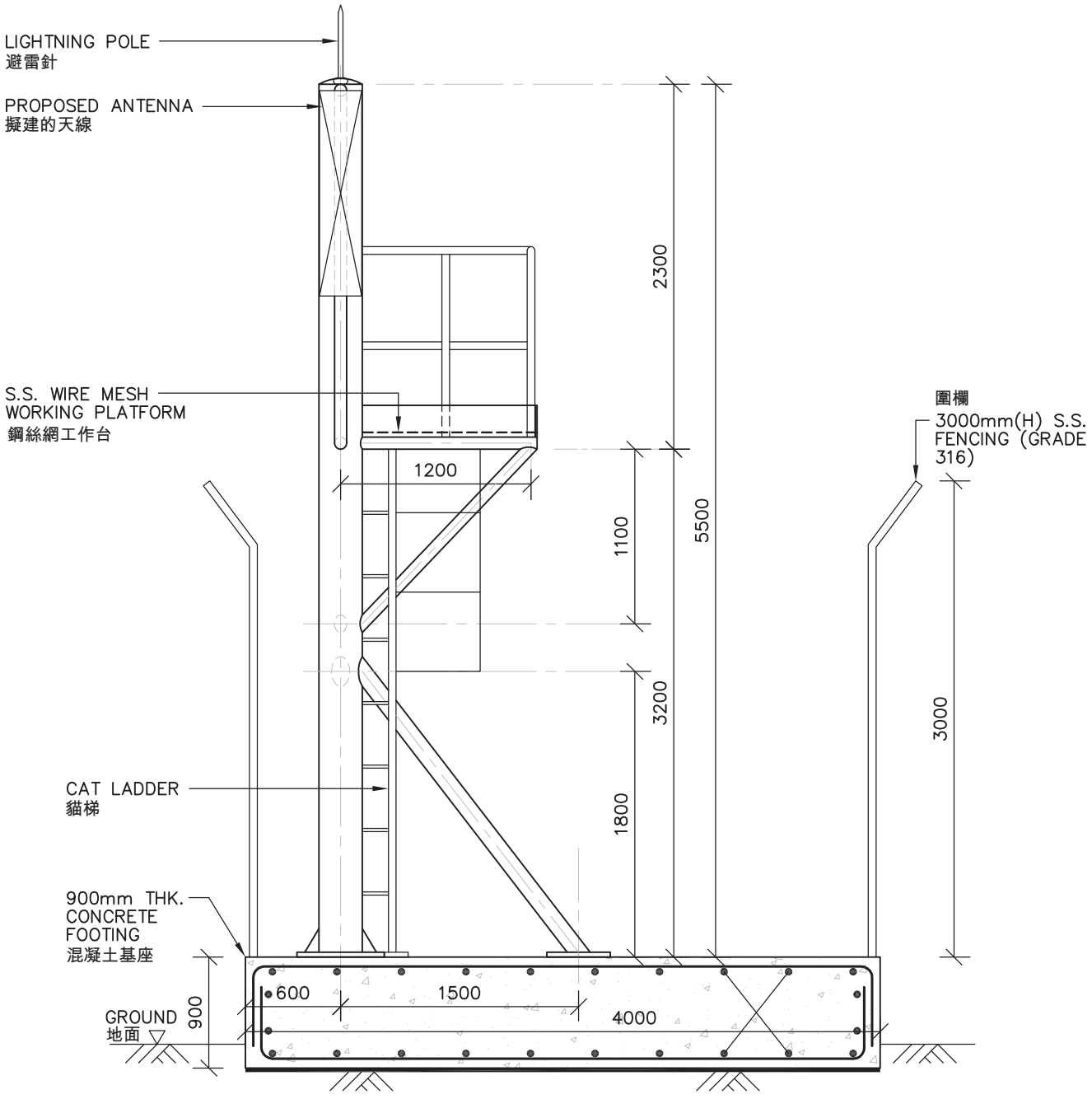


Not to Scale
不按比例

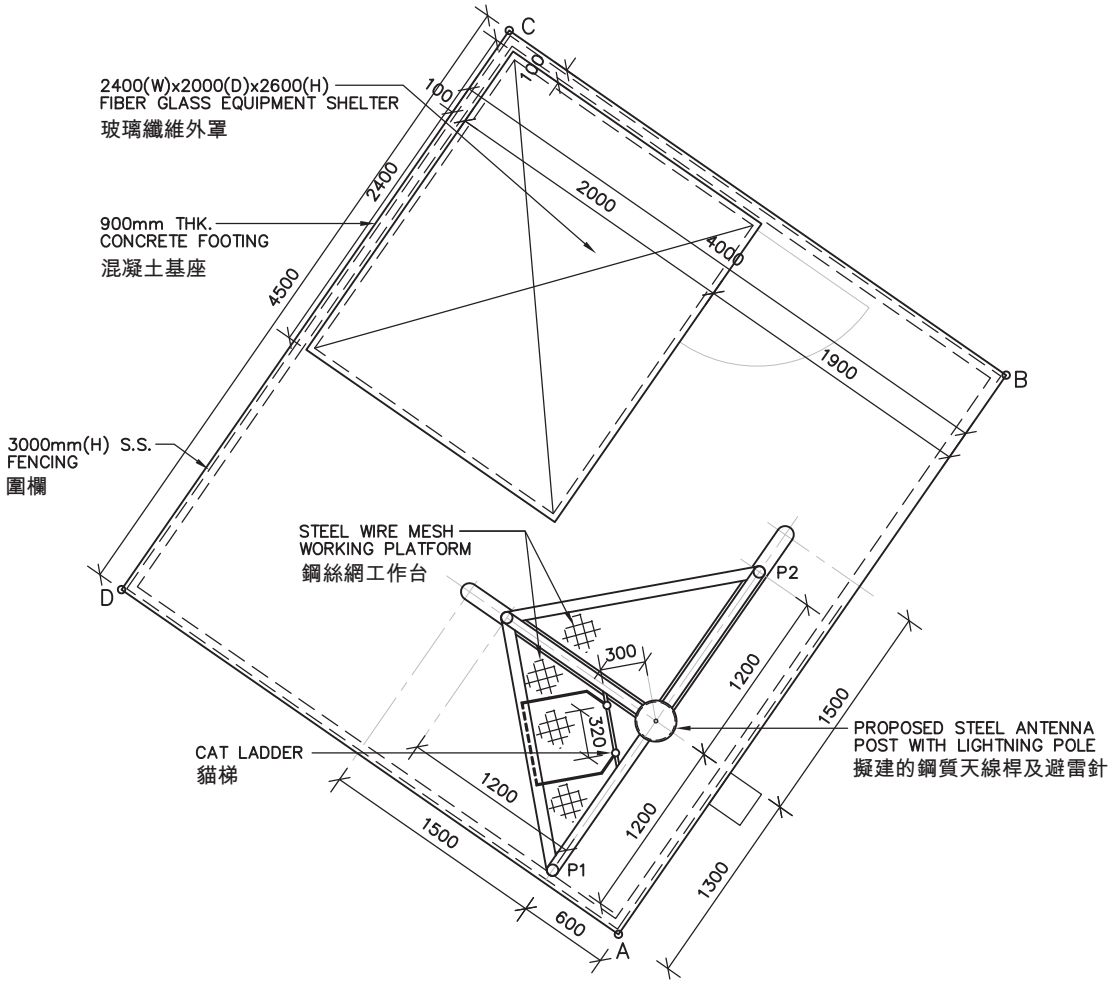
Figure 1.3
圖1.3

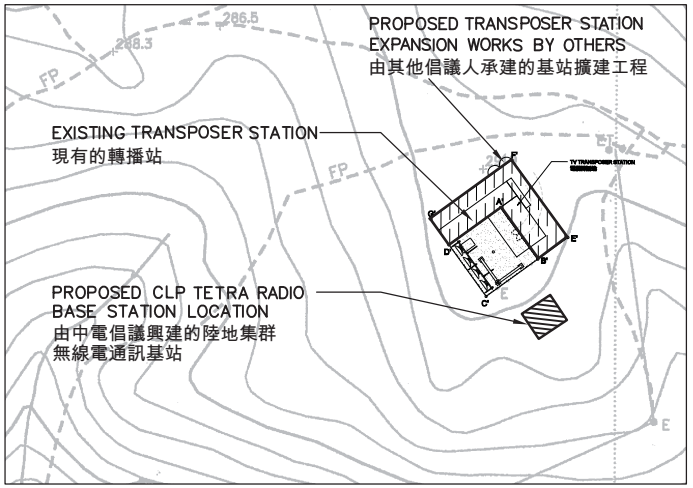
TETRA Radio Station Side View
陸地集群無線通訊基站側面圖

FILE: 0115156c
DATE: 26/04/2010

Environmental
Resources
Management

ERM





N

Not to Scale

Figure 1.4
圖 1.4

TETRA Radio Base Station Site Layout Plan
陸地集群無線通訊基站設備佈局圖

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DATE: 27/04/2010

Environmental Resources Management

ERM

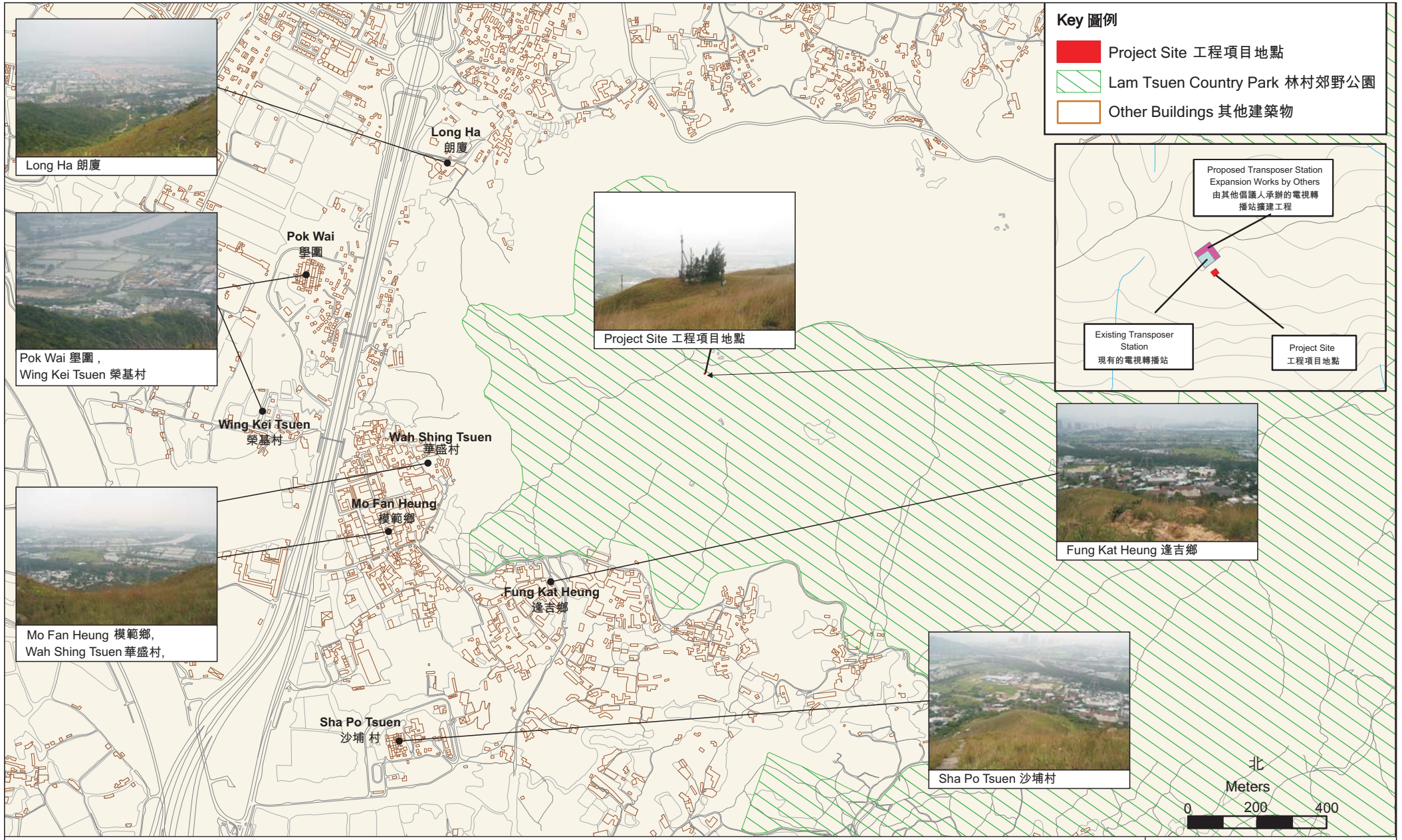

Figure 3.1
圖 3.1

Surrounding Environment of the Project Site
工 程 項 目 地 點 附 近 的 環 境

FILE: 0115156e
DATE: 24/06/2010

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ERM

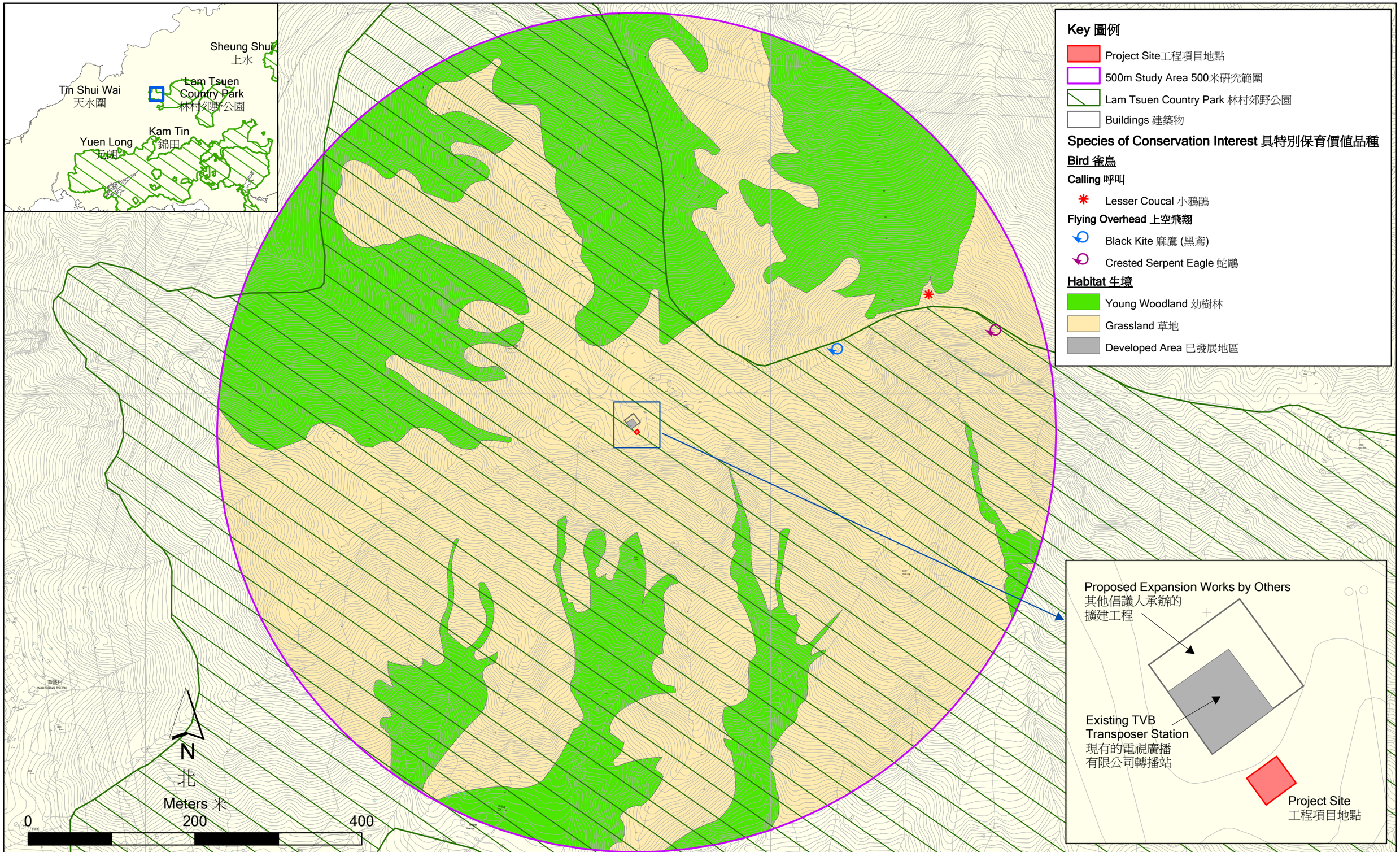

Figure 4.1
圖 4.1

Habitat Map and Location of Species of Conservation Interest
生境圖及具特別保育價值品種之位置圖

File: 0115156_species of conservation interest.mxd
Date: 11/06/2010

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Young Woodland (Study Area)
幼樹林 (研究範圍)

Grassland (Study Area)
草地(研究範圍)

Overview of Project Site
工程項目地點概覽

Developed Area – Existing Transposer Station
已發展地區 – 現有電視轉播站

Grassland (Project Site)
草地 (工程項目地點)

Figure 4.2
圖 4.2

Photographic Records of Various Habitats within the Study Area and the Site
工程項目地點及研究範圍內的生態圖片紀錄

FILE: 0115156f
DATE: 18/06/2010

Environmental Resources Management

ERM

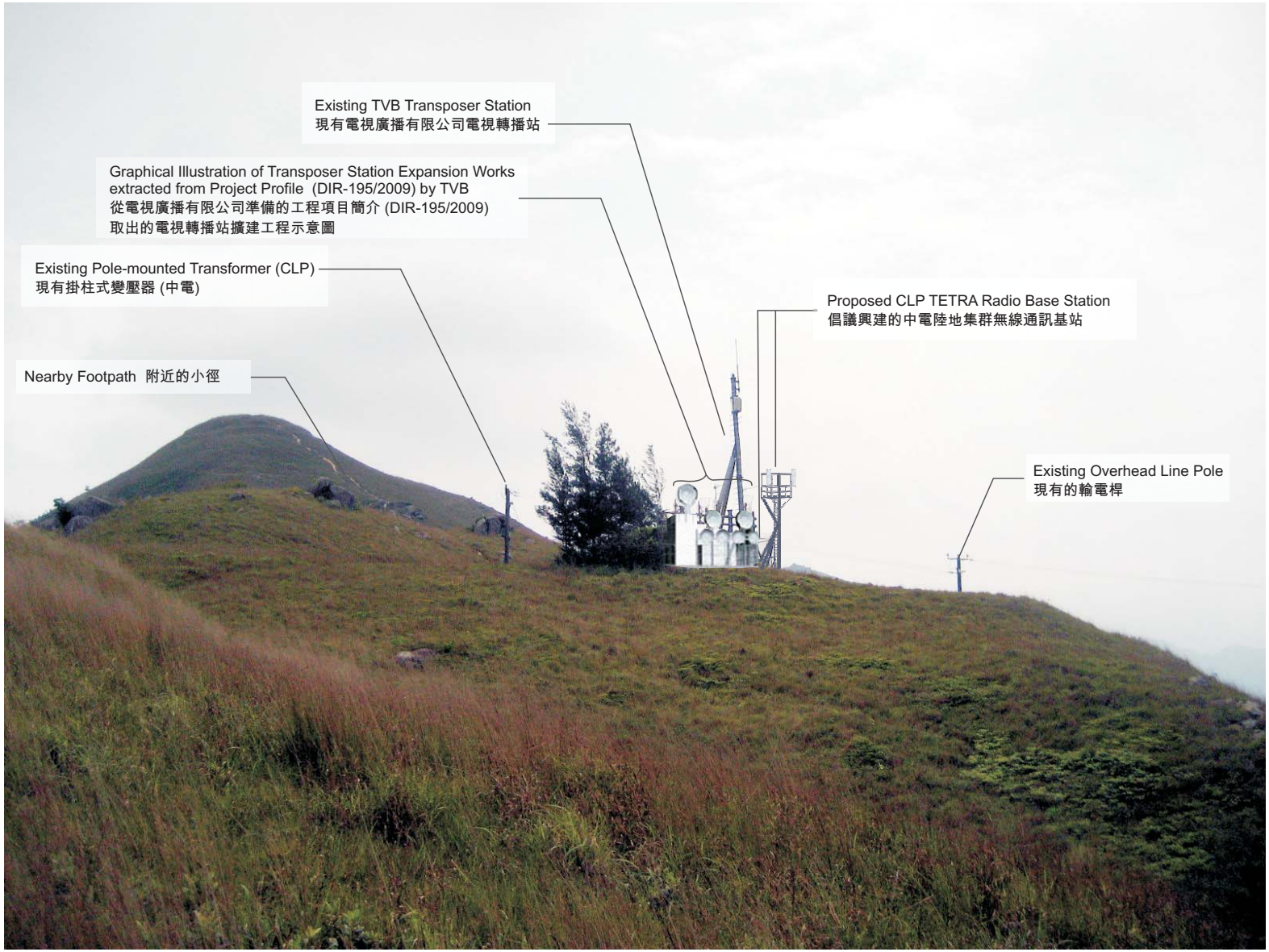

Figure 4.3
圖4.3

Graphical Illustration of the View of the Project from a Footpath to the West of Site
從工程項目以西的小徑眺望本工程項目示意圖

FILE: 0115156d
DATE: 13/08/2010

Environmental Resources Management

ERM

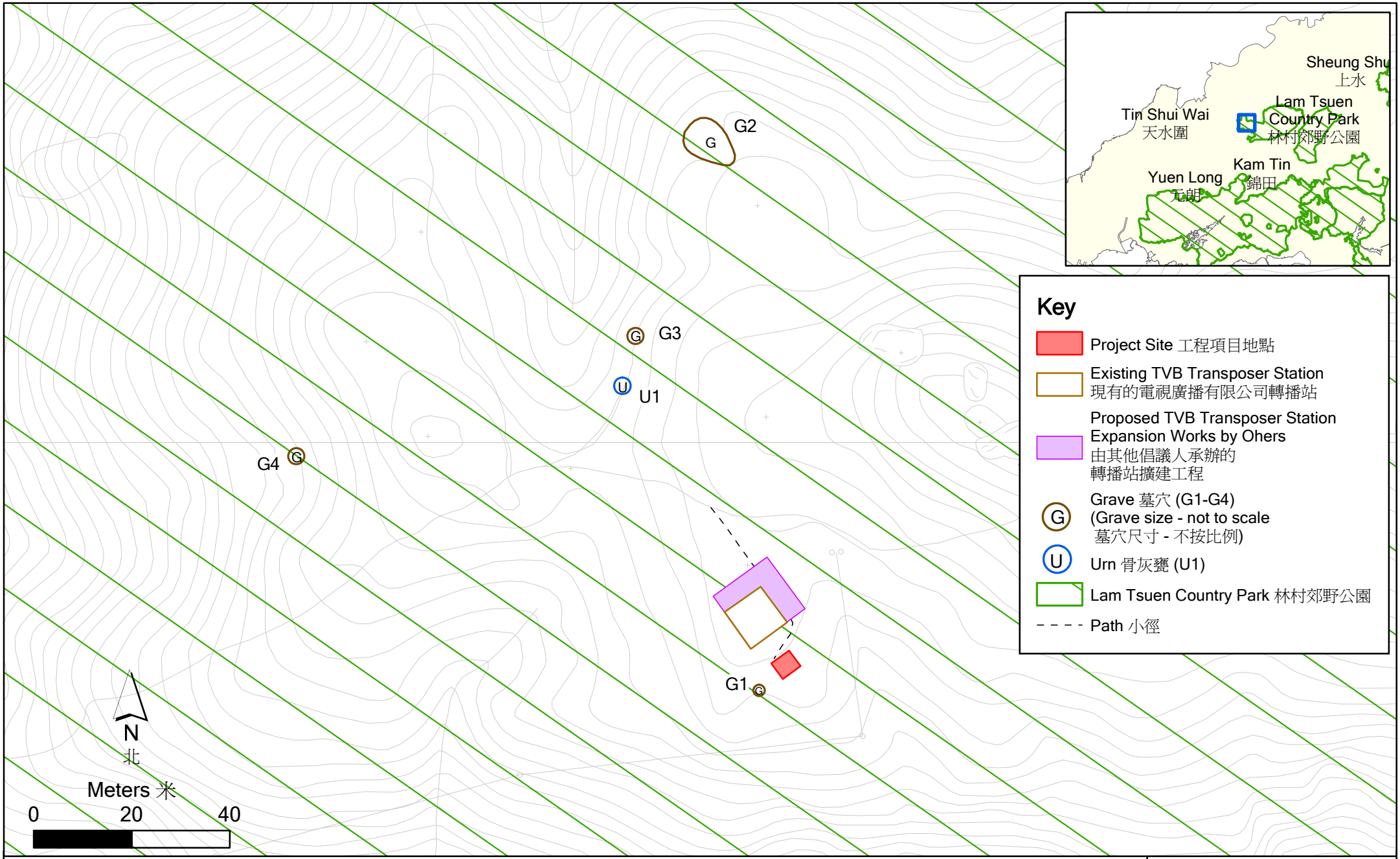

Figure 4.4
圖4.4

Graves and Urns Identified within the CHIA Study Area
於文化與遺產影響評估研究範圍內發現的墓穴和骨灰甕

File: 0115156_CHIA.mxd
Date: 10/06/2010

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Annex A
附錄甲

Ecological Survey Data
生態調查數據

Table A1 *Plant species recorded within the Study Area (April 2010)*
表 甲1 *在研究範圍內錄得之植物品種（2010年4月）*

Species name 品種名稱	Chinese name 中文名稱	Growth form 生長形式	Status* 狀況*	Origin† 原生地†	500m Study Area 500 米研究範圍		Project Site 項目地點
					Grassland 草地	Young Woodland 未成長林地	Grassland 草地
Aporusa dioica	銀柴	Tree 喬木	Very common 十分常見	Native 本土	1		
Archidendron lucidum	亮葉猴耳環	Tree 喬木	Common 常見	Native 本土		1	
Arundinella setosa	刺芒野古草	Herb 草本	Very common 十分常見	Native 本土	4		4
Aster baccharoides	白舌紫菀	Herb 草本	Very common 十分常見	Native 本土	1		
Baeckea frutescens	崗松	Shrub 灌木	Very common 十分常見	Native 本土	4	4	4
Bidens pilosa var. radiata	白花鬼針草	Herb 草本	Very common 十分常見	Native 本土	1		
Breynia fruticosa	黑面神	Shrub 灌木	Very common 十分常見	Native 本土	1		
Casuarina equisetifolia	木麻黃,牛尾松	Tree 喬木	Very common 十分常見	Exotic 外來	1		
Clerodendrum fortunatum	白花燈籠	Shrub 灌木	Common 常見	Native 本土	2		
Cratoxylum cochinchinense	黃牛木	Shrub/Tree 灌木/喬木	Very common 十分常見	Native 本土	1	2	
Croton crassifolius	雞骨香	Shrub 灌木	Very common 十分常見	Native 本土	3		
Curculigo orchioides	仙茅	Herb 草本	Common 常見	Native 本土	2		
Cyclobalanopsis myrsinifolia	小葉青岡	Tree 喬木	Common 常見	Native 本土		2	
Dianella ensifolia	山菅蘭	Herb 草本	Very common 十分常見	Native 本土	2		2
Dicranopteris pedata	芒萁	Fern 蕨類	Very common 十分常見	Native 本土	4		4
Elephantopus tomentosus	白花地膽草	Herb 草本	Common 常見	Native 本土	2		
Embelia laeta	酸藤子	Climber 攀爬類	Very common 十分常見	Native 本土	2		1
Eremochloa ciliaris	蜈蚣草	Herb 草本	Very common 十分常見	Native 本土	3		3
Eriosema chinense	雞頭薯	Herb 草本	Common 常見	Native 本土	2		
Eurya nitida	細齒葉柃	Shrub/Tree 灌木/喬木	Very common 十分常見	Native 本土		4	
Evolvulus alsinoides	土丁桂	Herb 草本	Restricted 受局限	Native 本土	1		
Ficus variolosa	變葉榕	Shrub/Tree 灌木/喬木	Very common 十分常見	Native 本土	1	3	

Species name 品種名稱	Chinese name 中文名稱	Growth form 生長形式	Status* 狀況*	Origin† 原生地†	500m Study Area 500 米研究範圍		Project Site 項目地點
					Grassland 草地	Young Woodland 未成長林地	Grassland 草地
Gardenia jasminoides	梔子	Shrub 灌木	Common 常見	Native 本土		1	
Gentiana loureiroi	華南龍膽	Herb 草本	Common 常見	Native 本土	3		3
Glochidion wrightii	白背算盤子	Shrub 灌木	Very common 十分常見	Native 本土		2	
Gnetum luofuense / Gnetum montanum	羅浮買麻藤	Climber 攀爬類	Very common 十分常見	Native 本土	1		
Haloragis chinensis	黃花小二仙草	Herb 草本	Very common 十分常見	Native 本土	1		
Hedyotis consanguinea	擬金草	Herb 草本	Common 常見	Native 本土	2	2	
Helicteres angustifolia	山芝麻	Shrub 灌木	Very common 十分常見	Native 本土	2		
Ilex asprella	梅葉冬青	Shrub 灌木	Very common 十分常見	Native 本土	1	2	
Ilex pubescens	毛冬青	Shrub 灌木	Very common 十分常見	Native 本土		2	
Ischaemum barbatum	粗毛鴨嘴草	Herb 草本	Very common 十分常見	Native 本土	3		
Itea chinensis	鼠刺	Shrub/Tree 灌木/喬木	Very common 十分常見	Native 本土		3	
Lindsaea ensifolia	劍葉鱗始蕨	Fern 蕨類	Very common 十分常見	Native 本土	1		
Litsea glutinosa	潺槁樹	Tree 喬木	Very common 十分常見	Native 本土		3	
Litsea rotundifolia	豺皮樟	Shrub 灌木	Very common 十分常見	Native 本土	1	3	
Lophostemon confertus	紅膠木	Tree 喬木	Common 常見	Exotic 外來		2	
Lygodium japonicum	海金沙	Fern 蕨類	Very common 十分常見	Native 本土	2		
Melaleuca quinquenervia	白千層	Tree 喬木	Common 常見	Exotic 外來			1
Melastoma dodecandrum	地稔	Shrub 灌木	Common 常見	Native 本土	2		
Melastoma sanguineum	毛稔	Shrub 灌木	Very common 十分常見	Native 本土		2	
Melicope pteleifolia	三椏苦	Tree 喬木	Common 常見	Native 本土		1	
Morinda parvifolia	雞眼藤	Climber 攀爬類	Very common 十分常見	Native 本土	1		
Mussaenda pubescens	玉葉金花	Climber 攀爬類	Very common 十分常見	Native 本土	1	2	
Osbeckia chinensis	金錦香	Herb 草本	Very common 十分常見	Native 本土	2		
Palhinhaea cernua	鋪地蜈蚣	Fern 蕨類	Very common 十分常見	Native 本土	1		2
Passiflora foetida	龍珠果	Climber 攀爬類	Very common 十分常見	Native 本土	1		

Species name 品種名稱	Chinese name 中文名稱	Growth form 生長形式	Status* 狀況*	Origin† 原生地†	500m Study Area 500 米研究範圍		Project Site 項目地點
					Grassland 草地	Young Woodland 未成長林地	Grassland 草地
Pinus massoniana	馬尾松	Tree 喬木	Common 常見	Native 本土		2	
Pteridium aquilinum var. latiusculum	蕨	Fern 蕨類	Common 常見	Native 本土	2	3	
Pteris vittata	蜈蚣草	Fern 蕨類	Very common 十分常見	Native 本土	2		
Rhamnus crenata	長葉凍綠	Shrub 灌木	Common 常見	Native 本土	2	2	1
Rhaphiolepis indica	車輪梅	Shrub/Tree 灌木/喬木	Very common 十分常見	Native 本土	1		1
Rhodomyrtus tomentosa	崗稔	Shrub 灌木	Very common 十分常見	Native 本土	3	1	1
Rhus hypoleuca	白背漆	Tree 喬木	Common 常見	Native 本土		2	
Rhynchospora rubra	刺子莞	Herb 草本	Very common 十分常見	Native 本土	2		2
Schefflera heptaphylla	鵝掌柴	Tree 喬木	Very common 十分常見	Native 本土		3	
Smilax china	菝葜	Climber 攀爬類	Very common 十分常見	Native 本土	2	2	1
Smilax glabra	土茯苓	Climber 攀爬類	Very common 十分常見	Native 本土		1	
Solidago decurrens	一枝黃花	Herb 草本	Common 常見	Native 本土	1		
Thysanotus chinensis	異蕊草	Herb 草本	Rare 稀有	Native 本土	1		
Vernonia cinerea	夜香牛	Herb 草本	Very common 十分常見	Native 本土	2		
Wikstroemia indica	了哥王	Shrub 灌木	Common 常見	Native 本土	2		1

Notes 註：

* Status according to Corlett, R., Xing, F. W., Ng, S. C., Lawrence, Chau K. C. & Laura, Wong M. Y. (2000). *Hong Kong vascular plants: distribution and status*. Memoirs of the Hong Kong Natural History Society. 23: 1-147.

* 表中所列狀況，是根據 Corlett, R., Xing, F. W., Ng, S. C., Lawrence, Chau K. C. & Laura, Wong M. Y. (2000). 「香港維管植物：分佈和狀況」。香港自然史學會紀念集。 23: 1-147.

† Origin according to AFCD website. Available at http://www.afcd.gov.hk/english/conservation/hkbiodiversity/database/search.asp?lang=en&refine=1 [Accessed May 2010]

† 根據漁農自然護理署網頁所述原生地。有關資料，可於以下網址取得： http://www.afcd.gov.hk/english/conservation/hkbiodiversity/database/search.asp?lang=en&refine=1 〔於 2010 年 5 月瀏覽〕

Relative abundance: 1 = Scarce; 2 = Occasional; 3 = Frequent; 4 = Abundant

相對數量： 1 = 稀少； 2 = 偶有發現； 3 = 經常發現； 4 = 數量豐富

Annex B
附錄乙

Detailed Records of Identified Cultural Features within CHIA Study Area
文化遺產影響評估研究範圍內文化特色地點的詳細記錄

Grave
墳墓

Feature Code: G1 **項目編號:**	**Feature Name:** Man (文) Clan Grave **項目名稱:** 文氏祖墳
Full Address : Kai Kung Leng **地址 :** 雞公嶺	**Figure No:** Figure 4.4 in Main Text **圖號:** 內文圖4.4
Orientation: South **方向:** 南	
Year of Construction/Renovation: Renovated in 1979 **興建/復修年份:** 於1979年復修	
Surrounding Environment: This grave is located at 5.5m from the southwest of the Project Site. **附近環境:** 此墳墓位於工程項目地點西南面5.5米外。	

Historical Appraisal
歷史評估:

According to the headstone inscriptions, the deceased were a couple from the 21st generation of the Man clan and the grave was renovated in 1979.
根據墓碑上的碑文，死者是一對文氏二十一世祖的夫婦，此墳墓於1979年復修。

Associated historical/cultural events or individuals: Nil
相關歷史/文化事件或人物: 沒有

Inscriptions:
碑文:

土名雞公山座卯加乙立 酉
二十一世祖
納穩文
孺人黃
XX
文得XX XX 立孫 堅X
良X 堅X
己未年二月廿三日

Architectural Appraisal
建築評估:
Granite headstone is overgrown with vegetation. The size of the headstone is approximately 60cm (L) x 40cm (W).
墓碑以花崗石製成並被植物包圍著。墓碑大約長60厘米、闊40厘米。

Existing Condition: Fair
現狀: 尚好

Past and Present Uses: Grave
過往及現在用途: 墳墓

Feature Code: G1 **項目編號:**	**Feature Name:** Man (文) Clan Grave **項目名稱:** 文氏祖墳
Notes on any Modifications: Renovated in 1979. **改建評論:** 於1979年復修	
Photographic Records: **相片記錄:**	

General View of the Grave
墳墓G1的位置及附近環境

Feature Code: G2 **項目編號**	**Feature Name:** Man (文) Clan Grave **項目名稱:** 文氏祖墳
Full Address : Kai Kung Leng **地址:** 雞公嶺	**Figure No.:** Figure 4.4 in Main Text **圖號:** 內文圖4.4
Orientation: NW & SW **方向:** 西北及西南	**Category:** Grave **類別:** 墳墓
Year of Construction/Renovation: Renovated in 1925 **興建/復修年份:** 於1925年復修	
Surrounding Environment: **附近環境:**	The grave is located on the natural hill slope at approximately 100m north of the Project site and it is surrounded by overgrown vegetation. 此墳墓位於工程項目地點以北大約100米的天然斜坡上並被茂盛植物包圍著。

Historical Appraisal
歷史評估:

Three headstones (Headstones 2a to 2c) were identified in this feature but the inscriptions are only legible on one of them. The other two have been heavily eroded.

該處發現三個墓碑(墓碑2a至2c)，但當中只有一個墓碑的碑文是可辨認的，其餘兩個則已嚴重侵蝕。

For Headstone 2a, the deceased were two males from the 19th generation of the Man clan and the grave was renovated in 1925.

墓碑2a顯示死者是兩名文氏十九世祖的男子，此墳墓於1925年復修。

Associated historical/cultural events or individuals: Nil
相關歷史/文化事件或人物: 沒有

Inscriptions
碑文:

X泉　傑X　芝泰
孫X穩XX　林泉　XX　傑成　容泰
吉X　X春　X泰
X興
十九世祖孝　文公仝墓
松華
奉祀男X穩孫XX仝立
民國十四年冬X重修

Headstone 2a
墓碑2a

Feature Code: G2 **項目編號**	**Feature Name:** Man (文) Clan Grave **項目名稱:** 文氏祖墳

Headstone 2b
墓碑2b

Headstone 2c
墓碑2c

Architectural Appraisal
建築評估:

This Man clan grave is in the shape of a horseshoe and mostly overgrown with vegetation. Its size is approximately 5.5m (L) x 3m (W) x 2m (H) and finished with cement. There is a dug pit in front of Headstone 2a. It is believed that the remains have been removed.

這個墳墓呈馬蹄形(長約5.5米、闊3米和高2米)，表面爲水泥，墳墓大部份被植物包圍著。在墓碑2a前面有一個坑，相信此墳墓的遺體及遺物均已被移走。

three headstones were identified at the grave. Headstones 2a and 2c are observed to be oriented towards the northwest and Headstones 2b was observed to be oriented towards the southwest.

在此墳墓發現三個可辨認的墓碑。墓碑2a及2c面向西北，而墓碑2b則面向西南。

Existing Condition: **現狀:**	Poor 惡劣
Past and Present Uses: **過往及現在用途:**	Grave 墳墓
Notes on any Modifications: **改建評論:**	Renovated in 1925. 於1925年復修

Feature Code: G2 **項目編號**	**Feature Name:** Man (文) Clan Grave **項目名稱:** 文氏祖墳

Photographic Records
相片記錄:

General View of the Grave G2
墳墓G2的位置及附近環境

Headstone 2a
墓碑2a

Headstone 2b
墓碑2b

Feature Code: G2 **項目編號**	**Feature Name:** Man (文) Clan Grave **項目名稱:** 文氏祖墳

Headstone 2c
墓碑2c

Feature Code: G3 **項目編號:**	**Feature Name:** Man (文) Clan Grave **項目名稱:** 文氏祖墳
Full Address: Kai Kung Leng **地址:** 雞公嶺	**Figure No.:** Figure 4.4 in Main Text **圖號:** 內文圖4.4
Orientation: West **方向:** 西	**Category:** Grave **類別:** 墳墓
Year of Construction/Renovation: Renovated in 1979 **興建/復修年份:** 於1979年復修	
Surrounding Environment: **附近環境:**	The grave is located on a hill slope at approximately 70 m northwest of the Project Site and overgrown with vegetation. 此墳墓位於本工程項目地點西北面大約70米的斜坡上並被茂盛植物包圍著。

Historical Appraisal:
歷史評估:

According to the headstone inscriptions, the deceased were a couple from the 21st generation of the Man clan and the grave was renovated in 1979.

根據碑文，死者是一對文氏廿一世祖的夫婦。此墳墓於1979年復修。

Associated historical/cultural events or individuals: Nil
相關歷史/文化事件或人物: 沒有

Inscriptions
碑文:

土名雞公山坐卯向酉兼

廿一世祖　考納穩文公　仝墓

妣孺人黃氏

新回　廣順　咱得孫宗財　曾孫　堅揚　等

良興　堅榮

己未年二月廿三吉日重建

Architectural Appraisal
建築評估:

A grave is overgrown with vegetation. The size of the grave is approximately 2.5 (L) x 1.5cm (W) x 1m (H).
此墳墓被植物包圍著。此墳墓長2.5米、闊1.5米和高1米。

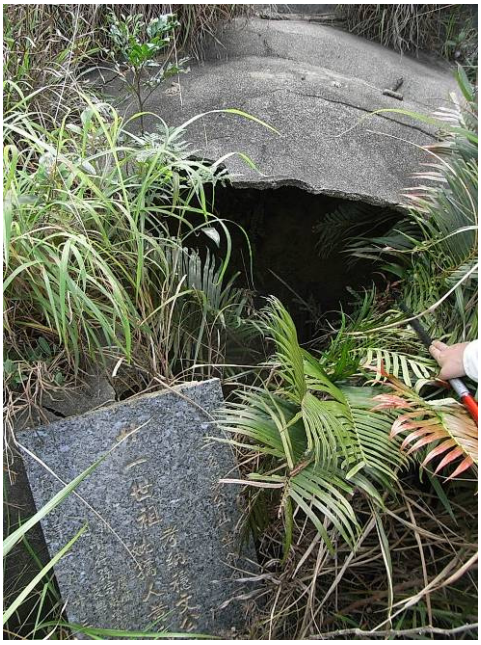
Existing Condition: Poor
現狀: 惡劣

Past and Present Uses: Grave
過往及現有用途: 墳墓

Feature Code: G3 **項目編號:**	**Feature Name:** Man (文) Clan Grave **項目名稱:** 文氏祖墳
Notes on any Modifications: **改建評論:**	The grave was renovated in 1979 and the remains appear to have been removed. 此墳墓於1979年復修，遺體及遺物看似已經被移走。

Photographic Records
相片記錄:

General View of the Grave G3
墳墓G3的位置及附近環境



The remains appear to have been removed.
遺體及遺物看似已被移走。

Feature Code: G4 **項目編號:**	**Feature Name:** Wei (魏) Clan Grave **項目名稱:** 魏氏祖墳
Full Address: Kai Kung Leng **地址:** 雞公嶺	**Figure No.:** Figure 4.4 in Main Text **圖號:** 內文圖4.4
Orientation: West **方向:** 西	**Category:** Grave **類別:** 墳墓
Year of Construction/Renovation: Renovated in 1932 **興建/復修年份:** 於1932年復修	
Surrounding Environment: **附近環境:**	The grave is located on a slope at approximately 110 m west of the Project site and overgrown with dense vegetation. 此墳墓位於工程項目地點以西大約110米的斜坡上並被茂盛植物包圍著。

Historical Appraisal
歷史評估:

Three headstones were identified from this grave. According to the headstone inscriptions, the deceased were three men of the Wei clan and it was renovated in 1932.
在此墳墓裡發現三個墓碑。根據碑文，死者是三名魏氏家族的男子。此墳墓於1932年復修。

Associated historical/cultural events or individuals: Nil
相關歷史/文化事件或人物: 沒有

Inscriptions
碑文:

公乃　定英公之子XXXXXXX
學園大嶺頂雞公頭坐XXXX
酉雄雞XXXXXXXXX
云尔

顯考　諱　京祥魏公府君之墓
球　X
奉祀男錫章　雲鵬曾芝X仝
猷　X
民國十一年壬戌歲季夏月吉五重修

Headstone 4a
墓碑4a

Feature Code: G4 **項目編號:**	**Feature Name:** Wei (魏) Clan Grave **項目名稱:** 魏氏祖墳

X乃　連堂公之子
XXXXXXXXX
XXXXXXXXX
X石永垂不朽XX
顯考　諱　欽元魏公府君之墓
奉祀男曉昌
民國十一年壬戌歲XXXXX重修

Headstone 4b
墓碑4b

公乃　京賢公之子也XXXXXX
塋園大嶺頂雞公頭坐甲向X西卯
酉雄雞扒翼形以誌勸石永垂不朽
惠陽XXXXX
云尔
顯考　諱　錫鈞魏公府君之墓
奉祀男雲　X
X　孫　XXXX
XXXX
民國十一年壬戌歲季夏月吉五重修

Headstone 4c
墓碑4c

Architectural Appraisal
建築評估:

This grave is overgrown with vegetation. The size of the grave is approximately 6m (L) x 3m (W) x 2.5m(H).
此墳墓被植物包圍著。此墳墓長6米、闊3米和高2.5米。

Existing Condition: Poor
現狀 : 惡劣

Past and Present Uses: Grave
過往及現有用途: 墳墓

Feature Code: G4 **項目編號:**	**Feature Name:** Wei (魏) Clan Grave **項目名稱:** 魏氏祖墳
Notes on any Modifications: **改建評論:**	The grave was renovated in 1921. 此墳墓於1921年復修

Photographic Records
相片記錄:

General View of Grave G4
墳墓G4的位置及附近環境

Headstone 4a
墓碑4a

Headstone 4b
墓碑4b

Feature Code: G4 **項目編號:**	**Feature Name:** Wei (魏) Clan Grave **項目名稱:** 魏氏祖墳

Headstone 4c
墓碑4c

Urn
骨灰甕

Feature Code: U1 **項目編號:**	**Feature Name:** Urn **項目名稱:** 骨灰甕
Full Address: Kai Kung Leng **地址:** 雞公嶺	**Figure No.:** Figure 4.4 in Main Text **圖號:** 內文圖4.4
Orientation: West **方向:** 西	**Category:** Urn **類別:** 骨灰甕
Year of Construction/Renovation: Unknown **興建/復修年份:** 不詳	
Surrounding Environment: **附近環境:**	This urn is located on a footpath at approximately 60 m northwest of the Project site. 此骨灰甕位於工程項目地點西北面大約60米的小徑上。
Historical Appraisal: **歷史評估:** It is a pottery urn with its green-glazed lid exposed on the ground. 這是一個陶製骨灰甕，它的綠釉蓋露出地面。	
Associated historical/cultural events or individuals Nil **相關歷史/文化事件或人物:** 沒有	
Inscriptions: Nil **碑文:** 沒有	
Architectural Appraisal **建築評估:** A round-shape urn buried in the ground with its green-glazed pottery lid exposed on the ground but overgrown with vegetation. 這是一個埋葬在地下的圓形骨灰甕，它的綠釉陶蓋露出地面，但被植物包圍著。	
Existing Condition: Fair to Good **現狀:** 尚可至良好	
Past and Present Uses: Urn **過往及現有用途:** 骨灰甕	
Notes on any Modifications: Nil **改建評論:** 沒有	

Feature Code: U1 **項目編號:**	**Feature Name:** Urn **項目名稱:** 骨灰甕

Photographic Records
相片記錄:

Lid of the urn exposed on the ground
露出地面的骨灰甕蓋