

TOWN PLANNING BOARD

TPB Paper No. 9375

**For Consideration by
The Town Planning Board on 28.6.2013**

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN (OZP) NO. S/NE-MTL/D
FURTHER CONSIDERATION OF A NEW PLAN**

**DRAFT MA TSO LUNG AND HOO HOK WAI OUTLINE ZONING PLAN NO.
S/NE-MTL/D
FURTHER CONSIDERATION OF A NEW PLAN**

1. Introduction

The purposes of this paper are to:

- (a) report on the results of the consultation with the North District Council (NDC) and the Sheung Shui District Rural Committee (SSDRC), and other public views on the draft Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan (OZP) No. S/NE-MTL/C; and
- (b) seek Members' agreement that the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/D, its Notes and Explanatory Statement (Appendices I to III) are suitable for exhibition under section 5 of the Town Planning Ordinance (the Ordinance) for public inspection.

2. Background

- 2.1 The second stage of the reduction of the Frontier Closed Area (FCA), covering the section between Lok Ma Chau Boundary Control Point to Ng Tung River, has been implemented on 10.6.2013, when the Frontier Closed Area (Amendment) Order 2013, which specifies the new FCA boundary, comes into effect (**Plan 1**). The second stage will release more than 710 hectares of land from the FCA. As the FCA is reduced, the closed road restriction within the excised area will also be lifted. The northern part of the Ma Tso Lung and Hoo Hok Wai area falls within this portion of the then FCA.
- 2.2 On 30.7.2010, the draft Ma Tso Lung and Hoo Hok Wai Development Permission Area (DPA) Plan No. DPA/NE-MTL/1 was exhibited for public inspection under section 5 of the Ordinance. In accordance with section 20(5) of the Ordinance, the DPA Plan is effective for three years until 30.7.2013

unless an extension is obtained from the CE in C. Opportunities were taken to review the land use zonings in Ma Tso Lung and Hoo Hok Wai area and the findings of the reviews were presented to Town Planning Board (the Board) on 26.4.2013. On 26.4.2013, the Board gave preliminary consideration to the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C (TPB Paper No. 9330) and agreed that the draft OZP was suitable for submission to the NDC and the SSDRC for consultation. An extract of the minutes of the Board's meeting held on 26.4.2013 and TPB Paper No. 9330 are at **Attachments IV** and **V** for Members' reference.

- 2.3 For Members' easy reference, major land use proposals of the draft OZP as compared to the existing DPA Plan have been highlighted in the TPB Paper No. 9330 and recapitulated below:

"Village Type Development" ("V") Zone (Plan 2)

- (a) no change was proposed for the "V" zone of the recognized village of Liu Pok as the size of the existing "V" zone boundary was already equivalent to the size of its 'Village Environs' ('VE') and the boundary had already been fully deliberated during the hearing in 2011. There had been no significant changes in planning circumstances since then;

Review of Area Shown as "Unspecified Use" at Hoo Hok Wai (Plans 3 and 4)

- (b) based on the findings of the Ecological Field Survey for Hoo Hok Wai completed in 2013 and agreed by the AFCD, it was proposed to designate the extensive fish ponds and the freshwater marshes which are evaluated as of high ecological value as "Conservation Area (1)" ("CA(1)"), while the remaining part of the area was proposed to be designated as "Green Belt" ("GB") due to its less ecological importance;

Review of Ma Tso Lung Stream and Its Riparian Area (Plan 5)

- (c) the "Agriculture" ("AGR") and "GB" zonings for Ma Tso Lung Stream will be retained as it was identified to have a low to moderate richness of wildlife in the "Land Use Planning for the Closed Area - Feasibility Study" (the FCA Study) which also states that the ecological value of the stream was constrained by stream modification. Moreover, the riparian area was predominately covered by weeds and shrubs;

Potential Impact of Small House Development within “V” Zone on Streams

- (d) to address the Green Groups’ concerns on potential impacts of developments, in particular, Small Houses within “V” zone, on existing stream courses in the Area, the current administrative practice to consult concerned departments including AFCD and Planning Department (PlanD) on Small House applications in close proximity to existing stream course will be clearly stipulated in the Explanatory Statement of the draft OZP. Besides, any diversion of streams or filling of ponds to effect any permitted uses would also require permission from the Board in accordance with the Notes of the “V” zone; and

Existing Government, Institution or Government (“G/IC”) Uses (Plan 6)

- (e) two sites which were currently used by the Hong Kong Police Force as Tak Yuet Lau Police Post and Tai Shek Mo Observation Post will be rezoned from “GB” to “G/IC”.

3. Public Consultation

- 3.1 The NDC and SSDRC were consulted on the draft OZP on 20.5.2013 and 21.5.2013 respectively. The minutes of the consultation meeting with the SSDRC is at **Attachment VII**. Major points of their concerns on land use planning and their specific proposals from NDC and SSDRC on the draft OZP are highlighted below:

General Comments

Small House Policy

- (a) SSDRC considered that the “V” zone and ‘VE’ boundaries should be enlarged in view of the increase in population of the villages upon opening up of the Closed Area. In this regard, they urged the Government to review the existing Small House policy to accommodate their urgent needs in village expansion;

Lack of Infrastructural and Road Facilities

- (b) SSDRC expressed their concern on the lack of provision of infrastructure such as roads and car parking spaces in Ma Tso Lung and Hoo Hok Wai area, particularly near Liu Pok and Tak Yuet Lau (such view is also shared by the Ta Kwu Ling DRC). They considered that insufficient provision of such infrastructure would become problematic when the number of tourists substantially increases upon the opening up of the Closed Area;

Land Use Proposal

Conservation of Hoo Hok Wai (Plans 3 and 4)

- (c) NDC suggested that as fishing activities were no longer active in the area, the development right of private land owners should be respected and development of eco-lodge should be given consideration within the Hoo Hok Wai area. In general, it is considered that “AGR” and “GB” zonings would allow more opportunities and flexibility for future developments;
- (d) SSDRC proposed to allow a certain degree of low-density residential development within the Hoo Hok Wai area, in order to cope with the anticipated increasing Small House demand upon opening up of the Closed Area; and

Expansion of “V” Zone (Plan 2)

- (e) both NDC and SSDRC raised objection to the absence of the proposal of “V” zone expansion of Liu Pok under the draft OZP and the designation of Hoo Hok Wai for nature conservation. They were disappointed that there was no opportunity offered for village development under the current land use proposals, especially within Hoo Hok Wai of which a substantial part are under private land ownership.

- 3.2 A meeting between PlanD and the Green Groups (including World Wide Fund for Nature Hong Kong (WWF), Kadoorie Farm and Botanic Garden (KFBG), the Conservancy Association (CA), Green Power (GP) and Designing Hong Kong (DHK)) was held on 2.5.2013 to seek their views on the land use

proposals of the draft Ma Tso Lung OZP. Comments and specific land use proposals submitted by the Green Groups are at **Attachments VIa to VIe** for Members' reference. The Green Groups' comments and major land use proposals in respect of the draft OZP are summarized below:

General Comments

- (a) KFBG suggested to observe and take into consideration the Convention on Biological Diversity that has been extended to Hong Kong in the preparation of the draft OZP;
- (b) WWF considered that the planned Eastern Connection Road of the Lok Ma Chau (LMC) Loop development which is proposed to pass through part of the southern Hoo Hok Wai area would have adverse ecological impacts to some of the fish ponds;
- (c) WWF considered the upper Ma Tso Lung Stream would be adversely affected by the potential developments of the future North East New Territories New Development Areas (NENT NDA);
- (d) the Green Groups noted that the Hoo Hok Wai area was not covered by the "Town Planning Board (TPB) Guidelines (No. 12B) for Application for Developments within Deep Bay Area Under Section 16 of the Town Planning Ordinance" (the Guidelines). They queried how the ecosystem of Hoo Hok Wai could be protected and enhanced through the mechanisms provided by the Guidelines;

Land Use Proposals

Support the Proposed "CA(1)" Zone for Hoo Hok Wai (Plans 3 and 4)

- (e) the proposed "CA(1)" zone for the extensive fish ponds and freshwater marshes in Hoo Hok Wai was strongly supported by the Green Groups. It was considered as an appropriate zoning to conserve the ecological functions of the fish ponds, and to reflect the ecological value of Hoo Hok Wai wetland system and the ecological linkage with adjacent wetland in Ho Sheung Heung, Lok Ma Chau Loop, San Tin, Mai Po and the Deep Bay area, by restricting developments within the area zoned "CA(1)"; and

Ma Tso Lung Stream and Its Riparian Zone Recommended to be Zoned “CA”
(Plans 5)

- (f) WWF suggested that “CA” zone would be a more appropriate zoning than the existing “AGR” to reflect the ecological importance of the stream in terms of the globally endangered species found in the stream and being a part of the wetland ecosystem in Hoo Hok Wai. As the roots and stems of the riparian grasses are also the habitats of the freshwater crabs, the riparian zones of the stream was also suggested to be zoned “CA” to further protect it from any potential developments.

4. Planning Department’s Responses

The above comments made by the NDC and the SSDRC, and proposals submitted by the Green Groups as illustrated in paragraph 3 have been circulated to concerned departments for comments. In consultation with the departments concerned, PlanD’s responses on the points raised by the NDC, the SSDRC and the Green Groups are as follows:

4.1 General Issues

Small House Policy

- (a) with regard to the SSDRC’s concerns on the existing Small House policy and request for expansion of the ‘VE’ of Liu Pok, it is considered that this is a policy issue related to land administration for the whole New Territories area. The SSDRC’s views will be forwarded to the relevant bureaux and lands authority for their consideration. The Board is not in a position to review Government lands policy.

Lack of Infrastructural and Road Facilities

- (b) according to the covering Notes of the draft OZP, the provision and maintenance or repair of footpath, cycle track and road works co-ordinated or implemented by Government is always permitted on land falling within the boundaries of the OZP. Such provision would be able to facilitate the improvements of road conditions to cater for the

traffic flow increases upon reduction of the Closed Area;

Conservation of Hoo Hok Wai

- (c) in response to the NDC's comment that "AGR" or "GB" zone would be a more suitable zoning for Hoo Hok Wai, it should be noted that the proposed "CA(1)" was fundamentally based on the results and professional findings of the Ecological Field Survey (commissioned by the PlanD and completed in 2013) which has concluded that the fish ponds and freshwater marshes occupying majority of the Hoo Hok Wai area have high ecological value and thus they should be given a high degree of protection through designation of appropriate zonings. The findings were agreed by AFCD. After balancing the need for development and the importance of nature conservation, it is considered that the "CA(1)" zoning would provide sufficient protection to the natural habitats that possess significant ecological values from land use planning point of view. The "CA(1)" zoning was strongly supported by the Green Groups;
- (d) besides, according to site investigations, some of the fish ponds are still actively practicing fish pond culture/farming activities, therefore, it is important to conserve such activities and "Agricultural Use (Fish Pond Culture Only)" is always permitted under the "CA(1)" zone. In response to the SSDRC's suggestion to consider more development opportunities such as eco-lodge and low-density residential development in Hoo Hok Wai, it should be noted that according to the FCA Study, a site at the hillside to the west of Tse Koo Hang overlooking the fish ponds at Hoo Hok Wai has been designated "Other Specified Uses" annotated "Eco-lodge" for development of a low-rise, low-density resort type accommodation for sustainable-based tourism. Given the high ecological value identified for Hoo Hok Wai, any new developments not in support of the conservation of the ecological integrity of the wetland ecosystem should be discouraged within the area;

Impacts on Hoo Hok Wai and Ma Tso Lung Stream from Major Development Proposals

- (e) with regard to WWF's views on the potential impact of the proposed Eastern Connection Road of the Lok Ma Chau (LMC) Loop

development and the NENT NDA future developments on the Hoo Hok Wai area and the upper Ma Tso Lung Stream, the Green Groups can be reassured that since both developments are Designated Projects under Schedule 3 of the Environmental Impact Assessment Ordinance (EIAO) which are also subject to respective studies currently undertaken by PlanD/CEDD, the associated environmental impacts of relevant works and land uses have been/will be assessed in the respective studies;

Convention on Biological Diversity

- (f) the Convention on Biological Diversity was formally extended to Hong Kong in 2011. It is an international treaty which emphasizes the importance of biological diversity to human well-being. During the preparation of the draft OZP, due consideration has been given to the importance of the rich variety of flora and fauna within the planning area based on AFCD's advice with a view to striking a proper balance between nature conservation and development; and

TPB Guidelines (No. 12B) for Application for Developments within Deep Bay Area

- (g) the guiding principles of the "precautionary approach" and "no-net-loss in wetland" for development in Deep Bay Area as enshrined in TPB Guidelines (No. 12B) had been stipulated in the Explanatory Statement of the draft OZP. The need to revise the Guidelines to cover Hoo Hok Wai area would be further examined.

4.2 Specific Issues

Expansion of "V" Zone (Plan 1)

- (a) the "V" zone boundary of Liu Pok had been reviewed and given preliminary consideration by the Board on 26.4.2013. It was agreed that no change was to be proposed to the existing "V" zone boundary of the village as its size was already equivalent to its 'VE' (i.e., 6.34 ha). Based on the established criteria that were agreed by the Board on 8.9.2011 in reviewing the "V" zones, the "V" zones would be adjusted to meet the increased demand figure but only up to the limit equivalent to the area bounded by the 'VE'. Nevertheless, in the event when

designated “V” zones (albeit size already adjusted to match the size of ‘VE’) are still not adequate to meet the future demand, there is provision under the Notes of the draft OZP for planning applications of Small House developments to the Board; and

Ma Tso Lung Stream and Its Riparian Zone (Plan 4)

- (b) regarding the WWF’s proposal to rezone the riparian zone of Ma Tso Lung stream from the current “AGR” and “GB” zones to “CA”, it is noted that the stream is a narrow partially-channelized stream and its ecological value is constrained by the modification that has occurred to the stream (according to the FCA Study which was agreed by the AFCD) and its riparian area was predominately covered by weeds and shrubs. There has been no significant change in planning circumstances and it is proposed to maintain the previous proposal as agreed by the Board on 26.4.2013, i.e., no amendment to the existing zoning of “AGR” and “GB”.

5. **Land Use Zonings (Attachment I)**

Having regard to the above, the proposed land use zonings of the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/D are as follows:

5.1 **“Village Type Development” Zone**

About 6.33 ha of land are zoned “V” to cover the only recognized village within the Area, i.e. Liu Pok and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. The boundary of “V” zone is drawn up having regard to the existing village ‘environs’, outstanding Small House applications, Small House demand forecast, local topography, existing settlement pattern, ecologically important areas and other site specific characteristics. Areas of difficult terrain, dense vegetation, burial grounds and streamcourses have been avoided where possible. In order to provide opportunities for short-term accommodation in existing NTEH, “Hotel (Holiday House only)” may also be permitted on application to the Board.

5.2 **“Government, Institution or Community” Zone**

About 7.93 ha of land are zoned “G/IC” to provide land for uses directly to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. Existing facilities under this zoning include MacIntosh Fort at Ma Tso Lung, Lo Wu Correctional Institution, Lo Wu Saddle Club opposite Tsung Yuen, the flood shelter near Tak Yuet Lau, Tak Yuet Lau Police Post, Tai Shek Mo Observation Post and two raw water tunnel portals for Water Supplies Department located near Ma Tso Lung San Tsuen in the west and Ng Tung River in the east respectively.

5.3 “Other Specified Uses” Zone

About 9.15 ha of land are zoned “OU (Eco-lodge)” to provide for sustainable-based tourism in the form of an eco-lodge for development of low-rise, low-density resort-type accommodation. The small knoll to the west of Tse Koo Hang is zoned “OU (Eco-lodge)” and it possesses expansive views over the environmentally sensitive fishponds/wetlands of Hoo Hok Wai. No new development, or addition, alteration and/or modification to or redevelopment of an existing building within this zone shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.2 and a maximum building height of 6m. The built structure should be 1 storey over stilts to allow the building to be lifted off the ground to minimize site disturbance and permit variation in building height to create visual interest in the development. The Lo Wu Firing Range, with a total land area of 5.47 ha is zoned “OU (Firing Range)”. It is an ex-military site currently allocated to the HKPF for firearm training purpose. This area falls within the proposed North East New Territories Kwu Tung North New Development Area.

5.5 “Agriculture” Zone

About 38.42 ha of land are zoned “AGR” to retain and safeguard good quality agricultural land, farm and fish ponds for agricultural purposes as well as to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes. The “AGR” zone mainly covers the western and central part of the Area as well as the agricultural land to the west and north of Liu Pok.

5.6 “Green Belt” Zone

To define the limits of urban and sub-urban development areas by natural features and to preserve the existing topography and natural vegetation as well as to provide passive recreational outlets, about 234.64 ha of land are zoned “GB”. This zone mainly includes the woodland and densely vegetated hillslopes at Ma Tso Lung, Tai Shek Mo, and Tse Koo Hang and the permitted burial grounds for indigenous villagers. The “GB” zone also includes the planted mitigation woodland in the northeastern Hoo Hok Wai area (adjacent to Sham Chun River), two ruderal vegetation areas and two small planted woodlands alongside the border road and the marsh located to the north of Liu Pok which forms a buffer area between the Hoo Hok Wai wetland ecosystem and the village type developments in Liu Pok. There is a general presumption against development within the “GB” zone.

5.7 “Conservation Area” Zone

A total of about 10.81 ha of land are zoned “CA”. The planning intention of this zone is to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment from the adverse effects of development. The “CA” zone covers the Ho Sheung Heung Egrettry together with its peripheral secondary woodland and fishponds. Only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure project with overriding public interest may be permitted. ‘Agricultural Use (other than Plan Nursery)’ is always permitted under the Notes of “CA”.

5.8 “Conservation Area (1)” Zone

A total of about 228.37 ha of land are zoned “CA(1)”. The planning intention of this zone is to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland system at Hoo Hok Wai area. The “CA(1)” zone covers the extensive fish ponds that occupy a majority of the Hoo Hok Wai area and the freshwater marshes which forms an integral part of the Hoo Hok Wai area. These features are to be protected and conserved in order to maintain the ecological integrity of the Deep Bay wetland ecosystem as a whole. New development will not be permitted unless it is required to support the conservation of the ecological integrity of the wetland ecosystem or the development is an essential infrastructure project with

overriding public interest. ‘Agricultural Use (Fish Pond Culture Only)’ is always permitted under the Notes of “CA(1)”.

- 5.9 A table comparing the land use budget of Ma Tso Lung and Hoo Hok Wai area covered by the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 and the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE- MTL/D is shown below:

Table 1: Land Use Budget of Ma Tso Lung and Hoo Hok Wai Area covered by the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 and the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE- MTL/D

Zoning	Approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 (ha / %)		Draft Ma Tso Lung and Hoo Hok Wai OZP Plan No.S/NE-MTL/D (ha / %)		Increase / Decrease (ha / %)	
Village Type Development	6.33	1.14	6.33	1.14	No change	No change
Government, Institution or Community	6.87	1.24	7.93	1.43	+1.06	+0.19
Other Specified Uses	14.62	2.64	14.62	2.64	No change	No change
Agriculture	38.42	6.94	38.42	6.94	No change	No change
Green Belt	217.75	39.36	234.64	42.41	+16.89	+3.05
Conservation Area	10.81	1.95	10.81	1.95	No change	No change
Conservation Area (1)	--	--	228.37	40.29	--	--
River Channel	12.09	2.20	12.09	2.20	No change	No change
Unspecified Use	246.32	44.53	--	--	--	--
Total Planning Area	553.21	100.00	553.21	100.00	No change	No change

6. Consultation

The NDC and the SSDRC will be consulted after the Board’s agreement to the publication of the Draft Ma Tso Lung and Hoo Hok Wai OZP under section 5 of the Ordinance or during the exhibition period of the OZP depending on the meeting schedules of NDC and SSDRC.

7. **Decision Sought**

Members are invited to:

- (a) note the comments from and responses to the NDC, the SSDRC and the Green Groups on the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C;
- (b) agree that the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/D (to be renumbered as S/NE-MTL/1 upon gazetting) and its Notes (**Attachments I and II**) are suitable for exhibition for public inspection under section 5 of the Ordinance;
- (c) adopt the Explanatory Statement (**Attachment III**) as an expression of the planning intentions and objectives of the Board for various land use zonings of the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/D; and
- (d) agree that the Explanatory Statement is suitable for exhibition for public inspection together with the draft OZP and issued under the name of the Board.

8. **Attachments**

Plan 1	Reduction of Frontier Closed Area Coverage
Plan 2	Review of the “V” Zone Boundary of Liu Pok
Plan 3	Proposed “Conservation Area(1)” and “Green Belt” for Hoo Hok Wai Endorsed by the Town Planning Board on 26.4.2013
Plan 4	Aerial Photo - Proposed “Conservation Area(1)” and “Green Belt” for Hoo Hok Wai Endorsed by the Town Planning Board on 26.4.2013
Plan 4	Review of the Zonings for Ma Tso Lung Stream and Its Riparian Zone by the Town Planning Board on 26.4.2013
Plan 5	Proposed Rezoning of Existing Government, Institution or Community Uses from “GB” to “G/IC” Endorsed by the Town Planning Board on 26.4.2013







Attachment I	Draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/D
Attachment II	Notes of the Draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/D
Attachment III	Explanatory Statement of the Draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/D
Attachment IV	Extract of Minutes of the Town Planning Board Meeting held on 26.4.2013
Attachment V	TPB Paper No. 9329
Attachment VIa	E-mail from Kadoorie Farm and Botanic Garden Corporation dated 13.5.2013
Attachment VIb	E-mail from World Wide Fund for Nature Hong Kong dated 16.5.2013
Attachment VIc	E-mail from the Conservancy Association dated 23.5.2013
Attachment VId	E-mail from the Green Power dated 23.5.2013
Attachment VIe	E-mail from the Designing Hong Kong dated 4.6.2013
Attachment VII	Minutes of Sheung Shui District Committee Meeting held on 21.5.2013

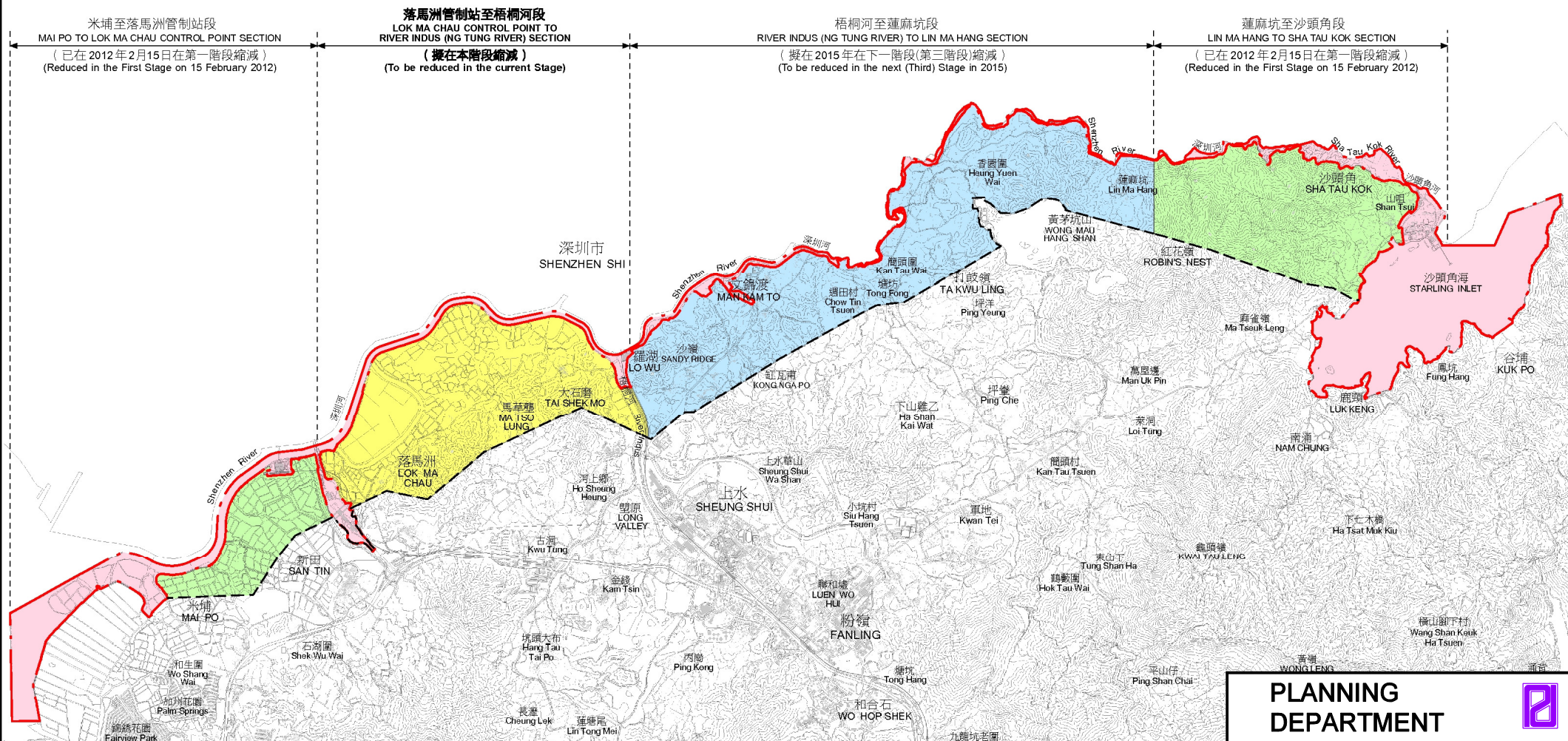
PLANNING DEPARTMENT
JUNE 2013

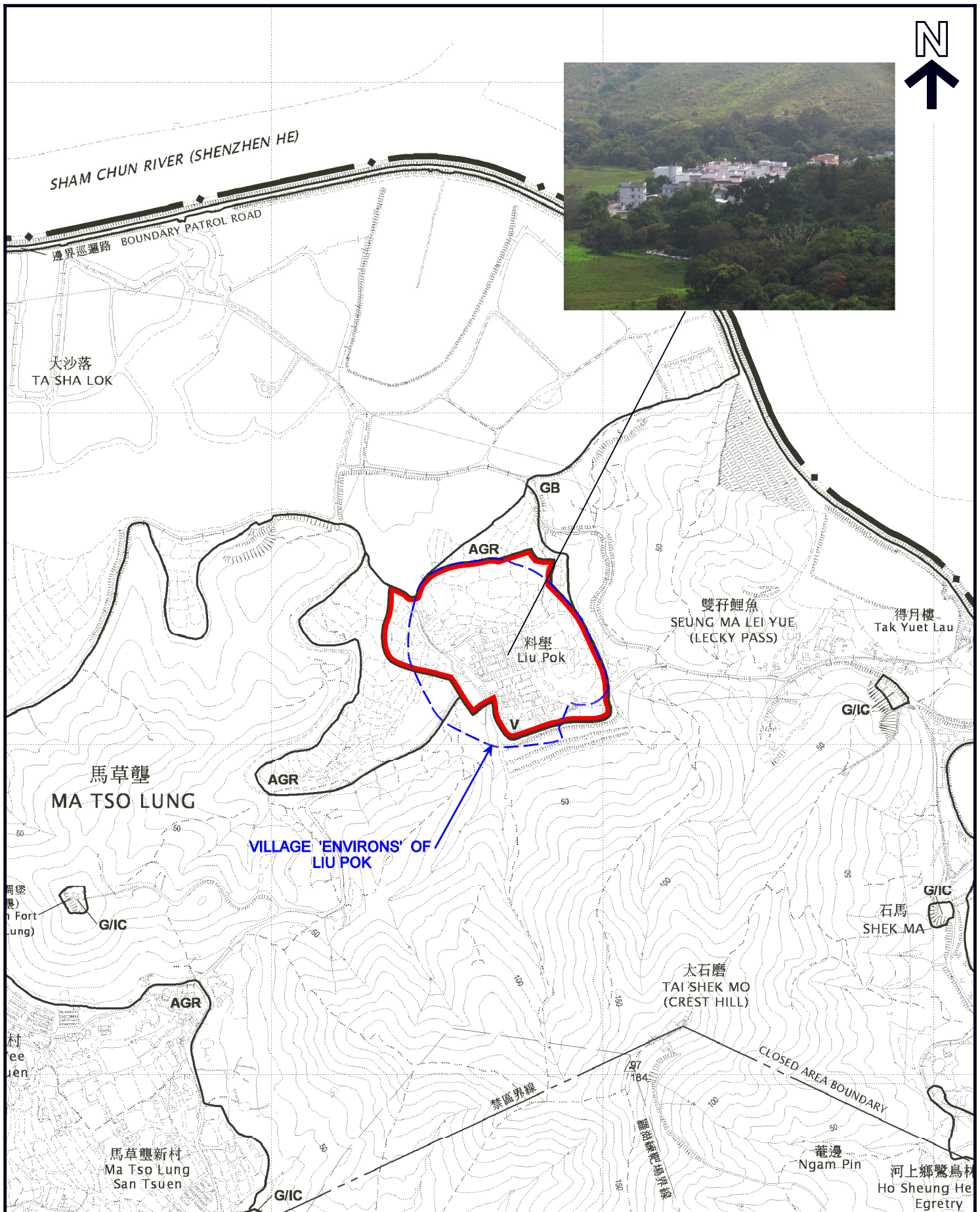
邊境禁區圖

PLAN OF FRONTIER CLOSED AREA

圖例 LEGEND

- | | | | |
|--|---|---|---|
|  | 縮減後的邊境禁區
Frontier Closed Area after reduction |  | 縮減後的邊境禁區界線
Frontier Closed Area Boundary after reduction |
|  | 擬在本階段縮減的邊境禁區範圍
FCA Area to be reduced in the current Stage |  | 釋放前的禁區界線
Existing (before reduction) FCA Boundary |
|  | 已在第一階段縮減的邊境禁區範圍
FCA Area reduced in the First Stage | | |
|  | 擬在第三階段縮減的邊境禁區範圍
FCA Area to be reduced in the Third Stage | | |

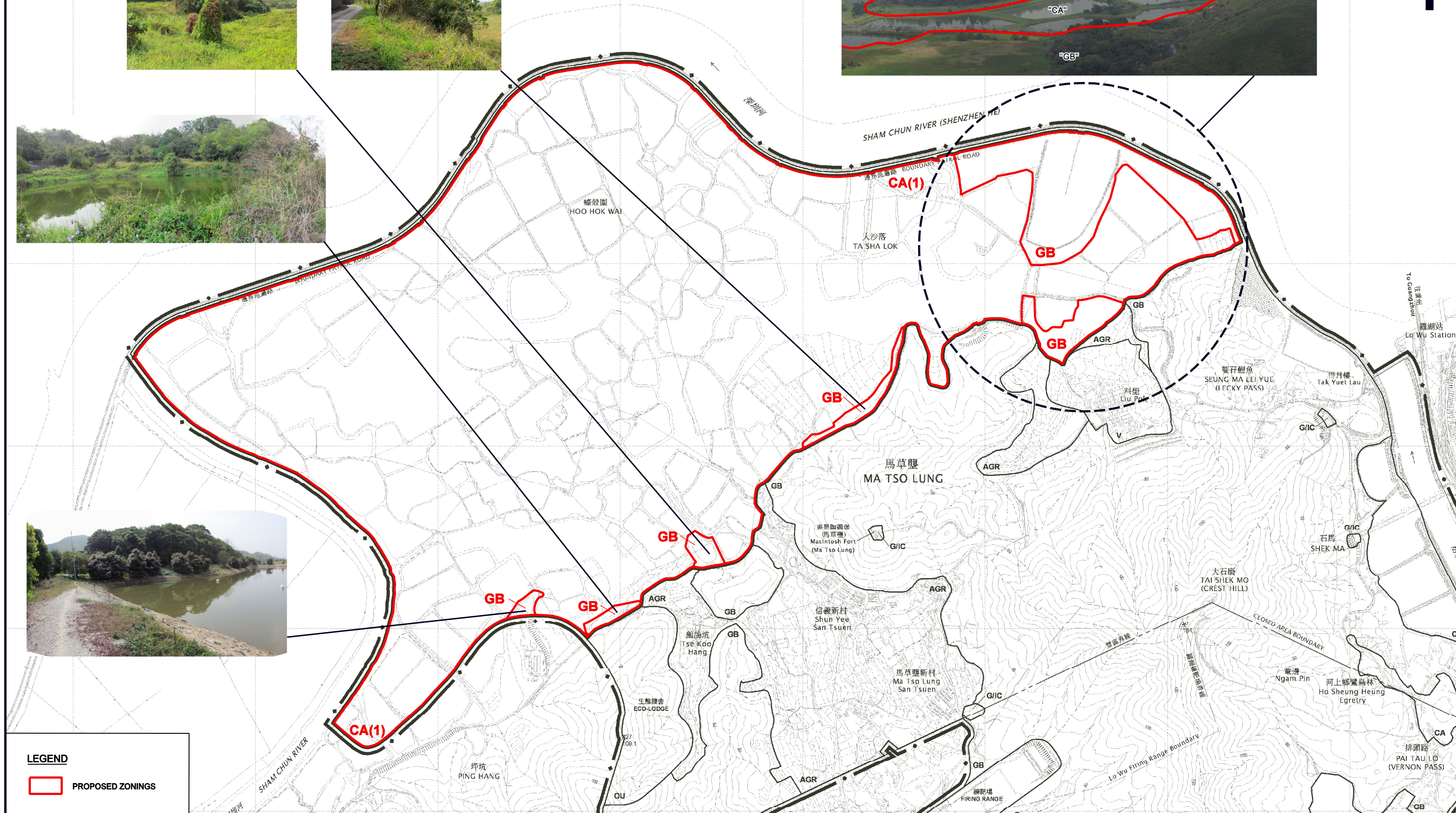




PLAN



深圳市
SHENZHEN SHI



LEGEND

PROPOSED ZONINGS

EXTRACT PLAN PREPARED ON 14.6.2013
BASED ON DEVELOPMENT PERMISSION
AREA PLAN No. DPA/NE-MTL/2
APPROVED ON 21.2.2012

PROPOSED "CONSERVATION AREA (1)" AND "GREEN BELT"
FOR HOO HOK WAI ENDORSED BY THE TOWN PLANNING BOARD ON 26.4.2013

SCALE 1 : 10 000

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/88

PLAN 3



AERIAL PHOTO

PROPOSED "CONSERVATION AREA (1)" AND "GREEN BELT"
FOR HOO HOK WAI ENDORSED BY THE TOWN PLANNING BOARD ON 26.4.2013

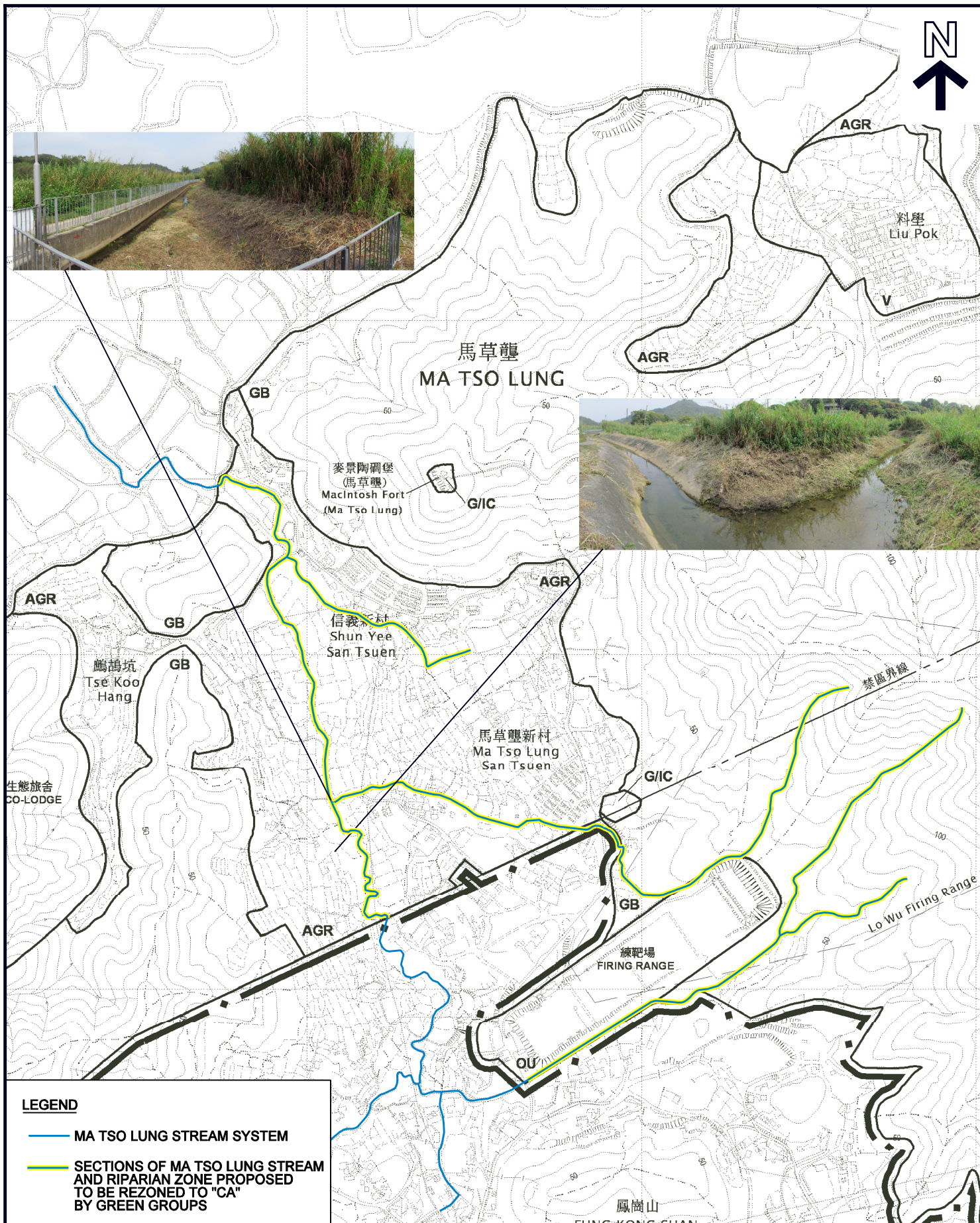
EXTRACT PLAN PREPARED ON 14.6.2013
BASED ON ORTHOPHOTO 2011 PREPARED
BY LANDS DEPARTMENT

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/88

PLAN 4



**REVIEW OF THE ZONINGS
FOR MA TSO LUNG STREAM
AND ITS RIPARIAN ZONE
BY THE TOWN PLANNING BOARD
ON 26.4.2013**

SCALE 1 : 7 500

**PLANNING
DEPARTMENT**



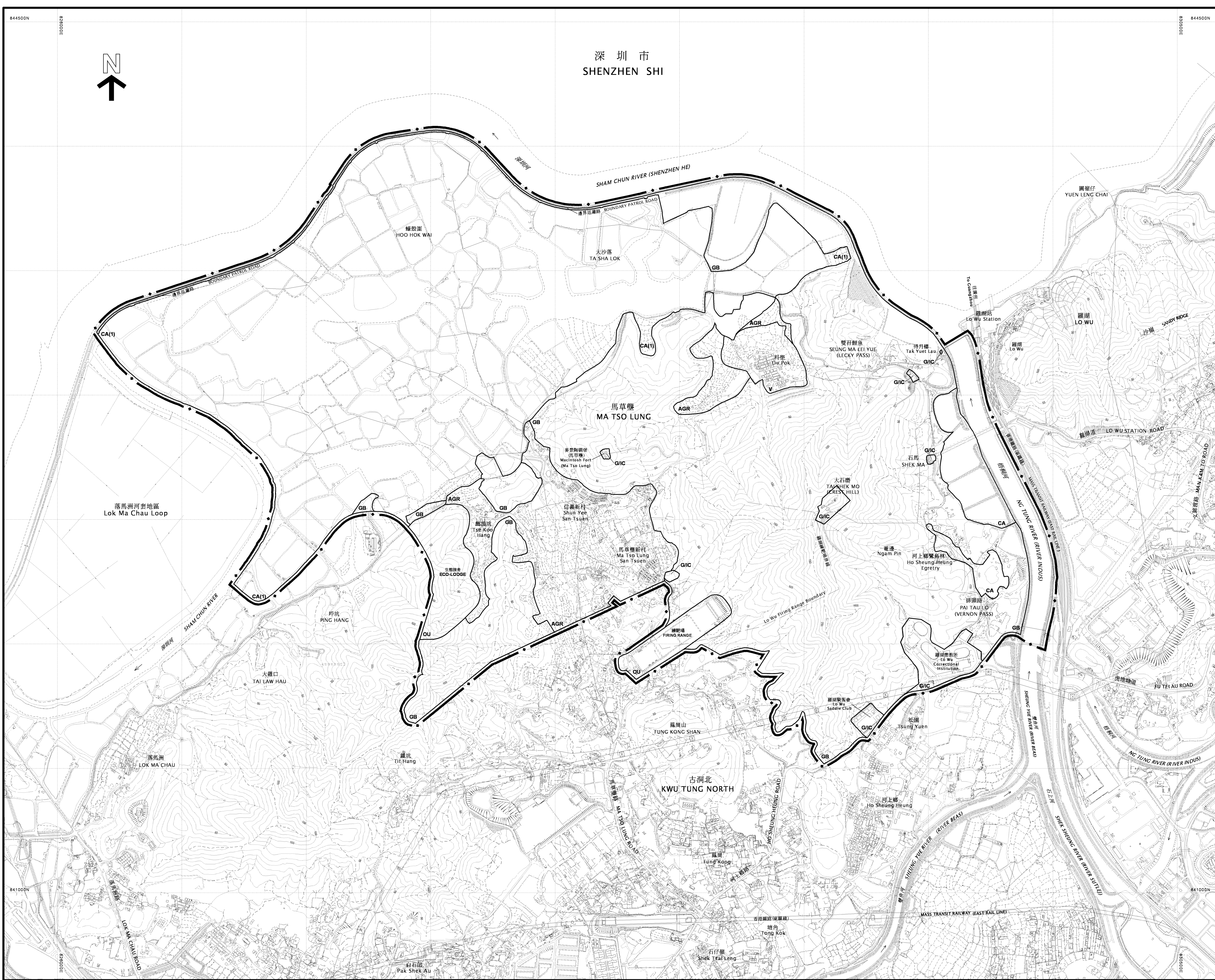
**REFERENCE No.
M/NE/13/88**

**PLAN
5**

EXTRACT PLAN PREPARED ON 14.6.2013
BASED ON DEVELOPMENT PERMISSION
AREA PLAN No. DPA/NE-MTL/2
APPROVED ON 21.2.2012



<p>EXTRACT PLAN PREPARED ON 14.6.2013 BASED ON DEVELOPMENT PERMISSION AREA PLAN No. DPA/NE-MTL/2 APPROVED ON 21.2.2012</p>	<p>PROPOSED REZONING OF EXISTING GOVERNMENT, INSTITUTION OR COMMUNITY USES FROM "GB" TO "G/IC"</p> <p>SCALE 1 : 7 500</p>	<p>PLANNING DEPARTMENT</p> <p>REFERENCE No. M/NE/13/88</p> <p>PLAN 6</p>
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圖例
NOTATION

ZONES		地帶
VILLAGE TYPE DEVELOPMENT	V	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	G/I/C	政府、機構或社區
OTHER SPECIFIED USES	OU	其他指定用途
AGRICULTURE	AGR	農業
GREEN BELT	GB	綠化地帶
CONSERVATION AREA	CA	自然保育區
MISCELLANEOUS		其他
BOUNDARY OF PLANNING SCHEME	— • —	規劃範圍界線

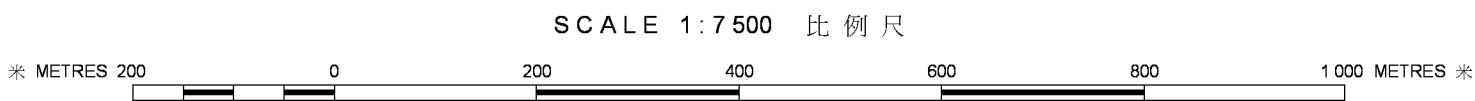
土地用途及面積一覽表
SCHEDULE OF USES AND AREAS

USES	大約面積及百分率 APPROXIMATE AREA & %		用途
	公頃 HECTARES	% 百分率	
VILLAGE TYPE DEVELOPMENT	6.33	1.14	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	7.93	1.43	政府、機構或社區
OTHER SPECIFIED USES	14.62	2.64	其他指定用途
AGRICULTURE	38.42	6.94	農業
GREEN BELT	234.64	42.41	綠化地帶
CONSERVATION AREA	239.18	43.25	自然保育區
RIVER CHANNEL	12.09	2.19	河道
TOTAL PLANNING SCHEME AREA	553.21	100.00	規劃範圍總面積

夾附的《註釋》屬這份圖則的一部分
THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN

香港城市規劃委員會依據城市規劃條例擬備的馬草壟及蠔殼圍分區計劃大綱圖
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
MA TSO LUNG AND HOO HOK WAI - OUTLINE ZONING PLAN

圖則編號
PLAN No. S/NE-MTL/D



規劃署遵照城市規劃委員會指示擬備
PREPARED BY THE PLANNING DEPARTMENT UNDER
THE DIRECTION OF THE TOWN PLANNING BOARD



**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/D**

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

- (1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.
- (2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.
- (3) No action is required to make the use of any land or building which was in existence immediately before the first publication in the Gazette of the notice of the draft development permission area plan conform to this Plan, provided such use has continued since it came into existence. Any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.
- (4) A use or development of any land or building permitted under an earlier draft or approved plan including development permission area plan for the area and effected or undertaken during the effective period of that plan is always permitted under this Plan. Any material change of such use or any other development (except minor alteration and/or modification to the completed development of the land or building which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.
- (5) Except to the extent that paragraph (3) or (4) applies, any use or development falling within the boundaries of the Plan and also within the boundaries of the draft development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without permission from the Town Planning Board.
- (6) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.

- (7) Road junctions, alignment of roads and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.
- (8) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (9) in relation to areas zoned "Conservation Area" and "Conservation Area (1)":
- (a) maintenance, repair or demolition of a building;
 - (b) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, footpath, bus/public light bus stop or lay-by, cycle track, taxi rank, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;
 - (c) maintenance or repair of road, watercourse, nullah, sewer and drain;
 - (d) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities and waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government;
 - (e) rebuilding of New Territories Exempted House;
 - (f) replacement of an existing domestic building i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, by a New Territories Exempted House;
 - (g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government;
- (9) In areas zoned "Conservation Area" and "Conservation Area (1)",
- (a) the following uses or developments are always permitted:
 - (i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave;
 - (ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
 - (iii) provision of amenity planting by Government; and
 - (b) the following uses or developments require permission from the Town Planning Board:

provision of plant nursery, amenity planting (other than by Government), sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

- (10) In any area shown as 'Road', all uses or developments except those specified in paragraphs (8)(a) to (8)(d) and (8)(g) above and those specified below require permission from the Town Planning Board:

road and on-street vehicle park.

- (11) (a) Except in areas zoned "Conservation Area" and "Conservation Area (1)", temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (excavation or land/pond filling) is carried out and that the use or development is a use or development specified below:

structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.

- (b) Except as otherwise provided in paragraph (11)(a), and subject to temporary uses for open storage and port back-up purposes which are prohibited in areas zoned "Conservation Area" and "Conservation Area (1)", temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.

- (c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.

- (12) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.

- (13) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap.121).

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/D**

Schedule of Uses

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VILLAGE TYPE DEVELOPMENT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use	Burial Ground
Government Use (Police Reporting Centre, Post Office only)	Eating Place
House (New Territories Exempted House only)	Flat
On-Farm Domestic Structure	Government Refuse Collection Point
Religious Institution (Ancestral Hall only)	Government Use (not elsewhere specified) #
Rural Committee/Village Office	Hotel (Holiday House only)
	House (not elsewhere specified)
	Institutional Use (not elsewhere specified) #
	Market
	Place of Recreation, Sports or Culture
	Private Club
	Public Clinic
	Public Convenience
	Public Transport Terminus or Station
	Public Utility Installation #
	Public Vehicle Park (excluding container vehicle)
	Religious Institution (not elsewhere specified) #
	Residential Institution #
	School #
	Shop and Services
	Social Welfare Facility #
	Utility Installation for Private Project

In addition, the following uses are always
permitted on the ground floor of a New
Territories Exempted House:

Eating Place
Library
School
Shop and Services

(please see next page)

VILLAGE TYPE DEVELOPMENT (cont'd)

Planning Intention

The planning intention of this zone is to designate both existing recognized villages and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Town Planning Board.

Remarks

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (c) Any diversion of streams, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot	Animal Boarding Establishment
Animal Quarantine Centre (in Government building only)	Animal Quarantine Centre (not elsewhere specified)
Broadcasting, Television and/or Film Studio	Columbarium
Correctional Institution	Crematorium
Eating Place (Canteen, Cooked Food Centre only)	Driving School
Educational Institution	Eating Place (not elsewhere specified)
Exhibition or Convention Hall	Funeral Facility
Field Study/Education/Visitor Centre	Holiday Camp
Government Refuse Collection Point	Hotel
Government Use (not elsewhere specified)	House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes)
Hospital	Off-course Betting Centre
Institutional Use (not elsewhere specified)	Office
Library	Petrol Filling Station
Market	Place of Entertainment
Place of Recreation, Sports or Culture	Private Club
Public Clinic	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
Public Convenience	Residential Institution
Public Transport Terminus or Station	Sewage Treatment/Screening Plant
Public Utility Installation	Shop and Services
Public Vehicle Park (excluding container vehicle)	Utility Installation for Private Project
Recyclable Collection Centre	Zoo
Religious Institution	
Research, Design and Development Centre	
Rural Committee/Village Office	
School	
Service Reservoir	
Social Welfare Facility	
Training Centre	
Wholesale Trade	

Planning Intention

This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

OTHER SPECIFIED USES

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For “Eco-lodge” only

Nature Reserve
Nature Trail

Commercial Bathhouse/Massage Establishment
Eating Place
Field Study/Education/Visitor Centre
Government Refuse Collection Point
Government Use (not elsewhere specified)
Holiday Camp
Hotel
Place of Recreation, Sports or Culture
Public Utility Installation
Utility Installation for Private Project

Planning Intention

This zone is intended to provide for sustainable-based tourism in the form of an eco-lodge for development of low-rise, low-density resort-type accommodation. The proposed development shall not have adverse impact on the local environment and shall adopt best practice/green architecture/sustainable principles in design, construction and operation. Uses in support of the resort-type accommodation as well as active and/or passive recreational developments may be permitted subject to planning permission.

Remarks

- (a) Application for permission of use or development shall be in the form of a comprehensive development scheme within this zone. The proposed scheme shall adopt green architecture/sustainable principles with minimum site formation and minimal impact on the surrounding natural and ecological environment. An applicant shall prepare a layout plan and any other documents showing the following information for consideration of the Town Planning Board:
- (i) the proposed land uses, development parameters, the nature, position, dimensions and heights of all buildings to be erected in the area;
 - (ii) a detailed submission, including its design, construction and operation proposals, demonstrating how the development meets the ecological enhancement and sustainable design principles;

(please see next page)

OTHER SPECIFIED USES (cont'd)

For "Eco-lodge" only (cont'd)

- (iii) the alignment, widths and levels of any roads proposed to be constructed within the area;
 - (iv) the landscaping and urban design proposals within the area;
 - (v) programming, phasing and implementation schedule of each component of the proposed development;
 - (vi) an environmental impact study report, including but not limiting to an ecological impact assessment and a landscape and visual impact assessment, to examine any possible environmental problems that may be caused to or by the proposed development during and after construction and the proposed mitigation measures to tackle them;
 - (vii) a drainage and sewerage impact study report to examine any possible flooding, drainage, sewerage and associated problems that may be caused to or by the proposed development and the proposed mitigation measures to tackle them;
 - (viii) a traffic impact assessment report to examine any possible traffic problems that may be caused by the proposed development and the proposed mitigation measures to tackle them; and
 - (ix) such other information as may be required by the Town Planning Board.
- (b) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.2 and a maximum building height of 6m.
- (c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/building height restrictions stated in paragraph (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (cont'd)

Column 1
Uses always permitted

Column 2
Uses that may be permitted with or
without conditions on application
to the Town Planning Board

For "Firing Range" only

Firing Range

Government Refuse Collection Point
Government Use (not elsewhere specified)
Public Utility Installation
Utility Installation for Private Project

Planning Intention

The planning intention of this zone is to provide land for the Lo Wu Firing Range.

AGRICULTURE

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre only) On-Farm Domestic Structure Public Convenience Religious Institution (Ancestral Hall only) Rural Committee/Village Office	Animal Boarding Establishment Barbecue Spot Burial Ground Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) House (New Territories Exempted House only, other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Picnic Area Place of Recreation, Sports or Culture (Horse Riding School, Hobby Farm, Fishing Ground only) Public Utility Installation Religious Institution (not elsewhere specified) School Utility Installation for Private Project

Planning Intention

This zone is intended primarily to retain and safeguard good quality agricultural land/farm/fish ponds for agricultural purposes. It is also intended to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes.

Remarks

Any diversion of streams or filling of land/pond, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance. This restriction does not apply to filling of land specifically required under prior written instructions of Government department(s) or for the purposes specified below :

- (i) laying of soil not exceeding 1.2m in thickness for cultivation; or
- (ii) construction of any agricultural structure with prior written approval issued by the Lands Department.

GREEN BELT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<hr/>	
Agricultural Use	Animal Boarding Establishment
Barbecue Spot	Broadcasting, Television and/or Film Studio
Government Use (Police Reporting Centre only)	Burial Ground
Nature Reserve	Columbarium (within a Religious Institution or extension of existing Columbarium only)
Nature Trail	Crematorium (within a Religious Institution or extension of existing Crematorium only)
On-Farm Domestic Structure	Field Study/Education/Visitor Centre
Picnic Area	Firing Range
Public Convenience	Flat
Tent Camping Ground	Golf Course
Wild Animals Protection Area	Government Refuse Collection Point
	Government Use (not elsewhere specified)
	Helicopter Landing Pad
	Holiday Camp
	House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes)
	Petrol Filling Station
	Place of Recreation, Sports or Culture
	Public Transport Terminus or Station
	Public Utility Installation
	Public Vehicle Park (excluding container vehicle)
	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
	Religious Institution
	Residential Institution
	Rural Committee/Village Office
	School
	Service Reservoir
	Social Welfare Facility
	Utility Installation for Private Project
	Zoo

(please see next page)

GREEN BELT (cont'd)

Planning Intention

The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.

Remarks

Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

CONSERVATION AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<hr/>	
Agricultural Use (other than Plant Nursery)	Field Study/Education/Visitor Centre
Nature Reserve	Government Refuse Collection Point
Nature Trail	Government Use (not elsewhere specified)
On-Farm Domestic Structure	House (Redevelopment only)
Wetland Habitat	Public Convenience
Wild Animals Protection Area	Public Utility Installation
	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
	Utility Installation for Private Project

Planning Intention

This zoning is intended to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment from the adverse effects of development.

There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.

Remarks

- (a) No redevelopment, including alteration and/or modification, of an existing house, shall result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan.
- (b) Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

CONSERVATION AREA (1)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (Fish Pond Culture Only) Nature Reserve Nature Trail On-Farm Domestic Structure Wetland Habitat Wild Animals Protection Area	Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) House (Redevelopment only) Public Convenience Public Utility Installation Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Utility Installation for Private Project

Planning Intention

The planning intention of this zone is to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem at Hoo Hok Wai and the rest of the Deep Bay area. The “no-net-loss in wetland” principle is adopted for any change in use within this zone. The primary intention is to discourage new development unless it is required to support the conservation of the ecological integrity of the wetland ecosystem or the development is an essential infrastructure project with overriding public interest.

Remarks

- (a) No redevelopment, including alteration and/or modification, of an existing house shall result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan.
- (b) Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/D**

EXPLANATORY STATEMENT

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/D**

EXPLANATORY STATEMENT

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**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/D**

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

EXPLANATORY STATEMENT

Note : For the purposes of the Town Planning Ordinance, this statement shall not be deemed to constitute a part of the Plan.

1. INTRODUCTION

This Explanatory Statement is intended to assist an understanding of the draft Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan (OZP) No. S/NE-MTL/D. It reflects the planning intention and objectives of the Town Planning Board (the Board) for various land use zonings of the Plan.

2. AUTHORITY FOR THE PLAN AND PROCEDURE

- 2.1 On 10 September 2004, under the power delegated by the Chief Executive (CE), the then Secretary for Housing, Planning and Lands directed the Board, under section 3(1)(b) of the Town Planning Ordinance (the Ordinance), to prepare a draft plan designating the Ma Tso Lung and Hoo Hok Wai area as a development permission area (DPA). Subsequently on 17 June 2010, the Secretary for Development directed the Board to extend the coverage of the draft DPA plan.
- 2.2 On 30 July 2010, the draft Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/1 was exhibited for public inspection under section 5 of the Ordinance. During the two-month exhibition period, a total of 8 valid representations were received. On 8 October 2010, the representations were published for three weeks for public comments and 1 valid comment was received.
- 2.3 On 25 February 2011, the Board considered the representations and comments and decided to defer the consideration of the representations and comments pending further review by the Planning Department on the land use proposals, in particular on the "Village Type Development" ("V") zones, taking into account the views of the representers and commenters and any other relevant planning considerations.
- 2.4 On 16 June 2011, the CE, under section 8(2) of the Ordinance, agreed to extend the statutory time limit for the Board to submit the draft DPA Plan to the Chief Executive in Council (CE in C) for approval for a period of six months from 30 June 2011 to 30 December 2011.
- 2.5 On 8 September 2011, upon further consideration of the representations and comment to the draft Plan, the Board decided to propose amendments to partially meet a representation by rezoning an area to the northwest of Liu Pok from "Agriculture" ("AGR") to "V" and an area to the northeast of Liu Pok from "V" to "AGR". On 16 September 2011, the proposed amendments were published for public inspection under section 6C(2) of the Ordinance. Upon expiry of the three-week public inspection period, 1 further representation was received. On 11 November 2011, the Board considered the further representation and decided not to

uphold the further representation. The Board decided that the proposed amendments to the DPA Plan would form part of the DPA Plan under section 6F(8) of the Ordinance.

- 2.6 On 21 February 2012, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Ma Tso Lung and Hoo Hok Wai DPA Plan, which was subsequently re-numbered as DPA/NE-MTL/2. On 2 March 2012, the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 was exhibited for public inspection under section 9(5) of the Ordinance.
- 2.7 On 8 February 2013, under the power delegated by the CE, the Secretary for Development directed the Board, under section 3(1)(a) of the Ordinance, to prepare an OZP to cover the Ma Tso Lung and Hoo Hok Wai area.
- 2.8 On ____ 2013, the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/D (the Plan) *(to be re-numbered as S/NE-MTL/1 upon gazetting)* was exhibited for public inspection under section 5 of the Ordinance.

3. OBJECT OF THE PLAN

- 3.1 The object of the Plan is to indicate the broad land use zonings for the Ma Tso Lung and Hoo Hok Wai area (the Area) so that development and redevelopment within the Area can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and site reservation for various uses.
- 3.2 The Plan is to illustrate the broad principles of development and planning control only. It is a small-scale plan and the road alignments and boundaries between the land use zones may be subject to minor alterations as detailed planning proceeds.

4. NOTES OF THE PLAN

- 4.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Planning Scheme Area and in particular zones and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land use planning and control of development to meet changing needs.
- 4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board's website at <http://www.info.gov.hk/tpb>.

5. THE PLANNING SCHEME AREA

- 5.1 The Area covers an area of about 553 ha of land. It is located approximately 2 km to the northwest of Fanling/Sheung Shui. It is bounded by the southern bank of Sham Chun River in the north, Lo Wu Station and Mass Transit Railway (East Rail Line) in

the east, Fung Kong Shan in the south as well as Tai Law Hau in the west. The boundary of the Area is shown by a heavy broken line on the Plan.

- 5.2 The Area commands the cross boundary location in the northernmost rural area of the North District adjoining Shenzhen City in the north. The surroundings are predominantly agricultural spotted with rural settlements. The highest point with an elevation of 183 mPD is located at Tai Shek Mo. Another hilly upland is to the west of Tse Koo Hang with a height of 108 mPD. The extensive lowlands mainly comprise arable land intermixed with clusters of village settlements, abandoned fish ponds, marsh, undisturbed woodlands, vegetated habitats and natural watercourse.
- 5.3 A spectrum of natural habitats including woodland, mixed shrubland, lowland forests, freshwater/brackish wetlands, natural watercourses, abandoned fish ponds and marshy wetland are found in the Area. Hoo Hok Wai, situated at the northern portion of the Area, is a large plain of ecologically sensitive area which consists of a range of ponds, marsh, reedbeds and seasonally wet grassland. Ho Sheung Heung Egrettry, an important breeding site for ardeids particularly for Chinese Pond Heron, is located near Ngam Pin.
- 5.4 There are no significant economic activities in the Area. Only small-scale cultivated land and livestock farms are found near the settlements. A number of cottage workshops and open storage sites, however, have been established in the Area. Some economic activities tailored to the unique landscape and resources, including agriculture and aquaculture/fisheries, can also be found in the Area.
- 5.5 The graded historic building within the Area is MacIntosh Fort at Ma Tso Lung (Grade 2), which is worthy of preservation.

6. POPULATION

According to the 2011 Population Census, the total population within the Area was 1,000 persons. It is expected that the total planned population of the Area would be about 2,101 persons.

7. OPPORTUNITIES AND CONSTRAINTS

7.1 Opportunities

7.1.2 Tourism

The rural landscape, natural features, fishponds/wetlands with the rural villages in traditional setting and orderly pattern form tranquil and scenic attractions of the Area. The hilly landscaped areas to the south of Hoo Hok Wai at Ma Tso Lung have an elevated position with expansive views over the wetland system. The wetland system with its extensive bird populations creates opportunities for bird watching and the relatively lower ecological value of the hilly area presents opportunities to develop an eco-lodge. Liu Pok is well-preserved in its traditional rural village setting with fishponds and agricultural land in front of the village and the green backdrop of buried

grounds and hilly landscaped areas at the back. All of these create an attractive atmosphere that can be celebrated through appropriate tourism activities.

7.1.3 Economic and Employment

The proposed development in the Area will enhance economic and employment opportunities. The provision of land for the proposed eco-lodge at the hillside of Ma Tso Lung could provide job opportunities for the locals while enhancement of the leisure and recreational opportunities such as birdwatching will attract visitors. Supporting uses e.g. cafes, shops, accommodation, markets etc. can be established within the village areas. There are also opportunities for conventional agricultural, tourism and leisure uses e.g. hobby farm. This will provide opportunities for local residents to harness the economic opportunities created by the release of the Frontier Closed Area (FCA). Besides, the proximity to Kwu Tung North New Development Area (NDA) and Lok Ma Chau Loop (with a possible access road through Hoo Hok Wai/Ma Tso Lung) will also provide job opportunities to the local residents.

7.1.4 Agricultural

Large pieces of flat fallow agricultural land are concentrated near Shun Yee San Tsuen, Liu Pok and the strip near Tse Koo Hang. The rehabilitation of fallow farm land and preservation of wet agriculture land would be effective in conserving the rural setting as well as essential to preserve the natural environment and the ecological value in many parts of the FCA.

7.1.5 Nature Conservation

The environmental value of the Hoo Hok Wai in the Area within the wider Deep Bay wetland ecosystem creates visual and ecological opportunities. The ecosystem should be protected and enhanced through existing mechanism provided by the Town Planning Ordinance and the New Nature Conservation Policy so that it can contribute to an environmental corridor which extends from Deep Bay to Ho Sheung Heung Egrettry. Besides, the “no-net-loss in wetland” principle for development in Deep Bay Area as enshrined in ‘Town Planning Board Guidelines (No. 12B) for Application for Developments within Deep Bay Area under Section 16 of the Town Planning Ordinance’ had been stated in the Notes and the ES of the Plan. The need to revise the Guidelines to cover the HHW area would be further examined upon gazettal of the Plan.

7.2 Constraints

7.2.1 Relief and Geotechnical Aspect

The environmentally important wetlands/fishponds at Hoo Hok Wai and along Ng Tung River present limitation to development within the Area. Extensive natural and hilly landscaped areas at the southern and southwestern parts of the area also restrict opportunities for major development. With

hilly topography and occurrence of landslides, majority of the southern part of the Area suffers from high to extreme geological limitations and is mostly unsuitable for development. Such topographic relief imposes geotechnical constraints on proposed development, and geotechnical assessment would be required for any proposed development involving site formation and slope stabilization works.

7.2.2 Traffic

All vehicular accesses are of a limited capacity and not intended for heavy traffic. Due to the limited transport infrastructure in the Area, uncoordinated development would create problems and hazards to both pedestrian and vehicular traffic. Improvements to transport facilities are required after the Area is released from the FCA.

7.2.3 Land Ownership

About 33% of land in the Area are private land. These private land are mainly concentrated in the fish ponds at the northern portion of the Area except those at the northern and western periphery of Hoo Hok Wai, Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok to the north.

7.2.4 Environmental

Part of the Area fall within the consultation zone for the Sheung Shui Water Treatment Works. Also, Lo Wu Firing Range and the nearby helipads are major source of noise pollution in the vicinity. Any new development should be subject to noise impact assessment.

7.2.5 Ecological Aspect

The rural character and the ecological importance of Hoo Hok Wai poses a major development constraint to the Area. According to the findings of the "Land Use Planning for the Closed Area – Feasibility Study" and the Ecological Field Survey of Hoo Hok Wai, the contiguous wetland complex in Hoo Hok Wai is generally of high ecological importance. Not only is it an important foraging and roosting area for wetland-dependent species, in particular large waterbirds and Eurasian Otter which is a threatened species, but it also contains an important flight line corridor linking the wetlands in Hoo Hok Wai and the Inner Deep Bay area. Developments and man-made disturbances in this area should be avoided as far as possible.

7.2.6 Sewerage

The Area is currently not served by any public sewerage system, Septic tanks and soakaway pits are commonly used in traditional villages. Subject to availability of funds, village sewerage will be provided to Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok under Public Works Programme Item No. 4203 DC/B "North District Sewerage Stage 2 Part 2B". There is otherwise no public sewerage works planned for the Area. As the Area falls within the Deep Bay catchment, no additional pollution loading should be discharged into Deep Bay as a result of any new proposed developments.

On-site treatment facilities as an alternative to connection to public sewers may not be possible as such facilities are unlikely to comply with the requirement of “no net increase in pollution load to Deep Bay”. The inadequacies of sewerage infrastructure will pose a constraint to the development of the Area.

7.2.7 Overhead Transmission Lines

There are 400 kV overhead lines running across the southern part of the Area between Fung Kong Shan and Tsung Yuen. Relevant guidelines in Chapter 7 of the Hong Kong Planning Standards and Guidelines should be observed.

7.2.8 Burial Grounds

The permitted burial grounds for indigenous villagers are proposed to be retained and should be refrained and protected from development.

7.2.9 Heritage and Cultural Features

The MacIntosh Fort at Ma Tso Lung in the Area is a Grade 2 historic building worthy of preservation. Prior consultation with the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be made if any development, redevelopment or rezoning proposal might affect the above historic building/structure and its immediate environs.

8 GENERAL PLANNING INTENTION

- 8.1 In January 2008, the Security Bureau announced that about 2,400 hectares of land will be released from the Closed Area in phases. The Study on Land Use Planning for the Closed Area was commissioned by the Government to formulate a planning framework to guide the conservation and development of the land to be released from the Closed Area. The Study recognizes the strategic role of the Closed Area for creation of a conservation, cultural heritage and sustainable development belt between HKSAR and Shenzhen City.
- 8.2 The Study also indicates the need to strengthen nature conservation of rich natural resources, to conserve cultural heritage resources worthy of preservation, to promote sustainable uses by capitalizing on the boundary location and to allow suitable development compatible with the surroundings so as to achieve a balance between conservation and development in the Closed Area.
- 8.3 The Planning Scheme Area is situated at the western portion of the Closed Area and comprises ecologically valuable wetland, fishponds, hilly terrain, agricultural land, village settlements and traditional buildings. The general planning intention of the Area is to protect the natural setting, environmental diversity and to promote heritage conservation and recreation tourism. It is also the planning intention to conserve the rural character, the natural habitats including the contiguous wetland complex of ecological importance, the undisturbed woodland and lowland river habitats and the unique landscape as well as the ecologically important areas and the upland scene of

the Area.

9. LAND USE ZONINGS

9.1 "Village Type Development" ("V") : Total Area 6.33 ha

- (a) The planning intention of this zone is to designate both existing recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructure and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House (NTEH). Other commercial, community and recreational uses may be permitted on application to the Board. In order to provide opportunities for short-term accommodation in existing NTEH, "Hotel (Holiday House only)" may also be permitted on application to the Board. The accommodation can complement any proposed agricultural and recreational uses to promote village life experience, leisure farming and agri-tourism.
- (b) Liu Pok is the only recognized village in the Area and is zoned "V". The boundary of "V" zone is drawn up having regard to the existing village 'environs', outstanding Small House applications, Small House demand forecast, local topography, existing settlement pattern, ecologically important areas and other site specific characteristics. Areas of difficult terrain, dense vegetation, burial grounds and streamcourses have been avoided where possible.
- (c) Except for those specified, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is the greater.
- (d) In order to address the concerns on potential impacts from developments on existing stream courses in general, it is suggested that the Lands Department when processing Small House grant and applications in close proximity to existing stream courses, concerned departments including the Agriculture, Fisheries and Conservation Department and Planning Department should be consulted to ensure that all relevant departments would have adequate opportunity to review and comment on the applications.
- (e) To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.
- (f) As diversion of streams may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activity.

9.2 “Government, Institution or Community” (“G/IC”) : Total Area 7.93 ha

- (a) This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.
- (b) Existing facilities under this zoning include MacIntosh Fort at Ma Tso Lung, Lo Wu Correctional Institution, Lo Wu Saddle Club opposite Tsung Yuen, the flood shelter near Tak Yuet Lau, Tak Yuet Lau Police Post, Tai Shek Mo Observation Post and two raw water tunnel portals for Water Supplies Department located near Ma Tso Lung San Tsuen in the west and Ng Tung River in the east respectively.

9.3 “Other Specified Uses” (“OU”) : Total Area 14.62 ha

The sites zoned “OU” on the Plan include the following as annotated on the Plan:

“OU (Eco-lodge)” : Total Area 9.15 ha

- (a) The planning intention for this zone is to provide for sustainable-based tourism in the form of an eco-lodge for development of low-rise, low-density resort-type accommodation. The proposed development shall not have adverse impact on the local environment and shall adopt best practice/green architecture/sustainable principles in design, construction and operation. Uses in support of the resort-type accommodation as well as active and/or passive recreational developments may be permitted subject to planning permission.
- (b) The small knoll to the west of Tse Koo Hang is zoned “OU(Eco-lodge)” and it possesses expansive views over the environmentally sensitive fishponds/wetlands of Hoo Hok Wai which serves as a valuable natural setting, but relatively untouched due to restricted public access and physical separation. The site is accessible to high value ecological areas and can be linked with recreational uses as well as historical and cultural interest in the Closed Area.
- (c) Any future development should integrate with the natural topography to provide a low impact sustainable tourism facility that will directly benefit the preservation/appreciation of the surrounding environmental resources and also provide opportunities to enhance the well-being of local residents. The eco-lodge should preferably be constructed on stilts to minimize site formation on the natural landscape of the site.
- (d) Application for development within this zone shall be in the form of a comprehensive development scheme including a layout plan and relevant supporting documents for consideration of the Board. To blend in with the natural landscape and the surrounding rural environment, no new development, or addition, alteration and/or modification to or redevelopment of an existing

building within this zone shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.2 and a maximum building height of 6m. The built structure should be 1 storey over stilts to allow the building to be lifted off the ground to minimize site disturbance and permit variation in building height to create visual interest in the development.

- (e) When opportunity arises, it is desirable to designate the whole proposed eco-lodge area as “OU(Eco-lodge)” within one statutory plan to achieve the future planning intention as stated above and for better planning control purpose.

“OU (Firing Range)” : Total Area 5.47 ha

The Lo Wu Firing Range is zoned “OU (Firing Range)”. It is an ex-military site currently allocated to the Hong Kong Police Force for firearm training purpose.

9.4 “Agriculture” (“AGR”) : Total Area 38.42 ha

- (a) This zone is intended primarily to retain and safeguard good quality agricultural land, farm and fish ponds for agricultural purposes. It is also intended to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes.
- (b) Most of the agricultural land of good quality are found in western and central part of the Area. With basic agricultural infrastructure, including irrigation facilities, fallow arable land can be easily rehabilitated for agricultural purpose. On the other hand, the agricultural land to the west and north of Liu Pok has the potential to provide low intensity leisure farming or organic farming to promote village life experience.
- (c) As diversion of streams or filling of land/pond may cause adverse drainage and environmental impacts on the adjacent areas, permission from the Board is required for such activities. However, filling of land for genuine agricultural practice including laying of soil not exceeding 1.2m in thickness for cultivation, and construction of agricultural structure with prior written approval from the Lands Department is exempted from the control.

9.5 “Green Belt” (“GB”) : Total Area 234.64 ha

- (a) The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to preserve the existing topography and natural vegetation as well as to provide passive recreational outlets. There is a general presumption against development within this zone. However, limited developments may be permitted if they are justified on strong planning grounds. Developments requiring planning permission from the Board will be assessed on their individual merits taking into account the relevant Town Planning Board Guidelines.
- (b) The “GB” zone mainly includes the woodland and densely vegetated hillslopes at Ma Tso Lung, Tai Shek Mo, and Tse Koo Hang, and the permitted burial grounds for indigenous villagers. The burial grounds have been in existence for many years, which are considered as an existing use and intended for burial places of deceased indigenous villagers in the Area.

- (c) The “GB” zone also includes the planted mitigation woodland in the northeastern Hoo Hok Wai area (adjacent to Sham Chun River), two ruderal vegetation areas and two planted woodlands alongside the border road and the marsh located to the north of Liu Pok which forms a buffer area between the Hoo Hok Wai wetland ecosystem and the village type developments in Liu Pok.
- (d) As diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities.

9.6 “Conservation Area” (“CA”) : Total Area 10.81 ha

- (a) This zoning is intended to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment from the adverse effects of development. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.
- (b) Ho Sheung Heung Egretty is one of the largest egrettries in Hong Kong with increasing number of breeding birds in recent decade. The Ho Sheung Heung Egretty together with its peripheral secondary woodland and fishponds are zoned “CA” to protect and conserve the ecological value of the egretty and associated habitat, to protect the natural landscape and topographical features as well as to restrict further development in the immediate vicinity of the egretty.
- (d) Within the “CA” zone, redevelopment of an existing house shall not result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication of the draft DPA plan.
- (e) Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

9.7 “Conservation Area (1)” (“CA (1)”) : Total Area 228.37 ha

- (a) The planning intention of this zone is to protect and conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem at Hoo Hok Wai and the rest of the Deep Bay area. The “no-net-loss in wetland” principle is adopted for any change in use within this zone. The primary intention is to discourage new development unless it is required to support the conservation of the ecological integrity of the wetland ecosystem or the development is an essential infrastructure project with overriding public interest.
- (b) The “CA(1)” zone covers the contiguous and ecologically sensitive wetland complex in Hoo Hok Wai that forms an integral part of the Deep Bay wetland.

These features are to be protected and conserved in order to maintain the ecological integrity of the Deep Bay wetland ecosystem as a whole.

- (c) Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

10. COMMUNICATIONS

10.1 Road Network

The central part of the Area is served by Ma Tso Lung Road. It is a very narrow and sub-standard single track access with carriageway width less than 5m. The eastern part of the Area is served by the single two-lane Ho Sheung Heung Road. The northern part of the Area, Hoo Hok Wai, is mainly served by the single-lane Border Road. There are also narrow village roads scattered in the Area to serve the residents, especially the clustered population at Liu Pok, Ma Tso Lung San Tsuen and Shun Yee San Tsuen.

10.2 Public Transport

Given its remote location, restricted access and sparse population, the Area is not well served by any public transport facilities. There is a green minibus route (No. 51K) plying between the Area and Sheung Shui East Rail Station with restricted services. There are also locally run buses serving Ma Tso Lung San Tsuen and Shun Yee San Tsuen to connect to Sheung Shui East Rail Station.

11. UTILITY SERVICES

11.1 Sewerage and Drainage System

11.1.1 The Area is susceptible to flooding during rainy seasons. To ameliorate the flooding problem in the Area, training of a section of the natural stream to the northwest of Shun Yee San Tsuen was completed under the project "Drainage Improvement Works in Ki Lun Tsuen, Kwu Tung, Ma Tso Lung and Sha Ling in New Territories" in 2011. Most parts of the Area are flood prone because they lie on a tidal flood plain with a high ecological value which prevents major drainage improvement works. Major developments should be subject to Drainage Impact Assessment to address the local drainage impacts on areas in the vicinity, as well as the provision of proper drainage facilities for the development.

11.1.2 The Area is currently not served by any public sewerage system. Septic tanks and soakaway pits are commonly used in traditional villages. Subject to availability of funds, village sewerage will be provided to Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok under Public Works Programme Item No. 4203 DC/B "North District Sewerage Stage 2 Part 2B". There is otherwise no public sewerage works planned for the

Area. As the Area falls within the Deep Bay catchment, no additional pollution loading should be discharged into Deep Bay as a result of any new proposed developments. On-site treatment facilities as an alternative to connection to public sewers may not be possible as such facilities are unlikely to comply with the requirement of “no net increase in pollution load to Deep Bay”. The inadequacies of sewerage infrastructure will pose a constraint to the development of the Area.

11.2 Water Supply

11.2.1 Potable water supply is generally available in the Area. Liu Pok in the north is served by Table Hill Fresh Water Service Reservoir while rest of the Area is served by Kwu Tung Fresh Water Service Reservoir, both outside the Area. Supply of seawater for flushing is not available and fresh water is used instead currently. Upgrading of the existing water supply system may be required for new developments.

11.2.2 Water Supplies Department (WSD) Western Aqueduct including various sizes of water mains, tunnels and the corresponding portals are located within the Area. Advice from WSD should be sought in protecting these waterworks facilities.

11.3 Other Public Utility Services

11.3.1 Solid waste disposal relies on small refuse collection points scattered throughout the Area. Collected wastes are transported to the North East New Territories Landfill for disposal.

11.3.2 Electricity supply and telephone networks are available in the Area. There is however no existing piped gas system in the Area.

12 CULTURAL HERITAGE

The MacIntosh Fort at Ma Tso Lung in the Area is a Grade 2 historic building worthy of preservation. The Antiquities Advisory Board (AAB) also released a list of new items in addition to the list of 1,444 historic buildings. These items are subject to grading assessment by the AAB. Details of the list of 1,444 historic buildings and the new items have been uploaded onto the website of the AAB at <http://www.aab.gov.hk>. Prior consultation with the AMO of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic buildings/structures, new items pending grading assessment and its immediate environs.

13. IMPLEMENTATION

13.1 The Plan provides a broad land use framework for development control and implementation of planning proposals for the Area. More detailed plans will be prepared as a basis for public works planning and private developments.

- 13.2 At present, there is no definite programme for the provision of comprehensive infrastructure within the Area. The implementation process will be gradual and may stretch over a long period of time depending on the availability of resources. It will be undertaken through the participation of both the public and private sectors.
- 13.3 Notwithstanding the above, minor improvement works e.g. widening of access road and laying of utility services will be implemented through the Public Works Programme and the Rural Public Works as and when resources are available. Private developments will be effected principally through private sector initiatives to develop or redevelop their properties in accordance with the zoned uses indicated on the Plan, provided that their proposals meet Government requirements.

14. PLANNING CONTROL

- 14.1 The types of permitted developments and uses on land within the Area are listed in the Notes to the Plan. Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted developments and uses within the same zone are always permitted and no separate permission is required.
- 14.2 Uses of land or building which were in existence immediately before the first publication in the Gazette of the notice of the draft DPA plan and which are not in compliance with the terms of the Plan may have adverse impact on the environment, drainage and traffic of the area. Although no action is required to make such use conform to the Plan, any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or, if permission is required, in accordance with a permission granted by the Board. The Board will consider these applications on their individual merits. Those alteration and/or modification works which may lead to an environmental improvement or upgrading to the Area may be considered favourably by the Board.
- 14.3 Planning applications to the Board will be assessed on individual merits. In general, the Board, in considering planning applications, will take into account all relevant planning considerations including guidelines published by the Board. Guidelines published by the Board are available from the Board's website, the Secretariat of the Board and the Technical Services Division of the Planning Department. Application forms and Guidance Notes for planning application can be downloaded from the Board's website and are available from the Secretariat of the Board, the Technical Services Division and relevant District Planning Office of the Planning Department. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.
- 14.4 Any development, other than those referred to in paragraph 14.1 above or in conformity with this plan or with the permission of the Board, undertaken or continued on land included in this plan on or after the date of the first publication in the Gazette of the notice of the draft DPA plan may be subject to enforcement proceedings under the Ordinance. Any filling of land/pond, excavation of land or diversion of streams in the relevant zones on or after the first publication in the

Gazette of the notice of the draft DPA plan without permission from the Board may also be subject to enforcement proceedings. Moreover, there is a presumption against filling of ponds for temporary land uses/developments in conservation-related zonings, such as "CA" and "CA(1)".

TOWN PLANNING BOARD

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OTHER SPECIFIED USES (cont'd)

For "Eco-lodge" only (cont'd)

- (iii) the alignment, widths and levels of any roads proposed to be constructed within the area;
 - (iv) the landscaping and urban design proposals within the area;
 - (v) programming, phasing and implementation schedule of each component of the proposed development;
 - (vi) an environmental impact study report, including but not limiting to an ecological impact assessment and a landscape and visual impact assessment, to examine any possible environmental problems that may be caused to or by the proposed development during and after construction and the proposed mitigation measures to tackle them;
 - (vii) a drainage and sewerage impact study report to examine any possible flooding, drainage, sewerage and associated problems that may be caused to or by the proposed development and the proposed mitigation measures to tackle them;
 - (viii) a traffic impact assessment report to examine any possible traffic problems that may be caused by the proposed development and the proposed mitigation measures to tackle them; and
 - (ix) such other information as may be required by the Town Planning Board.
- (b) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.2 and a maximum building height of 6m.
- (c) *In determining the maximum plot ratio for the purpose of paragraph (b) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room, caretaker's office and caretaker's quarters, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.*
- (e)(d) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/building height restrictions stated in paragraph (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

Agenda Items 4 to 8

[Open Meeting]

Preliminary Consideration of New Plans -

Draft Sha Tau Kok Outline Zoning Plan (OZP) No. S/NE-STK/B, Draft Lin Ma Hang OZP No. S/NE-LMH/C, Draft Ta Kwu Ling North OZP No. S/NE-TKLN/C, Draft Man Kam To OZP No. S/NE-MKT/B and Draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C (TPB Papers No. 9326, 9327, 9328, 9329 and 9330)

[The meeting was conducted in Cantonese.]

[Mr. Dominic K.K. Lam returned to join the meeting at this point.]

34. The Chairman suggested and Members agreed that since all the five draft outline zoning plans (OZPs) covering the Sha Tau Kok (STK), Lin Ma Hang (LMH), Ta Kwu Ling North (TKLN), Man Kam To (MKT) and Ma Tso Lung and Hoo Hok Wai (MTL & HHW) areas were all located in proximity to each other in the Frontier Closed Area (FCA) and with similar planning backgrounds, they would be considered collectively by the Town Planning Board (the Board).

35. The following representatives of the Planning Department (PlanD) were invited to the meeting at this point:

Ms. Jacinta Woo	- District Planning Officer/Shan Tin, Tai Po & North (DPO/STN)
Mr. Otto Chan	- Senior Town Planner/North (STP/N)

36. The Chairman extended a welcome and invited the representatives of PlanD to brief Members on the Papers.

37. With the aid of a Powerpoint presentation, Mr. Otto Chan, STP/N, made the following main points on the background of five draft OZPs as detailed in the Papers:

- (a) in 2008, the Security Bureau (SB) announced that the coverage of the FCA would be substantially reduced from about 2,800 ha to about 400

ha. The STK area and most of the eastern/southern portion of the LMH area fell within the area covered by the first stage of reduction and were now outside the FCA. Most of the MTL & HHW area fell within the area covered by the second stage of reduction which would tentatively come into effect in mid-2013. Part of the western portion of the LMH area and the TKLN and MKT areas were covered by the third stage of reduction which was planned to come into effect in 2015;

- (b) five draft development permission area (DPA) Plans for the former FCA, including the STK, LMH, TKLN, MKT and MTL & HHW DPA Plans, were prepared to take forward the recommendations of the "Land Use Planning for the Closed Area – Feasibility Study" (the FCA Study);
- (c) on 30.7.2010, the five draft DPA Plans, including the draft STK DPA Plan No. DPA/NE-STK/1, the draft LMH DPA Plan No. DPA/NE-LMH/1, the draft TKLN DPA Plan No. DPA/NE-TKLN/1, the draft MKT DPA Plan No. DPA/NE-MKT/1 and the draft MTL & HHW DPA Plan No. DPA/NE-MTL/1, were exhibited for public inspection under section 5 of the Ordinance. The numbers of valid representations and comments to the five draft DPA Plans were as follows:

DPA Plan	Number of valid representations	Number of valid comments
Draft STK DPA Plan No. DPA/NE-STK/1	14	3
Draft LMH DPA Plan No. DPA/NE-LMH/1	7	8
Draft TKLN DPA Plan No. DPA/NE-TKLN/1	3	1
Draft MKT DPA Plan No. DPA/NE-MKT/1	6	1
Draft MTL & HHW DPA Plan No. DPA/NE-MTL/1	8	1

- (d) on 8.9.2011, the Board considered the representations and comments to

the five draft DPA Plans and agreed to propose amendments to the draft DPA Plans to meet/partially meet the representation(s);

- (e) on 11.11.2011, the Board gave consideration to the further representations to the draft STK DPA Plan, the draft LMH DPA Plan, the draft MKT DPA Plan and the draft MTL & HHW DPA Plan and decided not to uphold the further representations. The Board decided that the proposed amendments to the four DPA Plans would form part of the respective DPA Plan under section 6F(8) of the Ordinance;
- (f) the Chief Executive in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft STK DPA Plan and the draft MTL & HHW DPA Plan on 21.2.2012, the draft TKLN DPA Plan and the draft MKT DPA Plan on 8.5.2012, and the draft LMH DPA Plan on 8.1.2013; and
- (g) in accordance with section 20(5) of the Ordinance, the DPA Plans were effective for three years until 30.7.2013. On 8.2.2013, under the power delegated by the CE, the Secretary for Development directed the Board, under section 3(1)(a) of the Ordinance, to prepare an outline zoning plan (OZP) to cover each of the STK, LMH, TKLN, MKT and MTL & HHW areas.

Draft STK OZP

38. Mr. Otto Chan then made the following main points on the draft STK OZP No. S/NE-STK/B as detailed in TPB Paper No. 9326:

Strategic Planning Context

- (a) according to the FCA Study, the major objective of the Recommended Development Plan (RDP) of the STK area was to protect the natural setting, environmental diversity and cultural integrity. The traditional villages could provide an entry point to the recreational and

environmental features of the immediate area;

Issues Arising from Consideration of the DPA Plan

- (b) the major land use proposals arising from the representations and comments to the draft STK DPA Plan No. DPA/NE-STK/1 were summarized as follows:
 - (i) local villagers suggested that more land should be reserved for all villages in Sha Tau Kok by inclusion of the adjacent "Agriculture" ("AGR") and "Green Belt" ("GB") zones;
 - (ii) a Sha Tau Kok District Rural Committee (STKDRC) member, a North District Council (NDC) member and various Village Representatives (VRs) opposed the "AGR" zone along the coastal area south of Sha Tau Kok Road and proposed to rezone the area to "Recreation" ("REC"); and
 - (iii) local villages opposed the "GB" zoning of an area near Gate One Checkpoint of the FCA (south of Ha Tam Shui Hang) and proposed to rezone the area to "REC";

Town Planning Board's Decisions and Instructions

- (c) on 8.9.2011, the Board considered the representations and comments to the draft STK DPA Plan No. DPA/NE-STK/1, and decided to amend the "Village Type Development" ("V") zone for the villages of Tong To, San Tsuen, Muk Min Tau, Tsui Hang, Tam Shui Hang and Shan Tsui to partially meet the representations. Regarding the local villagers' request to rezone the coastal area south of Sha Tau Kok Road to "REC", the Board decided that the "AGR" zoning of the area should be maintained as the zoning was in line with the recommendations of the FCA Study and appropriate to retain the good quality agricultural land. Nevertheless, the Board requested PlanD to further examine the issue in

the OZP preparation stage. As for the "GB" zone near Gate One Checkpoint, the "GB" zoning was considered appropriate taking into account its natural setting;

- (d) the proposed amendments to the draft STK DPA Plan No. DPA/NE-STK/1 were published for public inspection on 16.9.2011. Two further representations were received, which proposed to revoke the proposed amendments and raised objection on ground that there was a lack of sustainable layout plans of infrastructure for the health and well being of the residents. On 11.11.2011, the Board gave consideration to the further representations and decided not to uphold them, and agreed to amend the STK DPA Plan by the proposed amendments under section 6F(8) of the Ordinance;

The Planning Scheme Area

- (e) the Planning Scheme Area of the draft STK OZP (the STK Area) covered a total area of about 557 ha. It was located approximately 9 kilometres to the north-east of Fanling/Sheung Shui. It was bounded by Sha Tau Kok River in the north, Sha Tau Kok Boundary Control Point (STK BCP) in the east, Starling Inlet (Sha Tau Kok Hoi) in the south-east, and Robin's Nest (Hung Fa Leng) in the south-west and west;
- (f) the landscape features of the STK Area included shrubland, woodlands, upland grassland, knolls and foothills. The STK Area covered a spectrum of natural habitats including 'fung shui' woods, mixed shrubland, seasonally wet grassland, lowland forest and natural watercourse;
- (g) the recognized villages within the STK Area included Tong To, Muk Min Tau (including Tsiu Hang), San Tsuen, Tam Shui Hang (including Sheung Tam Shui Hang and Ha Tam Shui Hang), and Shan Tsui. According to the 2011 Population Census, the total population of the STK Area was 750;

- (h) economic activities in the STK Area were limited due to its rugged relief and limited accessibility;
- (i) there were several graded historic buildings and two sites of archaeological interest within the STK Area;
- (j) in general, the major conditions of the STK Area remained largely unchanged since the gazettal of the draft STK DPA Plan;

Development Proposals Received in the Course of Preparation of the Draft OZP

- (k) Kadoorie Farm and Botanic Garden Corporation (KFBGC) and World Wildlife Fund (WWF) requested for a review of land use zonings for three streamcourses in the STK area, their river estuaries and the mangroves along the coast of Sha Tau Kok;
- (l) green groups, including KFBGC and WWF, expressed that appropriate zonings should be designated for two pieces of dense woodland of high ecological value to the north of Tam Shui Hang and Sha Tsui which were zoned "V" on the STK DPA Plan;

Land Use Planning Considerations

Review of "V" Zones

- (m) based on the latest Small House demand figures provided by the District Lands Officer/North, Lands Department (DLO/N, LandsD) in 2012, which included the outstanding Small House applications and the 10-year demand forecast supplied by the Indigenous Inhabitants Representatives, the "V" zones on the approved STK DPA Plan had been reviewed according to the established criteria agreed by the Board on 8.9.2011, as detailed in paragraph 9.1 of the Paper;

- (n) according to DLO/N, LandsD, there was a substantial increase in total Small House demands for Tong To and Tam Shui Hang from 548 and 467 to 3,002 and 912 respectively, and a slight increase in total Small House demands for San Tsuen from 138 to 151, Muk Min Tau from 3,000 to 3,014 and Shan Tsui from 246 to 254 as compared with the figures presented to the Board in 2011. As the substantial increase in Small House demands for Tong To and Tam Shui Hang was not supported by evidence and not verified by DLO/N, their "V" zone boundaries were reviewed based on the total Small House demand in 2011, i.e. 550 and 462 respectively;
- (o) the boundaries of the "V" zones had been fully deliberated during the consideration of representations and comments to the draft STK DPA Plan in 2011 and there had been no significant change in planning circumstances since then. No change was proposed for the "V" zone of Tong To as the size of the "V" zone on the approved DPA Plan was already equivalent to the size of the village 'environs' ('VE') of the recognized village;
- (p) for Shan Tsui and Tam Shui Hang, the "V" zone on the approved DPA Plan was approximately the same as the 'VE' of the recognized villages. Taking into account the green groups' proposal, two pieces of land north of Tam Shui Hang and Shan Tsui with a total area of 0.55 ha were proposed to be rezoned from "V" to "GB". On the other hand, two pieces of land between Muk Min Tau and Tam Shui Hang (0.39 ha) and to the north-west of Tam Shui Hang (0.16 ha) were proposed to be rezoned from "AGR" to "V";
- (q) for San Tsuen and Muk Min Tau (including Tsiu Hang), the "V" zone on the approved DPA Plan was of a size equivalent to about 95% of the 'VE' of the two recognized villages. No suitable land in the vicinity of the villages was available to meet their Small House demands as the surrounding area was covered by dense vegetation, seasonal wet grassland and burial ground;

Major Streamcourses in STK Area

- (r) the land use zonings along the three streamcourses in the STK Area had been reviewed after site investigation and further discussions with the Agriculture, Fisheries and Conservation Department (AFCD). The findings were summarized below:

Stream adjacent to Tong To

- (i) according to the findings of the FCA Study, the stream adjacent to Tong To was of moderate ecological value. The modified lower-middle section of the stream fell mainly within "REC" zone. As there had been no material change in planning circumstances of the area along the stream since the gazettal of the draft STK DPA Plan, it was considered appropriate to retain the "REC" zoning for the stream. A clause had been included in the Notes of the draft OZP to ensure that any diversion of the existing streamcourses within the "REC" zone would be subject to statutory planning control;
- (ii) the upper section of the stream fell within areas mainly zoned "GB" to reflect the current natural hillslopes. The areas covered by Tong To and Tong To Ping Tsuen and their vicinity were zoned "AGR" and "V" to reflect its existing uses which included agricultural land and village house developments;

Stream adjacent to Muk Min Tau and San Tsuen

- (iii) the upper section of the stream adjacent to Muk Min Tau and San Tsuen was of moderate ecological value according to the FCA Study and was covered by "Conservation Area" ("CA"), "GB" and "AGR" zones. The lower-middle course of the stream was of low ecological value and mainly zoned "V" to reflect the existing development pattern; and

Stream adjacent to Tam Shui Hang

- (iv) according to the FCA Study, the stream at Tam Shui Hang was of moderate to high ecological value. The upper section of the stream fell mainly within "AGR" and "GB" zones. As there had been no change in the planning circumstances at the upper section of the stream since the gazettal of the draft STK DPA Plan, the "AGR" and "GB" zonings for this part of the stream were to be retained. There were signs of recent village house developments alongside the nearby "V" zone close to the lower-middle course of the stream. It was proposed that this part of the stream should be rezoned to "V" to reflect the existing development pattern;

Impact of Small House Development within "V" Zone on Streams

- (s) it was suggested that the Explanatory Statement of the draft OZP should clearly state the requirement that when processing Small House grants and applications in close proximity to existing streamcourses within "V" zone, AFCD and PlanD should be consulted. Besides, any diversion of streams or filling of pond within the "V" zone would require planning permission from the Board in accordance with the Notes of the draft OZP;

Coastal "AGR" Zone south of Sha Tau Kok Road

- (t) regarding the request of the Board to review the land use zoning of the coastal area south of Sha Tau Kok Road, it was considered appropriate to retain the "AGR" zoning in view that the area covered mostly fallow arable land with good potential for agricultural rehabilitation. The "AGR" zoning was also appropriate to allow only low-density development along the coastal area with a view to minimizing any potential impact on Starling Inlet. Recreational uses, such as 'Barbecue Spot' and 'Place of Recreation, Sports or Culture (Horse Riding School, Hobby Farm, Fishing Ground only)', might be permitted on application to the Board;

"GB" Zone near Gate One Checkpoint of the FCA

- (u) it was considered appropriate to retain the "GB" zoning for the areas near Gate One Checkpoint of the FCA as they were covered with seasonally wet grassland and mangroves;

Planning Intention

- (v) the general planning intention of the STK Area was to promote cultural conservation, recreation and tourism. The rural character, natural habitats including the undisturbed woodland and lowland river habitats, the unique landscape as well as the ecologically important areas, and the upland scene of the STK Area should be conserved;

Land Use Zonings

- (w) about 39.45 ha of land were zoned "V" to cover the recognized villages within the STK Area, i.e. Shan Tsui, Tam Shui Hang (including Sheung Tam Shui Hang and Ha Tam Shui Hang), Muk Min Tau (including Tsiu Hang), San Tsuen and Tong To, and areas of land suitable for village expansion;
- (x) about 1.46 ha of land were zoned "Government, Institution or Community" ("G/IC"), which mainly covered two hilltop survey stations, Sha Tau Kok Sewage Treatment Works, the Sha Tau Kok Police Operation Base and helicopter landing site, and the MacIntosh Fort at Pak Kung Au. The disused Kwan Ah School at Sheung Tam Shui Hang was currently vacant. According to the FCA Study, the disused school building could be used as a visitor centre and/or a small scale holiday camp;
- (y) about 11.35 ha of land were zoned "REC", which covered an area south of Tong To extending to the bank of Sha Tau Kok Hoi currently occupied by 'Sha Tau Kok Farm' and abandoned agricultural land;

- (z) about 38.82 ha of land were zoned "AGR", which mainly covered the areas in the northern and western parts of the STK Area;
- (aa) about 461.55 ha of land were zoned "GB", which mainly covered the eastern fringe of Robin's Nest and the permitted burial grounds for indigenous villagers;
- (bb) about 2.77 ha of land were zoned "CA" to retain and preserve the existing natural character of the 'fung shui' woods at the backdrops of Muk Min Tau;
- (cc) in terms of land use, there was a slight increase in area zoned "GB" (0.55 ha) and a corresponding decrease in area zoned "AGR" as compared with the approved STK DPA Plan. No change to the land area of other land use zones was proposed;

Consultation

- (dd) government bureaux and departments had been consulted and their comments had been incorporated as appropriate; and
- (ee) subject to the agreement of the Board, the draft STK OZP No. S/NE-STK/B would be submitted to the NDC and the STKDRC for consultation. Comments from the NDC and the STKDRC would be submitted to the Board for further consideration prior to the publication of the draft OZP under section 5 of the Ordinance.

39. As the presentation from the representatives of PlanD on the draft STK OZP had been completed, the Chairman invited questions from Members. The Chairman remarked that Members were invited to consider if the draft OZPs were suitable for submission to the NDC and the concerned RCs for consultation. After the consultation exercises, the draft OZPs with the views of NDC and the concerned RCs would be submitted to the Board before gazetting under section 5 of the Ordinance.

Supporting Facilities for Recreational Uses and Tourism

40. In response to the Chairman's question on the provision of supporting facilities for recreational development including car parks in the STK Area, Ms. Jacinta Woo said that about 11.35 ha of land were zoned "REC" on the draft OZP with a view to facilitating low-density active recreational and related uses. An area to the north-western part of the STK Area was a proposed country park for passive recreational use. She indicated that due to infrastructural constraints, the STK Area was largely suitable for passive recreational uses at present. Since the STK Area was only opened up in February 2012, it would be prudent to closely monitor the situation before active recreational uses and supporting facilities could be considered. Besides, planning applications for temporary car parks in the STK Area had recently been received and such applications would be assessed based on individual merits.

41. Another Member said that after opening up of the STK Area, there was a need to gear up the provision of supporting facilities to meet the vast volume of visitors and local tours during weekends and holidays.

Traffic Issues

42. The Chairman further asked whether there were any coach parking facilities and transport infrastructures such as public transport terminus (PTT) to support the corresponding increase in coach bus traffic in the area. Ms. Jacinta Woo said that there was no provision of coach parking facilities in the STK Area but there was one PTT in STK Town close to the STK Area for green minibuses (GMB) and coach bus parking. Ms. Woo said that Transport Department would closely monitor the local traffic situation and consider improving the existing transport facilities when necessary.

43. Given the rural character and infrastructural constraints of the area, a Member said that the use of public transport such as GMBs should be encouraged and the use of private cars should be discouraged on environmental consideration.

44. A Member said that proper traffic measures to ensure the promotion of

recreational development and eco-tourism without undermining the planning intention to conserve the area, such as restricting vehicular access to the area, should be considered.

45. In response to a Member's concern on the border-crossing traffic and the demand for parking facilities generated from the STK BCP, Mr. K.K. Ling said that the STK BCP, similar to the MKT BCP, were relatively small scale road-based land crossings which would not attract significant volume of border-crossing traffic. There was currently no plan and programme to expand these two existing BCPs. Mr. Ling said that a new BCP at Liantang/Heung Yuen Wai planned for handling higher volume of border-crossing traffic was scheduled for operation in 2018.

46. In response to a Member's question on whether the land use zonings on the draft OZP would pose any constraints on future road improvement works, the Secretary said that road projects authorized under the Roads (Works, Use and Compensation) Ordinance were deemed approved under the Ordinance and road works co-ordinated or implemented by Government departments were permitted in all zones under the covering Notes of the draft OZP.

Integration with STK Town

47. In response to a Member's suggestion to take into account the STK Town in the planning of the STK Area as an integrated area, Ms. Jacinta Woo said that STK Town was still within the FCA and there was currently no plan and programme to open up STK Town. Ms. Woo said that the preparation of the draft STK OZP had already taken into account the findings and recommendations of the Study on Enhancement of the Sha Tau Kok Rural Township and Surrounding Areas of which proper integration of STK Town and its surrounding fringe areas had been examined. The integration of the STK Area with STK Town could be further examined when there was a policy to open up STK Town.

Zoning of Proposed Country Park

48. A Member asked whether the proposed country park at Robin's Nest should be zoned as "CA" instead of "GB". In response, Ms. Jacinta Woo said that the proposed

country park area was mostly Government land and hence was under Government control. AFCD considered that the "GB" zoning for the proposed country park area was appropriate in preserving its natural landscape and environment. Only areas of high ecological value as supported by AFCD would be considered for "CA" zoning.

Planning Intention and Scope for More Intensive Development

49. The Vice-chairman indicated support to the general planning intention of the five draft OZPs to preserve the local character and to conserve the natural environment. He said that given the lack of transport and other infrastructures, it was appropriate to designate majority of the areas as "CA", "GB" and "AGR" zones on the draft OZPs to contain urbanised development. In the long term, any major development in these areas should be justified and supported by detailed studies.

50. A Member said that agriculture use played an important role in the process of sustainable development. Noting that there was plenty of abandoned agricultural land in the areas, the Member commented that a proper agricultural policy should be in place to optimize the use of agricultural land. Otherwise, the agricultural land should be considered for other beneficial uses such as residential development in order to avoid wastage of land resources.

51. The same Member asked if there was any long term plan to allow more development in the area noting that it was very near Shenzhen which had been developed into a high density area. Some people might want to live in the STK area to be near Shenzhen. In response, Mr. K.K. Ling said that PlanD had conducted an integrated planning study, i.e. the FCA Study, to examine how the area should be planned from a the strategic planning perspective. The FCA Study recommended that the FCA could serve as a green buffer between Hong Kong and Shenzhen. Although there had been growing aspiration for intensifying developments in the area, a proper balance between nature conservation and development needs should be struck. The draft OZPs were prepared mainly to reflect the proposals recommended in the FCA Study and to ensure proper planning control in the areas. Most of the FCA areas were not sufficiently served by infrastructural facilities and hence they were not yet ready for development. These areas would have to be properly protected by way of a statutory OZP. High-density urban type

developments should be confined to areas with infrastructure provisions such as the three proposed New Development Areas in North East New Territories.

"V" Zone Boundary and Small House Development

52. The Vice-chairman supported the criteria that the area of "V" zone should not be larger than the area of 'VE'. He quoted several villages in the STK Area which indicated that there was a substantial increase in 10-year forecast demand for Small House development since the opening up of the STK Area. In view of the need to conserve the natural environment, it would be prudent to confine "V" zone within the 'VE'. In fact, land was still available in the "V" zones for Small House developments.

53. A Member asked whether there were any new Small House development within the areas since the gazettal of the draft DPA Plans. In response, Ms. Jacinta Woo said that comparing the Small House demand figures provided by DLO/N in 2011 and 2012, there had been an increase in the outstanding Small House applications for a number of villages in the areas, possibly due to the opening up of the FCA.

54. After deliberation, the Board:

- (a) adopted the Explanatory Statement as an expression of the planning intention and objectives of the Board for various land use zonings on the draft Sha Tau Kok OZP No. S/NE-STK/B; and
- (b) agreed that the draft Sha Tau Kok OZP No. S/NE-STK/B together with its Notes and Explanatory Statement were suitable for submission to NDC and STKDRC for consultation.

Draft LMH OZP

55. With the aid of a Powerpoint presentation, Mr. Otto Chan made the following main points on the draft LMH OZP No. S/NE-LMH/C as detailed in TPB Paper No. 9327:

Strategic Planning Context

- (a) according to the FCA Study, the major objective of the RDP of the LMH area was to protect the natural setting, environmental diversity and cultural integrity of the area. The land use pattern and surrounding facilities should also promote Lin Ma Hang as a key tourism node;

Issues Arising from Consideration of the DPA Plan

- (b) the major land use proposals arising from the representations and comments to the draft LMH DPA Plan No. DPA/NE-LMH/1 included the proposal of the VR of Lin Ma Hang Village to enlarge the "V" zone of Lin Ma Hang Village and his objection to the "CA" zoning for the buffer area of Lin Ma Hang Stream;

Town Planning Board's Decisions and Instructions

- (c) on 8.9.2011, the Board considered the representations and comments to the draft LMH DPA Plan, and decided that no change should be proposed for the "V" zones of Lin Ma Hang and San Kwai Tin. The Board also decided to rezone the buffer area of Lin Ma Hang Stream from "CA" to "GB" to partially meet the representations;
- (d) the proposed amendments to the draft LMH DPA Plan No. DPA/NE-LMH/1 were published for public inspection on 16.9.2011. A total of 15 further representations were received, which mainly objected to the proposed rezoning of the buffer area along Lin Ma Hang Stream from "CA" to "GB". On 11.11.2011, the Board gave consideration to the further representations and decided not to uphold them, and agreed to amend the LMH DPA Plan by the proposed amendments under section 6F(8) of the Ordinance;

The Planning Scheme Area

- (e) the Planning Scheme Area of the draft LMH OZP (the LMH Area) covered a total area of about 329 ha. It was located approximately 6 kilometres to the northeast of Fanling/Sheung Shui New Town. It was bounded by Sham Chun River in the north, Robin's Nest in the east and south and Wong Mau Hang Shan in the west;
- (f) the landscape features of the LMH Area included woodlands, vegetated uplands, knolls and foothills. The LMH Area covered a spectrum of natural habitats including 'fung shui' woods, mixed shrubland, freshwater/brackish wetland, lowland forest and natural watercourse. There were two sites of special scientific interest (SSSIs) in the LMH Area;
- (g) existing rural settlements were mainly located in the recognized village of Lin Ma Hang while San Kwai Tin Village had already been abandoned. According to the 2011 Population Census, the population of the LMH Area was about 100 persons;
- (h) economic activities in the LMH Area were limited due to its rugged relief and limited accessibility;
- (i) there were several graded historic buildings and a site of archaeological interest within the LMH Area;
- (j) in general, the major conditions of the LMH Area remained largely unchanged since the gazettal of the draft LMH DPA Plan;

[Mr. Patrick H.T. Lau left the meeting temporarily at this point.]

Development Proposals Received in the Course of Preparation of the Draft OZP

- (k) KFBGC and WWF considered that the "GB" zoning of the buffer area along the Lin Ma Hang Stream SSSI was not sufficient to provide protection to the stream. They proposed to rezone the buffer area of the

stream to "CA";

Land Use Planning Considerations

Review of "V" Zones

- (l) based on the latest Small House demand figures provided by DLO/N, LandsD in 2012, which included the outstanding Small House applications and the 10-year demand forecast supplied by the Indigenous Inhabitants Representatives, the "V" zones on the approved LMH DPA Plan had been reviewed according to the established criteria agreed by the Board on 8.9.2011, as detailed in paragraph 9.1 of the Paper;
- (m) according to DLO/N, LandsD, there was a decrease in total Small House demand for Lin Ma Hang Village from 909 to 314 as compared with the figures presented to the Board in 2011. The Small House demand forecast for San Kwai Tin Village was not available as there was no Indigenous Inhabitant Representative for the village;
- (n) no amendment to the "V" zone was proposed for Lin Ma Hang Village as the size of the "V" zone on the approved DPA Plan was already larger than the 'VE' of the recognized village by about 7%. Despite there was a substantial reduction in the total Small House demand for Lin Ma Hang Village, there was still insufficient land available within the "V" zone to meet the total Small House demand. As the boundaries of the "V" zones had been fully deliberated during the consideration of representations and comments to the draft LMH DPA Plan in 2011 and there had been no significant change in planning circumstances since then, no change to the "V" zones of Lin Ma Hang Village and San Kwai Tin Village was proposed;

Buffer Area along Lin Ma Hang Stream

- (o) Lin Ma Hang Stream was designated as a SSSI in 2007 in consideration of its high ecological value. According to the FCA Study, Lin Ma

Hang Stream was a rare, unchannelised and unpolluted lowland stream in Hong Kong. The FCA Study proposed that a 20m wide zoning buffer could be considered for the stream;

- (p) a 20m wide buffer area along both sides of Lin Ma Hang Stream was first zoned "CA" on the draft LMH DPA Plan No. DPA/NE-LMH/1. Upon consideration of the representations and comments to the draft LMH DPA Plan on 8.9.2011, the Board agreed to rezone the buffer area of the stream from "CA" to "GB" to partially meet the representations of the Lin Ma Hang villagers. It was considered that the rezoning of the area from "CA" to "GB" would allow the Board to regulate developments within the buffer area and maintain a proper balance between conservation and the need for development;

[Ms. Anita W.T. Ma left the meeting temporarily at this point.]

- (q) after further site investigation and discussion with AFCD, it was found that the upstream area of Lin Ma Hang Stream was densely vegetated with few signs of human disturbance. Thus, it was considered more appropriate to designate this section of the stream and its buffer area as "CA" for better protection of the water quality and habitat characteristic of the stream. 'Agricultural Use' and 'On-Farm Domestic Structure' would be permitted as of right under the "CA" zone as they were considered compatible with the rural character and surrounding environment. Planning permission from the Board would be required for diversion of streams or filling of pond/land that might cause adverse impacts on drainage and the natural environment;

[Ms. Janice W.M. Lai left the meeting temporarily and Mr. Patrick H.T. Lau returned to join the meeting at this point.]

- (r) as for the downstream area, there were already pockets of village settlements. AFCD agreed that it was appropriate to retain the "GB" zoning for the buffer area. The proposed boundary of the "GB" zone

would be delineated with reference to the boundary of the "V" zone and 'VE' of Lin Ma Hang Village. Small House developments might be permitted within the "GB" zone upon application to the Board. The "GB" zone could be regarded as a vegetated buffer to separate the village area from the stream and to provide flexibility to the Board to scrutinize developments under the planning permission system;

Impact of Small House Development within "V" Zone on Streams

- (s) it was suggested that the Explanatory Statement of the draft OZP should clearly state the requirement that when processing Small House grants and applications in close proximity to existing streamcourses within "V" zone, AFCD and PlanD should be consulted. Besides, any diversion of streams or filling of pond within the "V" zone would require planning permission from the Board in accordance with the Notes of the draft OZP;

Planning Intention

- (t) the general planning intention of the LMH Area was to protect the natural setting, environmental diversity and to promote cultural conservation, recreation and tourism. It was also the planning intention to conserve the rural character, the natural habitats including the undisturbed woodland and lowland river habitats, the unique landscape as well as the ecologically important areas, and the upland scene of the LMH Area;

Land Use Zonings

- (u) about 13.35 ha of land were zoned "V" to cover the two recognized villages within the LMH Area, i.e. Lin Ma Hang and San Kwai Tin, and areas of land suitable for village expansion. In order to provide opportunities for short-term accommodation in existing NTEH, 'Hotel (Holiday House only)' might be permitted on application to the Board;

- (v) about 0.8 ha of land were zoned "G/IC", which covered the MacIntosh Fort at Kong Shan and the disused King Sau School with its ancillary playground. According to the FCA Study, the disused school building could be developed into an exhibition centre/historic museum;
- (w) about 39.15 ha of land were zoned "AGR", which mainly covered the lowland areas in the western part of the LMH Area;
- (x) about 258.5 ha of land were zoned "GB", which mainly covered the hilly terrain in the east, mountainous areas of Wong Mau Hang Shan and the permitted burial grounds for indigenous villagers. The "GB" zone also covered a land corridor adjoining Lin Ma Hang Stream at the downstream area adjacent to the "V" zone of Lin Ma Hang Village;
- (y) about 6.66 ha of land were zoned "CA" which covered the 'fung shui' woods at the eastern backdrop of Lin Ma Hang, and two land corridors adjoining Lin Ma Hang Stream at the eastern and western upstream areas on higher altitude;
- (z) a total area of 10.62 ha were zoned "SSSI", which covered the two designated SSSIs in the LMH Area, i.e. the Lin Ma Hang Stream SSSI and the Lin Ma Hang Lead Mines SSSI;
- (aa) in terms of land use, there was an increase in the area zoned "CA" (4.71 ha) and a corresponding decrease in the area zoned "GB" as compared with the approved LMH DPA Plan. No change to the land area of other land use zones was proposed;

Consultation

- (bb) government bureaux and departments had been consulted and their comments had been incorporated as appropriate; and

- (cc) subject to the agreement of the Board, the draft LMH OZP No. S/NE-LMH/C would be submitted to the NDC and the STKDRC for consultation. Comments from the NDC and the STKDRC would be submitted to the Board for further consideration prior to the publication of the draft OZP under section 5 of the Ordinance.

[Ms. Bonnie J.Y. Chan and Ms. Bernadette H.H. Linn arrived at the meeting at this point.]

56. As the presentation from the representatives of PlanD on the draft LMH OZP had been completed, the Chairman invited questions from Members.

Lin Ma Hang Stream and Buffer Areas

57. The Vice-chairman said that it would be desirable to designate the buffer area of the whole Lin Ma Hang Stream as "CA" from nature conservation point of view. He asked if there was strong justification to zone the buffer zone on the upstream area of Lin Ma Hang Stream to "CA" and the downstream buffer zone to "GB". The proposal with "CA" and "GB" zonings respectively for the upstream and downstream areas might not be able to meet the expectation of both the villagers and the green groups.

58. In response, Ms. Jacinta Woo said that there had been differing views on the land use zonings for the buffer areas of Lin Ma Hang Stream from villagers and green groups. Taking account of the need for protecting the stream and the community needs for development, and after detailed discussion with AFCD, the proposed "CA" and "GB" zonings were considered as a more balanced proposal. The "CA" zoning for the upstream area was to protect the natural habitats of the stream. As for the downstream area, it was located close to the "V" zone and partly within the 'VE' of Lin Ma Hang Village. While "GB" zoning was not a development zone and had a presumption against development, it would provide greater flexibility for the Board to allow some Small House developments within the appropriate places therein through the planning permission system if situation so warranted it. Ms. Woo supplemented that in terms of planning control, 'NTEH' was a Column 2 use under "GB" zone, but in "CA" zone only rebuilding of NTEHs could be allowed on application to the Board.

59. A Member said that the whole Lin Ma Hang Stream and its buffer area should be zoned "CA" to conserve the integrity of habitats along the stream. To compensate for the corresponding reduction in land area for village development at the downstream area, some land within the adjoining "AGR" zone could be considered for rezoning to "V" to meet the Small House demand. Ms. Jacinta Woo said that the feasibility of the Member's suggestion could be further considered upon consultation with the local villagers.

60. A Member expressed concern that the "GB" zoning for the downstream area might give a wrong impression to the villagers that they could develop up to the banks of the stream. Although a wide buffer area might not be necessary for protection of the habitats along the stream, development too close to the banks might adversely affect the water quality of the stream and should be discouraged.

61. A Member indicated support to the "GB" zoning for the downstream area since it could provide a proper balance between nature conservation and the development needs of villagers. There was adequate provision for the Board to guard against incompatible developments within the "GB" zone under the planning permission system.

62. After deliberation, the Board:

- (a) adopted the Explanatory Statement as an expression of the planning intention and objectives of the Board for various land use zonings on the draft Lin Ma Hang OZP No. S/NE-LMH/C; and
- (b) agreed that the draft Lin Ma Hang OZP No. S/NE-LMH/C together with its Notes and Explanatory Statement were suitable for submission to NDC and STKDRC for consultation.

[Dr. Wilton W.T. Fok left the meeting at this point.]

Draft TKLN OZP

63. With the aid of a Powerpoint presentation, Mr. Otto Chan made the following main points on the draft TKLN OZP No. S/NE-TKLN/C as detailed in TPB Paper No.

9328:

Strategic Planning Context

- (a) according to the FCA Study, the major objective of the RDP of the TKLN area was to protect the natural setting and cultural integrity and to promote sustainable agricultural activities. Provision had been made for an extensive recreation area stretching across the north of the TKLN area to provide low-intensity recreational uses to complement other nearby uses, and for the future Liantang/Heung Yuen Wai Boundary Crossing Point (LT/HYW BCP) and connecting roads;

Issues Arising from Consideration of the DPA Plan

- (b) since the gazettal of the draft TKLN DPA Plan No. DPA/NE-TKLN/1, two planning applications (No. A/DPA/NE-TKLN/1 and No. A/DPA/NE-TKLN/3) for the proposed resite of village/building lots affected by the LT/HYW BCP project were approved by the Rural and New Town Planning Committee (RNTPC). Planning application No. A/DPA/NE-TKLN/2 for reprovisioning of a permitted burial ground was also approved by the RNTPC;
- (c) the major land use proposals arising from the representations and comment to the draft TKLN DPA Plan No. DPA/NE-TKLN/1 included that of The Conservancy Association, which proposed that the 'fung shui' woodlands near the villages of Kan Tau Wai, Tsung Yuen Ha and Heung Yuen Wai should be rezoned to "CA";

Town Planning Board's Decisions and Instructions

- (d) on 8.9.2011, the Board agreed to the proposed extension of the "V" zones of Tong Fong, Tsung Yuen Ha and Ha Heung Yuen after considering the review of "V" zone boundaries. The Board also considered the representations and comment to the draft TKLN DPA

Plan, and decided not to uphold the representations for rezoning the 'fung shui' woodlands near Kan Tau Wai and Tsung Yuen Ha from "GB" to "CA". At the representation hearing, a Member of the Board requested PlanD to review the land use zoning of an area between Pak Fu Shan and Sham Chun River and to consider whether the area should be rezoned from "GB" to "REC" or "AGR";

- (e) on 28.10.2011, the draft TKLN DPA Plan No. DPA/NE-TKLN/2 was exhibited for public inspection under section 7 of the Ordinance. One representation was received. On 13.1.2012, the Board decided that the representation was invalid;

The Planning Scheme Area

- (f) the Planning Scheme Area of the draft TKLN OZP (the TKLN Area) covered a total area of about 431 ha. It was located approximately 9 kilometres to the north-east of Fanling/Sheung Shui. It was bounded by Sham Chun River in the north, Lin Ma Hang Road in the northeast, Wong Mau Hang Shan in the east, Tung Fung Au and Tung Lo Hang in the south, and Ping Che Road in the west;
- (g) there were six recognized villages within the TKLN Area, namely Chuk Yuen, Heung Yuen Wai, Ha Heung Yuen, Tsung Yuen Ha, Kan Tau Wai and Tong Fong. According to the 2011 Population Census, the total population of the TKLN Area was 550;
- (h) the landscape features of the TKLN Area included woodlands, vegetated uplands, knolls and foothills. The TKLN Area covered a spectrum of natural habitats including 'fung shui' woods, mixed shrubland, lowland forest and natural watercourse;
- (i) economic activities in the TKLN Area were limited due to its rugged relief and limited accessibility;

- (j) there were several graded historic buildings and a site of archaeological interest within the TKLN Area;
- (k) in general, the major conditions of the TKLN Area remained largely unchanged since the gazettal of the draft TKLN DPA Plan;

Development Proposals Received in the Course of Preparation of the Draft OZP

- (l) KFBGC and WWF requested for a review of land use zonings to reflect the ecological value of the following areas within the TKLN Area:
 - (i) Ping Yuen River - an uncommon dragonfly species, *Paragomphus capricornis* or commonly known as Tawny Hooktail (鈎尾副春蜓), was found around an upper tributary of Ping Yuen River near the "V" zones of Tong Fong and Kan Tau Wai. It was proposed that the area be rezoned to "CA" or "GB";

[Ms. Janice W.M. Lai and Ms. Anita W. T. Ma returned to join the meeting at this point.]

- (ii) Lowland habitats from Kan Tau Wai to Heung Yuen Wai - seasonally wet grassland, lowland grassland and grassland/shrubland mosaic where species of conservation concern including Greater Painted-snipe (彩鶺) and Large Grass Warbler (*Graminicola stiiatus*) (大草鶯) were recorded. It was proposed that the area be rezoned from "REC" to "CA"; and
 - (iii) Natural streamcourses at Heung Yuen Wai - the area along the streamcourses near Heung Yuen Wai was largely natural vegetated riparian zone and natural stream bed. The area should be considered of high ecological value;
- (m) green groups, including KFBGC and WWF, expressed concerns about the potential adverse impacts of development within the "V" zones of

Tsung Yuen Ha, Heung Yuen Wai and Ha Heung Yuen on the water quality of the nearby natural streamcourses;

Land Use Planning Considerations

Review of "V" Zones

- (n) based on the latest Small House demand figures provided by DLO/N, LandsD in 2012, which included the outstanding Small House applications and the 10-year demand forecast supplied by the Indigenous Inhabitants Representatives, the "V" zones on the approved TKLN DPA Plan had been reviewed according to the established criteria agreed by the Board on 8.9.2011, as detailed in paragraph 9.1 of the Paper;
- (o) according to DLO/N, LandsD, there was a substantial increase in total Small House demand for Heung Yuen Wai (including Ha Heung Yuen) from 232 to 593, an increase of total Small House demand for Kan Tau Wai from 73 to 222, a slight increase in total Small House demand for Tong Fong and Tsung Yuen Ha from 151 and 185 to 168 and 187 respectively, and a decrease in total Small House demand for New Chuk Yuen Village from 65 to 22 as compared with the figures presented to the Board in 2011;
- (p) for Kan Tau Wai, the "V" zone (3.07 ha) on the approved DPA Plan was not sufficient to meet the total Small House demand in 2012. As there was scope to enlarge the "V" zone to the same area of the 'VE' of the recognized village, an area of about 2.46 ha adjacent to the northeast of Kan Tau Wai was proposed to be rezoned from "REC" to "V";
- (q) no change to the "V" zones of Heung Yuen Wai (including Ha Heung Yuen) and Tsung Yuen Ha was proposed as the size of the "V" zones on the approved DPA Plan was already equivalent to the 'VE' of the two recognized villages;

- (r) no change to the "V" zone of Tong Fong was proposed as the character of the village surroundings was not suitable for further expansion. However, it was possible to extend the "V" zone to the south of the village where suitable flat land with little vegetation was available. As the concerned area was covered by the Ping Che and Ta Kwu Ling OZP, the proposal could be considered separately when the land uses within the Ping Che and Ta Kwu Ling OZP were to be reviewed;
- (s) for New Chuk Yuen Village, the "V" zone on the approved DPA Plan was designated for the relocation of the village affected by the LT/HYW BCP project and its further expansion. No amendment to the "V" zone of New Chuk Yuen Village was proposed;

Nature Conservation

- (t) the land use zonings along the two streamcourses and the lowland habitat in the TKLN Area had been reviewed after site investigation and further discussions with AFCD. The findings were summarized below:

Heung Yuen Wai Stream and its Riparian Area

- (i) according to the FCA Study, the upper section of Heung Yuen Wai Stream, which fell mainly within "REC" zone, had high ecological value. Its riparian vegetation, generally well-developed with little disturbance, created a variety of stream conditions and showed good linkage to other nearby habitats, including woodland and grassland habitats. Upon further discussion with AFCD, it was considered appropriate to rezone a strip of land (about 0.59 ha) along the natural streamcourse at Heung Yuen Wai from "REC" to "AGR" and a piece of land (about 0.31 ha) east of Heung Yuen Wai from "REC" to "GB". AFCD considered that the proposed "GB" and "AGR" zones would offer better protection for the stream;

Ping Yuen River and its Riparian Area

- (ii) the upper section of Ping Yuen River, which fell mainly within "REC" zone, was natural and of moderate ecological value according to the FCA Study. As there was no material change in planning circumstances of the area, it was considered appropriate to retain the "REC" zoning of the stream. A clause had been included in the Notes of the draft OZP to ensure that any diversion of the existing streamcourses within the "REC" zone would be subject to statutory planning control; and

Lowland Habitats between Kan Tau Wai and Heung Yuen Wai

- (iii) the area comprised lowland grassland and grassland/shrubland. According to the FCA Study, the lowland habitats had low to moderate ecological value with low habitat diversity and low faunal diversity. AFCD considered that the "REC" zoning was appropriate and in line with the recommendations of the FCA Study;

Impact of Small House Development within "V" Zone on Streams

- (u) it was suggested that the Explanatory Statement of the draft OZP should clearly state the requirement that when processing Small House grants and applications in close proximity to existing streamcourses within "V" zone, AFCD and PlanD should be consulted. Besides, any diversion of streams or filling of pond within the "V" zone would require planning permission from the Board in accordance with the Notes of the draft OZP;

Area North of Pak Fu Shan

- (v) the area was predominantly covered with trees and shrubs, with scattered temporary structures and small-scale farming activities. As there was no direct road access to the area, only small-scale passive recreational use might be supported in the area. In view that there was limited

infrastructure and no active recreational and other uses had been identified for the concerned area, the "GB" zoning was considered appropriate to preserve its natural state;

The LT/HYW BCP Project

- (w) the LT/HYM BCP project and its connecting roads had strategic significance for Hong Kong's future development and would connect Hong Kong with the Eastern Corridor in Shenzhen to provide an efficient link with the eastern part of Guangdong Province and the adjacent provinces. The project commenced in 2013 and was expected to be completed in 2018;

Planning Intention

- (x) the general planning intention of the TKLN Area was to promote cultural conservation, recreation and tourism, and to provide suitable facilities to meet the territorial need and cross-boundary infrastructure. It was also the planning intention to protect the natural setting and cultural integrity of the TKLN Area and to promote sustainable agricultural activities. Provision had been made for an extensive recreation area stretching across the north of the TKLN Area to provide low-intensity recreational uses to complement other nearby land uses. The draft TKLN OZP also made provision for the future LT/HYW BCP;

Land Use Zonings

- (y) about 27.83 ha of land were zoned "V" to cover the six recognized villages within the TKLN Area, i.e. Chuk Yuen, Heung Yuen Wai, Ha Heung Yuen, Tsung Yuen Ha, Kan Tau Wai and Tong Fong, and areas of land suitable for village expansion;
- (z) about 1.98 ha of land were zoned "G/IC", which mainly covered the Ta Kwu Ling Police Station, Ta Kwu Ling Fire Station, Pak Fa Shan Police

Operation Base and the MacIntosh Fort at Pak Fu Shan;

- (aa) about 111.83 ha of land were zoned "REC", which covered the fallow agricultural land around Pak Fu Shan to the north of Tsung Yuen Ha, Ha Heung Yuen and Heung Yuen Wai, and a large area to the east of Kan Tau Wai;
- (bb) a total of 23.82 ha of land were zoned "Other Specified Uses" ("OU") annotated "Boundary Crossing Facilities" ("BCP") to provide land for the development of boundary crossing facilities and related activities for the proposed LT/HYW BCP. To meet the public aspiration and to cater for the future public need for cross-boundary purpose, 'Public Vehicle Park (excluding container vehicles)' was added under Column 1 of the "OU(BCP)" zone;
- (cc) about 55.92 ha of land were zoned "AGR", which mainly covered the areas in the northern and western parts of the TKLN Area;
- (dd) about 208.13 ha of land were zoned "GB", which mainly covered the prominent hilly areas of Wong Mau Hang Shan, Pak Fu Shan and Tung Lo Hang, the permitted burial grounds and the 'fung shui' woodland adjoining the villages of Tsung Yuen Ha, Kan Tau Wai and Tong Fong;
- (ee) about 1.1 ha of land were zoned "CA" to retain and preserve the existing natural character of the 'fung shui' woods at the backdrops of Heung Yuen Wai;
- (ff) in terms of land use, there was an increase in areas zoned "V" (2.46 ha), "AGR" (0.59 ha) and "GB" (0.31 ha) and a corresponding decrease in area zoned "REC" (3.36 ha) as compared with the approved TKLN DPA Plan. No change to the land area of other land use zones was proposed;

Consultation

(gg) government bureaux and departments had been consulted and their comments had been incorporated as appropriate; and

(hh) subject to the agreement of the Board, the draft TKLN OZP No. S/NE-TKLN/C would be submitted to the NDC and the Ta Kwu Ling District Rural Committee (TKLDRC) for consultation. Comments from the NDC and the TKLDRC would be submitted to the Board for further consideration prior to the publication of the draft OZP under section 5 of the Ordinance.

64. As the presentation from the representatives of PlanD on the draft TKLN OZP had been completed, the Chairman invited questions from Members.

"OU" Zone

65. In response to the question of a Member, Ms. Jacinta Woo said that the land within the "OU" zone on the draft TKLN OZP was reserved for development of the LT/HYW BCP.

66. In response to the question of a Member regarding the function of the LT/HYW BCP, Mr. K.K. Ling said that the new facilities at LT/HYW BCP would serve the cross-border passage of both people and goods. Compared with the existing MKT and STK BCPs, the LT/HYW BCP would be of larger capacity and was at a more strategic location readily connected to the transportation networks in Shenzhen.

"REC" Zone

67. A Member noted that about 26% of land was zoned "REC" on the draft TKLN OZP and asked whether there had been any proposal for recreational developments in the area. Ms. Jacinta Woo said that according to the FCA Study, the flat land and abandoned agricultural land in the area were considered suitable for recreational uses in view of their relatively low ecological value. Nevertheless, no planning application for recreational developments had been received since the gazettal of the draft TKLN DPA Plan. The same Member followed up and enquired about the road infrastructures to support the

“REC” zones. In response, Ms. Jacinta Woo said that the “REC” zones were currently accessible via Ping Che Road and Lin Ma Hang Road. They would also be served by the new roads connecting to the LT/HYW BCP in the future.

68. After deliberation, the Board:

- (a) adopted the Explanatory Statement as an expression of the planning intention and objectives of the Board for various land use zonings on the draft Ta Kwu Ling North OZP No. S/NE-TKLN/C; and
- (b) agreed that the draft Ta Kwu Ling North OZP No. S/NE-TKLN/C together with its Notes and Explanatory Statement were suitable for submission to NDC and TKLDRC for consultation.

Draft MKT OZP

69. With the aid of a Powerpoint presentation, Mr. Otto Chan made the following main points on the draft MKT OZP No. S/NE-MKT/B as detailed in TPB Paper No. 9329:

Strategic Planning Context

- (a) according to the FCA Study, the major objective of the RDP of the MKT area was to protect the natural setting and cultural integrity while promoting sustainable agricultural practices. Retention of agricultural practices in the west of the MKT area would preserve its landscape and ecological values. Limited alternative uses to upgrade the existing environment through the promotion of residential development at Kong Nga Po would be allowed. The RDP also recommended Sandy Ridge for cemetery and related columbarium and crematorium uses;

Issues Arising from Consideration of the DPA Plan

- (b) the major land use proposals arising from the representations and comment to the draft MKT DPA Plan No. DPA/NE-MKT/1 included

that of the VR of Fung Wong Wu Village, who suggested that the extent of the "V" zone as well as 'VE' for Fung Wong Wu Village should be enlarged as the Small House developments in the village were subject to the physical limitation of Ping Yuen River;

Town Planning Board's Decisions and Instructions

- (c) on 8.9.2011, the Board agreed to the proposed extension of the "V" zone of Muk Wu after considering the review of "V" zone boundaries. The Board also considered the representations and comment to the draft MKT DPA Plan, and decided to rezone an area to the northwest of Chow Tin Tsuen from "AGR" to "V" to partially meet a representation;
- (d) the proposed amendments to the draft MKT DPA Plan No. DPA/NE-MKT/1 were published for public inspection on 16.9.2011. One further representation was received, which stated that there was a lack of sustainable layout plans of infrastructure for the health and well being of the residents. On 11.11.2011, the Board gave consideration to the further representation and decided not to uphold it, and agreed to amend the MKT DPA Plan by the proposed amendments under section 6F(8) of the Ordinance;
- (e) on 28.10.2011, the draft MKT DPA Plan No. DPA/NE-MKT/2 was exhibited for public inspection under section 7 of the Ordinance. No representation was received;

The Planning Scheme Area

- (f) the Planning Scheme Area of the draft MKT OZP (the MKT Area) covered a total area of about 431 ha. It was located approximately 3.5 kilometres to the north of Fanling/Sheung Shui. It was bounded by the southern bank of Sham Chun River in the north, Ping Che Road in the east, Hung Lung Hang in the southeast, Sha Ling Road in the southwest and Ng Tung River in the west;

- (g) the landscape features of the MKT Area included woodlands, vegetated uplands, knolls and foothills. The MKT Area covered a spectrum of natural habitats including large tracts of mature woodland, 'fung shui' wood, freshwater/brackish wetland, lowland forest, mixed shrubland and natural watercourse;
- (h) there were four recognized villages within the MKT Area, namely Muk Wu, Muk Wu Nga Yiu, Chow Tin Tsuen and Fung Wong Wu, and a major non-indigenous settlement at Ta Kwu Ling Village. According to the 2011 Population Census, the total population of the MKT Area was 600;
- (i) economic activities in the MKT Area were limited due to its rugged relief and limited accessibility;
- (j) there were several graded historic buildings and a site of archaeological interest within the MKT Area;
- (k) in general, the major conditions of the MKT Area remained largely unchanged since the gazettal of the draft MKT DPA Plan;

Development Proposals Received in the Course of Preparation of the Draft OZP

- (l) a proposal was received from the indigenous villagers of Chow Tin Tsuen for including a parcel of land zoned "AGR" on the Hung Lung Hang OZP as an extension to the "V" zone of Chow Tin Tsuen. Since the concerned area fell outside the boundary of the draft MKT OZP, the proposal could be considered separately when the land uses within the Hung Lung Hang OZP were to be reviewed;
- (m) KFBGC and WWF pointed out that a parcel of land to the northwest of Chow Tin Tsuen which was zoned "V" on the DPA Plan was active wet agricultural land without intense human disturbance. KFBGC and

WWF proposed to designate the area with "CA" or "GB" zoning in view of its ecological value;

Land Use Planning Considerations

Review of "V" Zones

- (n) based on the latest Small House demand figures provided by DLO/N, LandsD in 2012, which included the outstanding Small House applications and the 10-year demand forecast supplied by the Indigenous Inhabitants Representatives, the "V" zones on the approved MKT DPA Plan had been reviewed according to the established criteria agreed by the Board on 8.9.2011, as detailed in paragraph 9.1 of the Paper;
- (o) according to DLO/N, LandsD, there was a slight increase in total Small House demands for Muk Wu and Chow Tin Tsuen from 129 and 812 to 137 and 900 respectively, no change in total Small House demand for Muk Wu Nga Yiu at 84 and a decrease in total Small House demand for Fung Wong Wu from 250 to, 123 as compared with the figures presented to the Board in 2011;
- (p) the boundaries of the "V" zones had been fully deliberated during the hearings of representations and comment to the draft MKT DPA Plan in 2011 and there had been no significant change in planning circumstances since then. No change to the "V" zones of Muk Wu and Muk Wu Nga Yiu was proposed as the size of the "V" zones on the approved DPA Plan was already equivalent to the 'VE' of the two recognized villages;
- (q) Chow Tin Tsuen and Fung Wong Wu shared the same 'VE' with Lei Uk located outside the boundary of the draft MKT OZP. No change to the "V" zones of Chow Tin Tsuen and Fung Wong Wu was proposed as the size of the "V" zones on the approved DPA Plan was already equivalent to the 'VE' of the two recognized villages;

Wet Agricultural Land at Chow Tin Tsuen

- (r) according to the FCA Study, the subject area was considered of moderate ecological value. The boundary of the “V” zone of Chow Tin Tsuen was defined in accordance with the recommendations of the FCA Study and agreed by AFCD after taking into account various factors including local topography, settlement patterns, ecological value of the area, site characteristics and the total Small House demand of the village. Therefore, no change to the “V” zone of Chow Tin Tsuen was proposed;

Impact of Small House Development within “V” Zone on Streams

- (s) it was suggested that the Explanatory Statement of the draft OZP should clearly state the requirement that when processing Small House grants and applications in close proximity to existing streamcourses within “V” zone, AFCD and PlanD should be consulted. Besides, any diversion of streams or filling of pond within the “V” zone would require planning permission from the Board in accordance with the Notes of the draft OZP;

Proposed Columbarium, Crematorium and Funeral Related Uses at the Existing Sandy Ridge Cemetery

- (t) an engineering feasibility study on the site formation and associated infrastructural works for development of columbarium, crematorium and funeral related uses at the existing Sandy Ridge Cemetery was completed in 2012. It was recommended to provide an all-inclusive funeral venue and services, including crematorium, funeral parlours, visitor service centre and ancillary restaurant and convenience store, with a provision of at least 200,000 niches. The proposed funeral facility was expected to complete in 2022. Detailed design including detailed visual, environmental and traffic impact assessments on the site formation and associated infrastructural works would commence in July 2013. The concerned area would be zoned “OU(Cemetery, Columbarium, Crematorium and Funeral Related Uses)” on the draft MKT OZP. The scale and height of the proposed developments within the “OU(Cemetery,

Columbarium, Crematorium and Funeral Related Uses)” zone would be subject to detailed study;

Residential Development at Kong Nga Po Ex-borrow Area

- (u) the ex-borrow area in Kong Nga Po was an area of low environmental value. The previous uses had created a series of platforms that could be developed for residential use to provide a sustainable living environment. As recommended in the FCA Study, an engineering study had been commissioned by the Civil Engineering and Development Department (CEDD) to examine the development feasibility of the Kong Nga Po site for residential use. The engineering feasibility study commenced in October 2012 and was scheduled for completion in April 2014;

Planning Intention

- (v) the general planning intention of the MKT Area was to promote cultural conservation, recreation, tourism and sustainable residential development, and to provide suitable facilities to meet the territorial need and cross-boundary infrastructure. It was also the planning intention to retain good quality agricultural land for agricultural purposes or leisure farming and to preserve the existing heritage features and historic buildings;

Land Use Zonings

- (w) about 27.62 ha of land were zoned “V” to cover the four recognized villages within the MKT Area, i.e. Muk Wu, Muk Wu Nga Yiu, Chow Tin Tsuen and Fung Wong Wu, and areas of land suitable for village expansion. In order to provide opportunities for short-term accommodation in existing NTEH, ‘Hotel (Holiday House only)’ might be permitted on application to the Board;
- (x) about 11.28 ha of land were zoned “G/IC”, which mainly covered Ling

Ying Public School, three pumping stations and staff quarter, Hong Kong Police Force Man Kam To Operation Base, MacIntosh Forts, a livestock monitoring station, an animal inspection station and food inspection facilities at the MKT BCP. Two disused schools (ex-Sam Wo Public School and ex-Lo Wu Public School) also fell within this zone. According to the FCA Study, the disused school buildings could be refurbished as a focal point for a possible farmland rehabilitation and organic farm centre to promote eco-tourism;

- (y) about 16.68 ha of land were zoned "REC", which covered an area to the north of Ping Yuen River around Ta Kwu Ling Village and a small area to the east of Fung Wong Wu;
- (z) a total of 108.96 ha of land were zoned "OU" to provide land of specific uses in the MKT Area. They included the "OU(BCP)" zone (10.15 ha) that covered the Lo Wu BCP and the MKT BCP; the "OU(Cemetery, Columbarium, Crematorium and Funeral Related Uses)" zone (92.08 ha) that covered the Sandy Ridge Cemetery; and the "OU(Railway)" zone (6.73 ha) that covered a strip of land to the east of Ng Tung River primarily for the railway track of the Mass Transit Railway (East Rail Line);
- (aa) about 59.73 ha of land were zoned "AGR", which mainly covered parcels of land near Muk Wu and Lo Shue Ling and the agricultural land in lowland areas in the western and central parts of the MKT Area;
- (bb) about 114.22 ha of land were zoned "GB", which mainly covered the mountainous areas west of the boundary crossing at Man Kam To and in Lo Shue Ling, the densely vegetated areas which included the 'fung shui' woodlands mainly scattering around Chow Tin Tsuen and Muk Wu, and the permitted burial grounds for indigenous villagers;
- (cc) about 4.24 ha of land were zoned "CA" which covered a small patch of land at Yuen Leng Chai and the area west of the McIntosh Fort at Nam

Hang occupied by existing fish ponds/wetlands;

- (dd) about 3.23 ha of land were zoned "Undetermined" which covered the northern portion of the ex-borrow area at Kong Nga Po. The planning intention of the area was to allow for comprehensive development for residential use with the provision of open space and other supporting facilities in future. The Kong Nga Po site was subject to a number of development constraints. An engineering study had been commissioned by CEDD to examine the development feasibility of the site for residential use;
- (ee) in terms of land use, there was a slight increase in area zoned "GB" (0.05 ha) and a corresponding decrease in area zoned "AGR" as compared with the approved MKT DPA Plan. No change to the land area of other land use zones was proposed;

Consultation

- (ff) government bureaux and departments had been consulted and their comments had been incorporated as appropriate; and
- (gg) subject to the agreement of the Board, the draft MKT OZP No. S/NE-MKT/B would be submitted to the NDC and the TKLDRC for consultation. Comments from the NDC and the TKLDRC would be submitted to the Board for further consideration prior to the publication of the draft OZP under section 5 of the Ordinance.

70. As the presentation from the representatives of PlanD on the draft MKT OZP had been completed, the Chairman invited questions from Members. Members had no questions.

71. After deliberation, the Board:

- (a) adopted the Explanatory Statement as an expression of the planning

intention and objectives of the Board for various land use zonings on the draft Man Kam To OZP No. S/NE-MKT/B; and

- (b) agreed that the draft Man Kam To OZP No. S/NE-MKT/B together with its Notes and Explanatory Statement were suitable for submission to NDC and TKLDRC for consultation.

Draft MTL & HHW OZP

72. With the aid of a Powerpoint presentation, Mr. Otto Chan made the following main points on the draft MTL & HHW OZP No. S/NE-MTL/C as detailed in TPB Paper No. 9330:

Strategic Planning Context

- (a) according to the FCA Study, the major objective of the RDP of the MTL & HHW area was to conserve the ecological value of the fish ponds which formed an integral part of the wetland ecosystem in the Deep Bay area. The existing and contiguous, active or abandoned fish ponds in the Deep Bay area should all be conserved. The loss of fish ponds and habitat fragmentation should be avoided and any negative impacts arising from undesirable land uses and human disturbances should be mitigated;

Issues Arising from Consideration of the DPA Plan

- (b) the major land use proposals arising from the representations and comment to the draft MTL & HHW DPA Plan No. DPA/NE-MTL/1 were summarized as follows:
 - (i) the VR of Liu Pok suggested to enlarge the "V" zone and the 'VE' of Liu Pok, and to zone the agricultural land at Ma Tso Lung as "V" to complement the Kwu Tung North development; and

- (ii) green groups, including The Conservancy Association, KFBGC, Designing Hong Kong Limited, Green Lantau Association and WWF, opposed the designation of "Unspecified Use" area for the HHW area and proposed to rezone the area to "CA";

Town Planning Board's Decisions and Instructions

- (c) on 8.9.2011, the Board considered the representations and comment to the draft MTL & HHW DPA Plan No. DPA/NE-MTL/1, and decided to rezone an area to the northwest of Liu Pok Village from "AGR" to "V" and an area to the northeast of the village from "V" to "AGR" to partially meet a representation. The Board also noted that the HHW area was designated as "Unspecified Use" area which would be subject to further study in the course of the OZP preparation;
- (d) the proposed amendments to the draft MTL & HHW DPA Plan were published for public inspection on 16.9.2011. One further representation was received, which stated that there was a lack of sustainable layout plans of infrastructure for the health and well being of the residents. On 11.11.2011, the Board gave consideration to the further representation and decided not to uphold it, and agreed to amend the MTL & HHW DPA Plan by the proposed amendments under section 6F(8) of the Ordinance;

The Planning Scheme Area

- (e) the Planning Scheme Area of the draft MTL & HHW OZP (the MTL & HHW Area) covered a total area of about 553 ha. It was located approximately 2 kilometres to the northwest of Fanling/Sheung Shui. It was bounded by the southern bank of Sham Chun River in the north, Lo Wu Station and Mass Transit Railway (East Rail Line) in the east, Fung Kong Shan in the south and Tai Law Hau in the west;
- (f) Tai Shek Mo was a dominating hilly terrain that was located on the

been found in the Ma Tso Lung Stream. They proposed that the stream and its riparian area, which were mainly zoned "AGR" and "GB" on the DPA Plan, should at least be covered by "CA" zoning;

Land Use Planning Considerations

Review of "V" Zones

- (m) based on the latest Small House demand figures provided by the DLO/N, LandsD in 2012, which included the outstanding Small House applications and the 10-year demand forecast supplied by the Indigenous Inhabitants Representatives, the "V" zone on the approved MTL & HHW DPA Plan had been reviewed according to the established criteria agreed by the Board on 8.9.2011, as detailed in paragraph 9.1 of the Paper;
- (n) according to DLO/N, LandsD, there was a slight increase in total Small House demand for Liu Pok from 349 to 353, as compared with the figure presented to the Board in 2011;
- (o) the boundary of "V" zone had been fully deliberated during the consideration of representations and comment to the draft MTL & HHW DPA Plan in 2011 and there had been no significant change in planning circumstances since then. No change to the "V" zone of Liu Pok was proposed as the size of the "V" zone on the approved DPA Plan was already equivalent to the 'VE' of the recognized village;

Review of "Unspecified Use" Areas at Hoo Hok Wai

- (p) an Ecological Field Survey had been undertaken to identify the ecological values at various parts of the HHW area, which was designated as "Unspecified Use" area on the MTL & HHW DPA Plan. The results of the survey and the proposals on appropriate zonings for respective areas were summarized below:

eastern side of the MTL & HHW Area. Another hilly upland was located to the west of Tse Koo Hang. The extensive lowlands mainly comprised arable land intermixed with clusters of village settlements, abandoned fish ponds, marsh, undisturbed woodlands, vegetated habitats and natural watercourse;

- (g) Ho Sheung Heung Egretty was located at the eastern base of Tai Shek Mo and was an important breeding site for ardeids particularly for Chinese Pond Heron. The northern portion of the MTL & HHW Area was occupied by a spectrum of natural habitats including woodland, mixed shrub land, lowland forests, freshwater/brackish wetlands, natural watercourses, abandoned fish ponds and marshy wetland;
- (h) existing rural settlements were mainly located at Liu Pok, which was the only recognized village in the area, and the rural settlements at Ma Tso Lung San Tsuen and Shun Yee San Tsuen. According to the 2011 Population Census, the total population of the MTL & HHW Area was 1,000;
- (i) there were no significant economic activities in the MTL & HHW Area;
- (j) the MacIntosh Fort at Ma Tso Lung was a Grade 2 historic building;
- (k) in general, the major conditions of the MTL & HHW Area remained largely unchanged since the gazettal of the draft MTL & HHW DPA Plan;

Development Proposals Received in the Course of Preparation of the Draft OZP

- (l) KFBGC and WWF reported that two endangered species, i.e. *Somanniathelphusa zanklon* (鐮刀束腰蟹) which was classified as 'Globally Endangered' in the International Union for Conservation of Nature (IUCN) redlist, and *Cuora trifasciata* (金錢龜) which was classified as 'Globally Critically Endangered' in the IUCN redlist, had

- (i) the extensive fish ponds that occupied majority of the HHW area were rated with high ecological value due to their importance to waterbirds including ardeids and spoonbills and other wetland-dependent species including the globally-threatened Eurasian Otter, and their strong ecological linkages with other wetlands within the Deep Bay area including the Mai Po Inner Deep Bay Ramsar Site. These areas were proposed to be zoned "CA(1)";
 - (ii) the freshwater marshes which formed an integral part of the HHW area were largely rated with high ecological value. These freshwater marshes were known to support a rare community of reed-associated species and Eurasian Otter. It was considered appropriate to zone the marshes as "CA(1)"; and
 - (iii) the remaining part of the HHW area was recommended to be zoned "GB" due to the relatively less importance in ecological value;
- (q) AFCD considered that although the isolated marshes within the HHW area were accorded with moderate to high ecological value in the Ecological Field Survey, they were part and parcel of the ecosystem and should be included in the "CA(1)" zone;

Review of Ma Tso Lung Stream and Its Riparian Area

- (r) according to the FCA Study, Ma Tso Lung Stream was a narrow and partially-channelised stream that appeared to provide suitable habitat for fish and odonates, with low to moderate abundance/richness of wildlife. Its ecological value was constrained by the modification that had occurred to the stream while the riparian area was predominately covered by weeds and shrubs. It was considered appropriate to retain the "AGR" and "GB" zonings of the stream. AFCD also agreed to the "AGR" and "GB" zonings for this area;

Impact of Small House Development within "V" Zone on Streams

- (s) it was suggested that the Explanatory Statement of the draft OZP should clearly state the requirement that when processing Small House grants and applications in close proximity to existing streamcourses within "V" zone, AFCD and PlanD should be consulted. Besides, any diversion of streams or filling of pond within the "V" zone would require planning permission from the Board in accordance with the Notes of the draft OZP;

Existing Government, Institution or Community Uses

- (t) it was proposed that two sites currently used by the Hong Kong Police Force as Tak Yuet Lau Police Post and Tai Shek Mo Observation Post should be rezoned from "GB" to "G/IC";

Planning Intention

- (u) the general planning intention of the MTL & HHW Area was to strengthen nature conservation and to promote sustainable eco-tourism and cross-boundary development. It was also the planning intention to retain good quality agricultural land for agricultural purposes or leisure farming and to preserve the existing heritage features and historic buildings;

Land Use Zonings

- (v) about 6.33 ha of land were zoned "V" to cover the recognized village of Liu Pok and areas of land suitable for village expansion. In order to provide opportunities for short-term accommodation in existing NTEH, 'Hotel (Holiday House only)' might be permitted on application to the Board;
- (w) about 7.93 ha of land were zoned "G/IC", which mainly covered the MacIntosh Fort at Ma Tso Lung, Lo Wu Correctional Institution, Lo Wu

Saddle Club, the flood shelter near Tak Yuet Lau, Tak Yuet Lau Police Post, Tai Shek Mo Observation Post and two raw water tunnel portals for the Water Supplies Department;

- (x) about 9.15 ha of land covering the small knoll to the west of Tse Koo Hang were zoned "OU" annotated "Eco-lodge" to provide for sustainable-based tourism in the form of an eco-lodge for development of low-rise and low-density resort-type accommodation. Development and/or redevelopment in this zone was subject to a maximum plot ratio of 0.2 and a maximum building height of 6m. The built structure should be one storey over stilts to allow the building to be lifted off the ground to minimize site disturbance and permit variation in building height to create visual interest in the development;
- (y) the Lo Wu Firing Range, with a total land area of 5.47 ha, was zoned "OU(Firing Range)";
- (z) about 38.42 ha of land were zoned "AGR", which mainly covered the western and central parts of the MTL & HHW Area as well as the agricultural land to the west and north of Liu Pok;
- (aa) about 234.64 ha of land were zoned "GB", which mainly included the woodland and densely vegetated hillslopes at Ma Tso Lung, Tai Shek Mo and Tse Koo Hang, and the permitted burial grounds for indigenous villagers. The "GB" zone also included the planted mitigation woodland in the north-eastern HHW area, two ruderal vegetation areas and two small planted woodlands alongside the border road and the marsh located to the north of Liu Pok;
- (bb) about 10.81 ha of land were zoned "CA" which covered the Ho Sheung Heung Egrettry together with its peripheral secondary woodland and fishponds;
- (cc) a total of about 228.37 ha of land were zoned "CA(1)" to conserve the

ecological value of wetland and fish ponds. The "CA(1)" zone covered the extensive fish ponds that occupied a majority of the HHW area and the freshwater marshes which formed an integral part of the HHW area;

- (dd) in terms of land use, the area designated as "Unspecified Use" (246.32ha) on the approved MTL & HHW DPA Plan had been rezoned to "CA(1)" (228.37 ha), "GB" (16.89 ha) and "G/IC" (1.06 ha). No change to the land area of other land use zones was proposed;

[Mr. Maurice W.M. Lee arrived at the meeting at this point.]

Consultation

- (ee) government bureaux and departments had been consulted and their comments had been incorporated as appropriate; and
- (ff) subject to the agreement of the Board, the draft MTL & HHW OZP No. S/NE-MTL/C would be submitted to the NDC and the Sheung Shui District Rural Committee (SSDRC) for consultation. Comments from the NDC and the SSDRC would be submitted to the Board for further consideration prior to the publication of the draft OZP under section 5 of the Ordinance.

73. As the presentation from the representatives of PlanD on the draft MTL & HHW OZP had been completed, the Chairman invited questions from Members.

74. In response to the question of a Member, Ms. Jacinta Woo said that some of fish ponds within the "CA(1)" zone in Hoo Hok Wai were still under active cultivation. While all types of agricultural uses were always permitted within the "CA" zone, only fish pond culture was permissible within the "CA(1)" zone under the Notes of the draft OZP.

75. After deliberation, the Board:

- (a) adopted the Explanatory Statement as an expression of the planning

intention and objectives of the Board for various land use zonings on the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C; and

- (b) agreed that the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C together with its Notes and Explanatory Statement were suitable for submission to NDC and SSDRC for consultation.

TPB Paper No. 9330
For Consideration by the
Town Planning Board
on 26.4.2013

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN (OZP) NO. S/NE-MTL/C
PRELIMINARY CONSIDERATION OF A NEW PLAN**

1. Purpose

The purposes of this paper are to present to Members the draft Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan No. S/NE-MTL/C (the Plan) (**Appendix I**) and to seek Members' agreement that the Plan is suitable for submission to the North District Council (NDC) and Sheung Shui District Rural Committee (SSDRC) for consideration.

2. Background

- 2.1 On 10.9.2004, under the power delegated by the Chief Executive (CE), the then Secretary for Housing, Planning and Lands directed the Board, under section 3(1)(b) of the Town Planning Ordinance (the Ordinance), to prepare a draft plan designating the Ma Tso Lung and Hoo Hok Wai area (the Area) as a development permission area (DPA). Subsequently on 17.6.2010, the Secretary for Development directed the Board to extend the coverage of the draft DPA plan.
- 2.2 On 30.7.2010, the draft Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/1 was exhibited for public inspection under section 5 of the Ordinance. During the two-month exhibition period, a total of 8 valid representations were received. On 8.10.2010, the representations were published for three weeks for public comments and 1 valid comment was received.
- 2.3 On 25.2.2011, the Board considered the representations and comments and decided to defer the consideration of the representations and comments pending further review by the Planning Department on the land use proposals, in particular on the "Village Type Development" ("V") zones, taking into account the views of the representers and commenters and any other relevant planning considerations.
- 2.4 On 16.6.2011, the CE, under section 8(2) of the Ordinance, agreed to extend the statutory time limit for the Board to submit the draft DPA Plan to the Chief Executive in Council (CE in C) for approval for a period of six months from 30.6.2011 to 30.12.2011.

- 2.5 On 8.9.2011, upon further consideration of the representations and comment to the draft Plan, the Board decided to propose amendments to partially meet a representation by rezoning an area to the northwest of Liu Pok from "Agriculture" ("AGR") to "V" and an area to the northeast of Liu Pok from "V" to "AGR". On 16.9.2011, the proposed amendments were published for public inspection under section 6C(2) of the Ordinance. Upon expiry of the three-week public inspection period, 1 further representation was received. On 11.11.2011, the Board considered the further representation and decided not to uphold the further representation. The Board decided that the proposed amendments to the DPA Plan would form part of the DPA Plan under section 6F(8) of the Ordinance.
- 2.6 On 21.2.2012, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Ma Tso Lung and Hoo Hok Wai DPA Plan, which was subsequently re-numbered as DPA/NE-MTL/2. On 2.3.2012, the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 was exhibited for public inspection under section 9(5) of the Ordinance.
- 2.7 In accordance with section 20(5) of the Ordinance, the DPA Plan is effective for three years unless extension is obtained from CE in C. On 8.2.2013, under the power delegated by the CE, the Secretary for Development directed the Board, under section 3(1)(a) of the Ordinance, to prepare an OZP to cover the Ma Tso Lung and Hoo Hok Wai area.

3. Strategic Planning Context

- 3.1 In 2006, the Security Bureau (SB) conducted a review of the coverage of the existing Closed Area and concluded that the objective of maintaining boundary security may still be achieved with substantial reduction in the Closed Area. Subsequently, the "Land Use Planning for the Closed Area – Feasibility Study" (the Study) was commenced in 2007 to formulate a land use planning framework to guide conservation and development of the Closed Area. After two rounds of public engagements, the Recommended Outline Development Plan (RDP) of the Study was formulated and the findings of the Study were presented to the Board on 9.7.2010.
- 3.2 In 2008, the SB announced that the coverage of the Frontier Closed Area (FCA) would be substantially reduced from about 2,800 ha to about 400 ha. The first stage of reduction of the FCA involving "Mai Po to Lok Ma Chau Control Point Section" and the "Lin Ma Hang to Sha Tau Kok Section" came into effect on 15.2.2012; the second stage of reduction involving "Lok Ma Chau Control Point to River Indus (Ng Tung River) Section" will tentatively come into effect in mid-2013; and the third stage of reduction involving "River Indus (Ng Tung River) to Lin Ma Hang Section" (less the Liantang/Heung Yuen Wai Boundary

Control Point area) is planned to come into effect in 2015 (**Plan 1**). Most of the Area falls within the area covered by the second stage of reduction.

- 3.3 Five draft DPA Plans for the Closed Area including the subject DPA Plan were prepared to take forward the recommendations of the Study and to provide an interim planning guidance for future development pending preparation of OZP and to enable enforcement action to be taken against any unauthorized developments. According to the Study, the major objective of the Recommended Development Plan (RDP) of the Area is to conserve the ecological value of the fish ponds which form an integral part of the wetland ecosystem in the Deep Bay Area. The existing and contiguous, active or abandoned fish ponds in the Deep Bay Area should all be conserved. The loss of fish ponds and habitat fragmentation should be avoided and any negative impacts arising from undesirable land uses and human disturbances should be mitigated.

4. Issues Arising from Consideration of the DPA Plan

- 4.1 Since the draft Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/1 was gazetted on 30.7.2010, no development proposal for permanent use has been received by the Board so far. An application for temporary use for a refuse collection point has been approved but was later revoked by the Board due to non-compliance of approval conditions.
- 4.2 Nevertheless, during the 2 months' plan exhibition period of the gazettal of the draft Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/1 expired on 30.9.2010, a total of 8 valid representations and a valid comment were received. The major land use proposals raised by the representers (**Plan 3**) are recapitulated below:
- (a) the village representatives of Liu Pok suggested to enlarge the "V" zone and the village 'environ' ('VE') of Liu Pok; and to zone the scattered agricultural land at Ma Tso Lung as "V" to complement the Kwu Tung North development; and
 - (b) Green Groups, including The Conservancy Association, Kadoorie Farm and Botanic Garden (KFBG), Designing Hong Kong, Green Lantau Association and World Wide Fund (WWF), opposed the designation of "Unspecified Use" area for Hoo Hok Wai which should be zoned "CA".

5. Town Planning Board's Decisions and Instructions

- 5.1 On 25.2.2011, the Board considered the representations and comment and decided to defer the consideration of the representations and comment of the draft DPA Plan pending further review by the Planning Department (PlanD) on

the land use proposals, in particular on the “V” zones, taking into account the views of the representers and commenter and any other relevant planning considerations. The “V” zone boundaries on the draft DPA Plan had been further reviewed subsequently.

- 5.2 On 8.9.2011, upon further consideration of the representations and comment, the Board decided to rezone an area to the northwest of Liu Pok village from “AGR” to “V” and an area to the northeast of the village from “V” to “AGR”. The Board also noted that the Hoo Hok Wai area was designated “Unspecified Use” subject to further study to be carried out in the course of preparation of the OZP.
- 5.3 The proposed amendments to the draft DPA Plan were published for public inspection on 16.9.2011 and 1 further representation was received. The further representation stated that there is a lack of sustainable layout plans of infrastructure for health and well being of current and future residents within the Area. On 11.11.2011, the Board gave consideration to the further representation and decided not to uphold the further representation and agreed to amend the DPA Plan by the proposed amendments under section 6F(8) of the Ordinance.

6. Object of the Plan

The object of the Plan is to indicate the broad land-use zonings for the area of Ma Tso Lung and Hoo Hok Wai area so that development and redevelopment within the area can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and site reservation for various uses.

7. The Planning Scheme Area

- 7.1 The Area covers an area of about 553 ha of land. It is located approximately 2 km to the northwest of Fanling/Sheung Shui. It is bounded by the southern bank of Sham Chun River in the north, Lo Wu Station and Mass Transit Railway (East Rail Line) in the east, Fung Kong Shan in the south as well as Tai Law Hau in the west. The boundary of the Area is shown by a heavy broken line on the Plan (**Appendix I**).
- 7.2 The Area commands the cross boundary location in the northernmost rural area of the North District adjoining Shenzhen City in the north. The surroundings are predominantly agricultural land spotted with rural settlements. The northern portion of the Area is occupied by Hoo Hok Wai which is a large plain of ecologically sensitive area; while the southern portion is dominated by a succession of grassy, hilly terrain extending from Chau Tau and Ma Tso Lung

eastward to Tai Shek Mo and Ngam Pin, providing a natural shield to Hoo Hok Wai.

- 7.3 Tai Shek Mo, with an elevation of 183 mPD, is a dominating hilly terrain that is located on the eastern side of the Area. Another hilly upland is to the west of Tse Koo Hang with a height of 108 mPD. The extensive lowlands mainly comprises arable land intermixed with clusters of village settlements, abandoned fish ponds, marsh, undisturbed woodlands, vegetated habitats and natural watercourse (Plan 4).
- 7.4 Ho Sheung Heung Egretty is located at the eastern base of Tai Shek Mo and is an important breeding site for ardeids particularly for Chinese Pond Heron. The northern portion of the Area is occupied by a spectrum of natural habitats including woodland, mixed shrub land, lowland forests, freshwater/brackish wetlands, natural watercourses, abandoned fish ponds and marshy wetland.
- 7.5 Existing rural settlements are mainly located in the recognized village at Liu Pok and rural settlements at Ma Tso Lung San Tsuen and Shun Yee San Tsuen. Liu Pok is the only recognized village in the Area. A majority of the village houses in Liu Pok are typical Small House of three-storey high. Ma Tso Lung San Tsuen and Shun Yee San Tsuen are made up of two-storey high terrace houses arranged in an orderly pattern. Scattered village houses and on-farm domestic structures are also found in the lowland in Tse Koo Hang, Ma Tso Lung San Tsuen and Shun Yee San Tsuen and near the ponds at the foothill in the eastern part, some of which are in dilapidated conditions and left vacant. According to the 2011 Census, the total population within the Area was 1,000.
- 7.6 There are no significant economic activities in the Area. Only small-scale cultivated land and livestock farms are found near the settlements. In addition, a number of cottage workshops and open storage sites have been established in the Area and some economic activities tailored to the unique landscape and resources, including agriculture and aquaculture/fisheries, can be found.
- 7.7 The MacIntosh Fort at Ma Tso Lung is a Grade 2 historic building in the Area worthy of preservation (Plan 5). Prior consultation with the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be made if any development, redevelopment or rezoning proposal might affect the above historic building/structure and its immediate environs.
- 7.8 In general, the major conditions of the Area remain largely unchanged since the gazettal of the DPA Plan.

8. Development Proposals Received in the Course of Preparation of the Plan

KFBG and WWF in November 2012/January 2013 discussed their proposals with PlanD regarding the Ma Tso Lung stream and its riparian area which is currently zoned mostly “AGR” and “Green Belt”(“GB”) on the DPA Plan (Plan 11). They reported that two endangered species, *Somanniathelphusa zanklon* (鐮刀束腰蟹) which is classified as ‘Globally Endangered’ in the International Union for Conservation of Nature (IUCN) redlist and *Cuora trifasciata* (金錢龜) which is classified as ‘Globally Critically Endangered’ in the IUCN redlist have been found in the stream. Therefore, it is proposed that the stream and its riparian area should be covered with at least “CA” zone.

9. Land Use Planning Considerations

Review of “Village Type Development” Zone

- 9.1 As agreed by the Board on 8.9.2011, the following established criteria have been adopted in reviewing the “V” zones:
 - (a) The current “V” zones on the DPA Plan will be extended if the available land for Small House (SH) development within the “V” zones cannot meet the demand figures. “V” zone areas adjusted should be within or contiguous to the ‘VE’ and should preferably include Government land, if available, in the vicinity and take due considerations of the topography, woodlands, roads, streams, burial grounds and ecological features etc.
 - (b) The “V” zones would be adjusted to meet the increased demand figure but up to the limit equivalent to the area bounded by the ‘VE’.
 - (c) The current “V” zones on the DPA Plan will not be adjusted if the available land for SH development within the “V” zones is sufficient to meet the increase demand figure. As such, the area of “V” zones would remain smaller than that of ‘VE’.
 - (d) In determining land for SH developments, both government land and private land would be considered.
- 9.2 In the event that the designated “V” zones (albeit size already adjusted to match the size of the ‘VE’) are still not sufficient to meet the future demand, there is provision under the Notes of the draft OZP for planning applications of SH developments to the Board.
- 9.3 Following the current practice, the District Lands Officer/North, Lands Department (DLO/N, LandsD) was approached to provide the latest Small

House (SH) demand figures. The information provided by DLO/N has taken account of the outstanding SH applications and the 10-year demand forecast supplied by the Indigenous Inhabitants Representatives. It should be noted that the 10-year SH demand forecasts have not been supported by evidence and will not be subject to verification by DLO/N. However, if there is a substantial increase between the updated 10-year demand figure and the figure previously adopted when preparing the DPA Plan, the latter would be adopted in the preparation of the Plan unless strong justifications are received by the respective Village Representatives.

- 9.4 The existing conditions within the “V” zones and in the immediate vicinities within the Ma Tso Lung and Hoo Hok Wai area have been reviewed. As there is no substantial increase between the updated 10-year demand forecast and the figure previously adopted when preparing the DPA Plan, the updated demand figure of 2012 provided by DLO/N has been adopted. Based on the updated demand figures of 2012 from DLO/N, the “V” zones within the Area were reviewed in an attempt to meet the SH demand. On-site surveys were carried out on the boundaries of the “V” zones, taking into account the existing ‘VE’, local topography, settlement patterns, ecologically important areas and other site specific characteristics including vegetations, burial grounds and stream courses etc.
- 9.5 As there is no substantial increase between the updated 10-year demand figure and the figure previously adopted when preparing the DPA Plan, the current demand figure has been adopted. It is noted that there is a slight increase in total SH demand for Liu Pok from 349 to 353, as compared with the figure adopted in the preparation of the Plan and those presented to the Board during the hearings of representations/comments in 2011 (Table 1). As the boundaries of the respective “V” zone have been fully deliberated at the hearing in 2011 (para. 5.2 and 5.3 above) and there is no significant change in planning circumstances, no change is proposed for Liu Pok as the size of the existing “V” zone is already equivalent to the size of the ‘VE’ of the recognized village (Plan 6).

Table 1: Small House Demand for the Recognized Villages within Draft Ma Tso Lung and Hoo Hok Wai OZP

Recognised Villages	Demand figure prepared for TPB hearings in 2011		New demand figures		‘VE’ Approx. Area (ha)	“V” zone on draft OZP (ha)	Required land to meet new demand (ha)	Available Land to meet new demand figure (ha)	Percentage of the new demand met by available land (%)
	Outstanding Demand	10-year forecast	Outstanding Demand	10-year forecast					
Liu Pok	12	337	16	337	6.34	6.34	8.83	3.69	41.8

Review of Area Shown as “Unspecified Use” at Hoo Hok Wai

9.6 An Ecological Field Survey of Hoo Hok Wai (the Survey) has been undertaken to identify the ecological values at various parts of the Hoo Hok Wai (HHW) area, which is currently shown as “Unspecified Use” on the DPA Plan. It is situated at the northern portion of the Area, stretching from the east of Lok Ma Chau Loop to Liu Pok. It is a large plain of ecologically sensitive wetland that mainly comprises fishponds, freshwater marshes, reedbed and seasonally wet grassland which form an integral part of the Deep Bay wetland ecosystem. The results of the survey and the proposals on appropriate zonings for respective areas are summarized below and the draft Final Report of the survey is attached at **Annex B**:

- (a) the extensive fish ponds that occupy majority of the HHW area (**Plan 7**) are rated as of **high** ecological value due to their importance to waterbirds including ardeids (鷺鳥) and spoonbills (琵鷺) and other wetland-dependent species, including the globally-threatened Eurasian Otter (歐亞水獺)¹, and their strong ecological linkages with other wetlands within the Deep Bay area, including the Mai Po Inner Deep Bay Ramsar Site². In view of its ecological significance, this part of the HHW area is proposed to be zoned “CA(1)” (**Plans 8 and 9**) to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem;
- (b) the freshwater marshes which forms an integral part of the HHW area (**Plan 7**) are largely rated as of **high** ecological value. These freshwater marshes are known to support a rare community of reed-associated species and Eurasian Otter. It is considered appropriate to zone the marshes as “CA(1)” (**Plans 8 and 9**) to reflect the ecological value of the marshes and to conserve the ecological integrity of the HHW wetland ecosystem; and
- (c) the remaining part of the area is recommended to be zoned “GB” (**Plans 7 to 9**) due to their relatively less importance in ecological value, in order to define the limits of development areas by natural features and to preserve the existing topography and natural vegetation. These areas include the planted mitigation woodland in the northeastern HHW area³, the marsh located to the north of Liu Pok⁴, two ruderal vegetation areas⁵ and two planted woodlands alongside the border road⁶ (**Plan 10**).

¹ There are records of Eurasian Otter throughout the year from widespread parts of the area from the northeast near Shenzhen River to Lok Ma Chau Loop, and HHW appears to be one of the last remaining strongholds of this threatened species in the whole of the Pearl River Delta region.

² Such linkages are expressed in the form of flight lines linking HHW with breeding areas at Ho Sheung Heung and foraging and roosting areas elsewhere in the Deep Bay area.

³ The planted mitigation woodland in the northeast of the HHW area, adjacent to Shenzhen River, is the largest in the Study Area and supports a typical suite of woodland flora species common and widespread in HK; however,

- 9.7 AFCD considers that although the isolated marshes within the Hoo Hok Wai area are considered of moderate to high ecological value in the survey, they are considered as part and parcel of the ecosystem and should be included in the “CA(1)” zone.

Review of Ma Tso Lung Stream and Its Riparian Area

- 9.8 According to the FCA Study, Ma Tso Lung stream is a narrow, partially-channelised stream that appears to provide suitable habitat for fish and odonates, with low to moderate abundance/richness of wildlife. Its ecological value is constrained by the modification that has occurred to the stream. It was also noted that the riparian area of Ma Tso Lung stream was predominately covered by weeds and shrubs. Based on the assessments above, it is considered appropriate to retain the current “AGR” and “GB” zonings which should provide adequate protection to the stream and its riparian area (Plan 11). Under the remarks of “AGR” and “GB” zones, permission from the Board is required for diversion of streams or filling of land/pond which may cause adverse drainage and environmental impacts on the adjacent areas. AFCD agrees to the “AGR” and “GB” zonings for this area.

Impact of Small House Developments on Existing Streams

- 9.9 Regarding the concerns on potential impacts of developments, in particular small houses within “V” zone, on existing stream courses in the Area, it should be noted that in accordance with the Environmental, Transport and Works Bureau’s Technical Circular (Works) No. 5/2005, under the current administrative practice, development proposals/submissions that may affect natural streams/rivers, the approving/processing authorities at various stages of the development should consult and collate comments from the Agriculture, Fisheries and Conservation Department (AFCD) and relevant authorities and incorporate relevant comments/advice as conditions of approval wherever possible. Accordingly, LandsD when processing Small House grant and applications in close proximity to existing stream course, should consult concerned departments including AFCD and PlanD to ensure that all relevant departments would have adequate opportunity to review and comment on the applications. It is suggested to clearly state this requirement in the Explanatory Statement of the “V” zone that when processing Small House grant and

its isolation from woodland areas of the central New Territories (NT) and adjacent parts of Guangdong province means it is unlikely to develop a community of flora and fauna typical of mature forest. The planted mitigation woodland is thus rated as of **moderate** ecological value.

⁴ This marsh lacks reed marsh and fewer fauna of conservation significance were recorded therein, and as a result is rated as of **moderate** ecological value.

⁵ The two narrow ruderal areas alongside the boundary fence road are rated as of **low** ecological value due to their low diversity of flora and fauna, limited linkage with adjacent habitats and low abundance/richness of wildlife.

⁶ These self-sown woodland areas are rated as of **moderate** ecological value as they are fragmented from mature woodland of central NT, has limited scope for further enhancement and have moderate abundance of wildlife and low to moderate ecological diversity.

applications in close proximity to existing stream courses, AFCD and PlanD should be consulted. Besides, any diversion of streams or filling of pond to effect any permitted uses would also require permission from the Board in accordance with the Notes of the “V” zone.

Existing Government, Institution or Community Uses

- 9.10 In order to reflect the two existing government uses on the Plan, it is proposed to rezone two sites which are currently used by the Hong Kong Police Force from “GB” zone to “Government, Institution or Community” (“G/IC”) zone. The two concerned sites are Tak Yuet Lau Police Post and the Tai Shek Mo Observation Post (**Plan 12**).

10. Planning Intention

The general planning intention of the Area is to strengthen nature conservation, promote sustainable eco-tourism and cross-boundary development. It is also the planning intention to retain good quality agricultural land for agricultural purposes or leisure farming and to preserve the existing heritage features and historic buildings.

11. Land Use Zonings (Appendix I)

- 11.1 About 6.33 ha of land are zoned “V” to cover the only recognized village within the Area, i.e. Liu Pok and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. The boundary of “V” zone is drawn up having regard to the existing village ‘environs’, outstanding Small House applications, Small House demand forecast, local topography, existing settlement pattern, ecologically important areas and other site specific characteristics. Areas of difficult terrain, dense vegetation, burial grounds and streamcourses have been avoided where possible. In order to provide opportunities for short-term accommodation in existing NTEH, “Hotel (Holiday House only)” may also be permitted on application to the Board.
- 11.2 About 7.93 ha of land are zoned “G/IC” to provide land for uses directly to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. Existing facilities under this zoning include MacIntosh Fort at Ma Tso Lung, Lo Wu Correctional Institution, Lo Wu Saddle Club opposite Tsung Yuen, the flood shelter near Tak Yuet Lau, Tak Yuet Lau Police Post, Tai Shek Mo Observation Post and two raw water tunnel portals for Water Supplies Department located near Ma Tso Lung San Tsuen in the west and Ng Tung River in the east respectively.

- 11.3 About 9.15 ha of land are zoned "OU (Eco-lodge)" to provide for sustainable-based tourism in the form of an eco-lodge for development of low-rise, low-density resort-type accommodation. The small knoll to the west of Tse Koo Hang is zoned "OU(Eco-lodge)" and it possesses expansive views over the environmentally sensitive fishponds/wetlands of Hoo Hok Wai. No new development, or addition, alteration and/or modification to or redevelopment of an existing building within this zone shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.2 and a maximum building height of 6m. The built structure should be 1 storey over stilts to allow the building to be lifted off the ground to minimize site disturbance and permit variation in building height to create visual interest in the development.
- 11.4 The Lo Wu Firing Range, with a total land area of 5.47 ha is zoned "OU (Firing Range)". It is an ex-military site currently allocated to the HKPF for firearm training purpose.
- 11.5 About 38.42 ha of land are zoned "AGR" to retain and safeguard good quality agricultural land, farm and fish ponds for agricultural purposes as well as to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes. The "AGR" zone mainly covers the western and central part of the Area as well as the agricultural land to the west and north of Liu Pok.
- 11.6 To define the limits of urban and sub-urban development areas by natural features and to preserve the existing topography and natural vegetation as well as to provide passive recreational outlets, about 234.64 ha of land are zoned "GB". This zone mainly includes the woodland and densely vegetated hillslopes at Ma Tso Lung, Tai Shek Mo, and Tse Koo Hang and the permitted burial grounds for indigenous villagers. The "GB" zone also includes the planted mitigation woodland in the northeastern Hoo Hok Wai area (adjacent to Sham Chun River), two ruderal vegetation areas and two small planted woodlands alongside the border road and the marsh located to the north of Liu Pok which forms a buffer area between the Hoo Hok Wai wetland ecosystem and the village type developments in Liu Pok.
- 11.7 A total of about 10.81 ha of land are zoned "CA" to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment from the adverse effects of development. The "CA" zone covers the Ho Sheung Heung Egrettry together with its peripheral secondary woodland and fishponds.
- 11.8 A total of about 228.37 ha of land are zoned "CA(1)" to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem by discouraging new development unless it is required to support the

conservation of the ecological integrity of the wetland ecosystem or the development is an essential infrastructure project with overriding public interest. The "CA(1)" zone covers the extensive fish ponds that occupy a majority of the Hoo Hok Wai area and the freshwater marshes which forms an integral part of the Hoo Hok Wai area. These features are to be protected and conserved in order to maintain the ecological integrity of the Deep Bay wetland ecosystem as a whole.

- 11.9 A table comparing the land use budget of Ma Tso Lung and Hoo Hok Wai area covered by the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 and the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C is shown below:

Table 2: Land Use Budget of Ma Tso Lung and Hoo Hok Wai Area covered by the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 and the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C

Zoning	Approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 (ha / %)		Draft Ma Tso Lung and Hoo Hok Wai OZP Plan No. S/NE-MTL/C (ha / %)		Increase / Decrease (ha / %)	
Village Type Development	6.33	1.14	6.33	1.14	No change	No change
Government, Institution or Community	6.87	1.24	7.93	1.43	+1.06	+0.19
Other Specified Uses	14.62	2.64	14.62	2.64	No change	No change
Agriculture	38.42	6.94	38.42	6.94	No change	No change
Green Belt	217.75	39.36	234.64	42.41	+16.89	+3.05
Conservation Area	10.81	1.95	10.81	1.95	No change	No change
Conservation Area (1)	--	--	228.37	40.29	--	--
River Channel	12.09	2.20	12.09	2.20	No change	No change
Unspecified Use	246.32	44.53	--	--	--	--
Total Planning Area	553.21	100.00	553.21	100.00	No change	No change

- 11.10 As diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities. Proposed diversion of streams in "V" zone, proposed diversion of streams or filling of land/pond in "AGR" zone and proposed diversion of streams, filling of land or excavation of land/pond in "GB", "CA" and "CA(1)" zones within the OZP will require planning permission from the Board.

12. Notes of the Plan

Attached to the Plan is a set of Notes (**Appendix II**) which shows the types of uses or developments which are always permitted within the Area and in particular zones and which may be permitted by the Board, with or without conditions, on application. The Notes of the Plan are prepared in accordance with the Master Schedule of Notes to Statutory Plans endorsed by the Board, taking account of local circumstances and the planning intentions of various zones. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land-use planning and control of development to meet the changing needs.

13. Consultation

13.1 Relevant Government bureaux/departments have been consulted on the Planning Report on Ma Tso Lung and Hoo Hok Wai (**Annex A**), the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C (**Appendix I**), its Notes and Explanatory Statement (**Appendices II and III**) and their comments have been incorporated where appropriate.

13.2 Subject to the agreement of the Board, the draft OZP will be submitted to the NDC and the SSDRC for consideration. Separate briefings and discussions with relevant parties including village representatives and concern groups would also be held. Their comments will be submitted to the Board for further consideration prior to the publication of the draft OZP under section 5 of the Ordinance.

14. Decision Sought

Members are invited to:

- a) consider the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C (**Appendix I**) together with its Notes and Explanatory Statement (**Appendices II and III**), and the Planning Report on Ma Tso Lung and Hoo Hok Wai (**Annex A**);
- b) adopt the updated Explanatory Statement as an expression of the planning intention and objectives of the Board for various land use zonings on the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C; and
- c) agree that the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C together with its Notes and Explanatory Statement are suitable for submission to NDC and SSDRC for consultation.

Attachments

- Plan 1** Reduction of Frontier Closed Area Coverage
- Plan 2** Location Plan of Ma Tso Lung and Hoo Hok Wai
- Plan 3** Major Land Use Proposals Raised by Representers
- Plan 4** Habitat Map of Ma Tso Lung and Hoo Hok Wai
- Plan 5** Cultural Heritage Plan of Ma Tso Lung and Hoo Hok Wai
- Plan 6** Review of the "V" Zone Boundary of Liu Pok
- Plan 7** Habitat Map of Hoo Hok Wai
- Plan 8** Proposed Zonings for the "Unspecified Use" Area of Hoo Hok Wai
- Plan 9** Review of the Zonings for Ma Tso Lung Stream
- Plan 10** Proposed Rezoning of Existing Government, Institution or Community Uses from "GB" to "G/IC"
- Plan 11** Review of the Zonings for Ma Tso Lung Stream

- Appendix I** Draft Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan No. S/NE-MTL/C
- Appendix II** Notes of the Draft Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan No. S/NE- MTL/C
- Appendix III** Explanatory Statement of the Draft Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan No. S/NE- MTL/C

- Annex A** Planning Report on Ma Tso Lung and Hoo Hok Wai
- Annex B** Ecological Field Survey of Hoo Hok Wai (Draft Final Report)

PLANNING DEPARTMENT
APRIL 2013

圖例
NOTATION

ZONES		地帶
VILLAGE TYPE DEVELOPMENT	V	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	G/IC	政府、機構或社區
OTHER SPECIFIED USES	OU	其他指定用途
AGRICULTURE	AGR	農業
GREEN BELT	GB	綠化地帶
CONSERVATION AREA	CA	自然保育區
MISCELLANEOUS		其他
BOUNDARY OF PLANNING SCHEME	— • —	規劃範圍界線

土地用途及面積一覽表
SCHEDULE OF USES AND AREAS

USES	大約面積及百分比 APPROXIMATE AREA & %		用途
	公頃 HECTARES	% 百分率	
VILLAGE TYPE DEVELOPMENT	6.33	1.14	鄉村式發展
GOVERNMENT, INSTITUTION OR COMMUNITY	7.93	1.43	政府、機構或社區
OTHER SPECIFIED USES	14.62	2.64	其他指定用途
AGRICULTURE	38.42	6.94	農業
GREEN BELT	234.64	42.41	綠化地帶
CONSERVATION AREA	239.18	43.25	自然保育區
RIVER CHANNEL	12.09	2.19	河道
TOTAL PLANNING SCHEME AREA	553.21	100.00	規劃範圍總面積

夾附的《註釋》屬這份圖則的一部分
THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN

香港城市規劃委員會依據城市規劃條例擬備的馬草壟及蠔殼圍分區計劃大綱圖
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD
MA TSO LUNG AND HOO HOK WAI - OUTLINE ZONING PLAN

規劃署遵照城市規劃委員會指示擬備
PREPARED BY THE PLANNING DEPARTMENT UNDER
THE DIRECTION OF THE TOWN PLANNING BOARD

圖則編號
PLAN No. S/NE-MTL/C

SCALE 1:7500 比例尺

米 METRES 200 0 200 400 600 800 1,000 METRES 米

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/C**

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

NOTES

(N.B. These form part of the Plan)

- (1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.
- (2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.
- (3) No action is required to make the use of any land or building which was in existence immediately before the first publication in the Gazette of the notice of the draft development permission area plan conform to this Plan, provided such use has continued since it came into existence. Any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.
- (4) A use or development of any land or building permitted under an earlier draft or approved plan including development permission area plan for the area and effected or undertaken during the effective period of that plan is always permitted under this Plan. Any material change of such use or any other development (except minor alteration and/or modification to the completed development of the land or building which is always permitted) must be always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board.
- (5) Except to the extent that paragraph (3) or (4) applies, any use or development falling within the boundaries of the Plan and also within the boundaries of the draft development permission area plan, unless always permitted in terms of the Plan, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without permission from the Town Planning Board.
- (6) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or

material change of use or development or redevelopment shall lapse.

- (7) Road junctions, alignment of roads and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.
- (8) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (9) in relation to areas zoned "Conservation Area":
 - (a) maintenance, repair or demolition of a building;
 - (b) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, footpath, bus/public light bus stop or lay-by, cycle track, taxi rank, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;
 - (c) maintenance or repair of road, watercourse, nullah, sewer and drain;
 - (d) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities and waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government;
 - (e) rebuilding of New Territories Exempted House;
 - (f) replacement of an existing domestic building i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, by a New Territories Exempted House;
 - (g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government;
- (9) In areas zoned "Conservation Area",
 - (a) the following uses or developments are always permitted:
 - (i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave;
 - (ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
 - (iii) provision of amenity planting by Government; and
 - (b) the following uses or developments require permission from the Town Planning

Board:

provision of plant nursery, amenity planting (other than by Government), sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.

- (10) In any area shown as 'Road', all uses or developments except those specified in paragraphs (8)(a) to (8)(d) and (8)(g) above and those specified below require permission from the Town Planning Board:

road and on-street vehicle park.

- (11) (a) Except in areas zoned "Conservation Area", temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (excavation or land/pond filling) is carried out and that the use or development is a use or development specified below:

structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.

- (b) Except as otherwise provided in paragraph (11)(a), and subject to temporary uses for open storage and port back-up purposes which are prohibited in areas zoned "Conservation Area", temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.

- (c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.

- (12) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.

- (13) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

"Existing building" means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

"New Territories Exempted House" means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as 'Shop and Services' or 'Eating Place', the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap.121).

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/C**

Schedule of Uses

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II GOVERNMENT, INSTITUTION OR COMMUNITY	3
III OTHER SPECIFIED USES	4
IV AGRICULTURE	7
V GREEN BELT	8
VI CONSERVATION AREA	10
VII CONSERVATION AREA (1)	11

VILLAGE TYPE DEVELOPMENT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use	Burial Ground
Government Use (Police Reporting Centre, Post Office only)	Eating Place
House (New Territories Exempted House only)	Flat
On-Farm Domestic Structure	Government Refuse Collection Point
Religious Institution	Government Use (not elsewhere specified) #
(Ancestral Hall only)	Hotel (Holiday House only)
Rural Committee/Village Office	House (not elsewhere specified)
	Institutional Use (not elsewhere specified) #
	Market
	Place of Recreation, Sports or Culture
	Private Club
	Public Clinic
	Public Convenience
	Public Transport Terminus or Station
	Public Utility Installation #
	Public Vehicle Park
	(excluding container vehicle)
	Religious Institution (not elsewhere specified) #
	Residential Institution #
	School #
	Shop and Services
	Social Welfare Facility #
	Utility Installation for Private Project

In addition, the following uses are always
permitted on the ground floor of a New
Territories Exempted House:

Eating Place
Library
School
Shop and Services

(please see next page)

VILLAGE TYPE DEVELOPMENT (cont'd)

Planning Intention

The planning intention of this zone is to designate both existing recognized villages and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Town Planning Board.

Remarks

- (a) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan, whichever is the greater.
- (b) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (a) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (c) Any diversion of streams, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<p>Ambulance Depot Animal Quarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Correctional Institution Eating Place (Canteen, Cooked Food Centre only) Educational Institution Exhibition or Convention Hall Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility Training Centre Wholesale Trade</p>	<p>Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium Crematorium Driving School Eating Place (not elsewhere specified) Funeral Facility Holiday Camp Hotel House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Residential Institution Sewage Treatment/Screening Plant Shop and Services Utility Installation for Private Project Zoo</p>

Planning Intention

This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

OTHER SPECIFIED USES

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<u>For "Eco-lodge" only</u>	
Nature Reserve Nature Trail	Commercial Bathhouse/Massage Establishment Eating Place Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Holiday Camp Hotel Place of Recreation, Sports or Culture Public Utility Installation Utility Installation for Private Project

Planning Intention

This zone is intended to provide for sustainable-based tourism in the form of an eco-lodge for development of low-rise, low-density resort-type accommodation. The proposed development shall not have adverse impact on the local environment and shall adopt best practice/green architecture/sustainable principles in design, construction and operation. Uses in support of the resort-type accommodation as well as active and/or passive recreational developments may be permitted subject to planning permission.

Remarks

- (a) Application for permission of use or development shall be in the form of a comprehensive development scheme within this zone. The proposed scheme shall adopt green architecture/sustainable principles with minimum site formation and minimal impact on the surrounding natural and ecological environment. An applicant shall prepare a layout plan and any other documents showing the following information for consideration of the Town Planning Board:
- (i) the proposed land uses, development parameters, the nature, position, dimensions and heights of all buildings to be erected in the area;
 - (ii) a detailed submission, including its design, construction and operation proposals, demonstrating how the development meets the ecological enhancement and sustainable design principles;

(please see next page)

OTHER SPECIFIED USES (cont'd)

For "Eco-lodge" only (cont'd)

- (iii) the alignment, widths and levels of any roads proposed to be constructed within the area;
 - (iv) the landscaping and urban design proposals within the area;
 - (v) programming, phasing and implementation schedule of each component of the proposed development;
 - (vi) an environmental impact study report, including but not limiting to an ecological impact assessment and a landscape and visual impact assessment, to examine any possible environmental problems that may be caused to or by the proposed development during and after construction and the proposed mitigation measures to tackle them;
 - (vii) a drainage and sewerage impact study report to examine any possible flooding, drainage, sewerage and associated problems that may be caused to or by the proposed development and the proposed mitigation measures to tackle them;
 - (viii) a traffic impact assessment report to examine any possible traffic problems that may be caused by the proposed development and the proposed mitigation measures to tackle them; and
 - (ix) such other information as may be required by the Town Planning Board.
- (b) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.2 and a maximum building height of 6m.
- (c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/building height restrictions stated in paragraph (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For "Firing Range" only

Firing Range

Government Refuse Collection Point
Government Use (not elsewhere specified)
Public Utility Installation
Utility Installation for Private Project

Planning Intention

The planning intention of this zone is to provide land for the Lo Wu Firing Range.

AGRICULTURE

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre only) On-Farm Domestic Structure Public Convenience Religious Institution (Ancestral Hall only) Rural Committee/Village Office	Animal Boarding Establishment Barbecue Spot Burial Ground Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) House (New Territories Exempted House only, other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Picnic Area Place of Recreation, Sports or Culture (Horse Riding School, Hobby Farm, Fishing Ground only) Public Utility Installation Religious Institution (not elsewhere specified) School Utility Installation for Private Project

Planning Intention

This zone is intended primarily to retain and safeguard good quality agricultural land/farm/fish ponds for agricultural purposes. It is also intended to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes.

Remarks

Any diversion of streams or filling of land/pond, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance. This restriction does not apply to filling of land specifically required under prior written instructions of Government department(s) or for the purposes specified below :

- (i) laying of soil not exceeding 1.2m in thickness for cultivation; or
- (ii) construction of any agricultural structure with prior written approval issued by the Lands Department.

GREEN BELT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use	Animal Boarding Establishment
Barbecue Spot	Broadcasting, Television and/or Film Studio
Government Use (Police Reporting Centre only)	Burial Ground
Nature Reserve	Columbarium (within a Religious Institution or extension of existing Columbarium only)
Nature Trail	Crematorium (within a Religious Institution or extension of existing Crematorium only)
On-Farm Domestic Structure	Field Study/Education/Visitor Centre
Picnic Area	Firing Range
Public Convenience	Flat
Tent Camping Ground	Golf Course
Wild Animals Protection Area	Government Refuse Collection Point
	Government Use (not elsewhere specified)
	Helicopter Landing Pad
	Holiday Camp
	House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes)
	Petrol Filling Station
	Place of Recreation, Sports or Culture
	Public Transport Terminus or Station
	Public Utility Installation
	Public Vehicle Park (excluding container vehicle)
	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
	Religious Institution
	Residential Institution
	Rural Committee/Village Office
	School
	Service Reservoir
	Social Welfare Facility
	Utility Installation for Private Project
	Zoo

(please see next page)

GREEN BELT (cont'd)

Planning Intention

The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.

Remarks

Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

CONSERVATION AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (other than Plant Nursery) Nature Reserve Nature Trail On-Farm Domestic Structure Wetland Habitat Wild Animals Protection Area	Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) House (Redevelopment only) Public Convenience Public Utility Installation Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Utility Installation for Private Project

Planning Intention

This zoning is intended to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment from the adverse effects of development.

There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.

Remarks

- (a) No redevelopment, including alteration and/or modification, of an existing house, shall result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan.
- (b) Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

CONSERVATION AREA (1)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use (Fish Pond Culture Only) Nature Reserve Nature Trail On-Farm Domestic Structure Wetland Habitat Wild Animals Protection Area	Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) House (Redevelopment only) Public Convenience Public Utility Installation Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Utility Installation for Private Project

Planning Intention

The planning intention of this zone is to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem at Hoo Hok Wai area. The “no-net-loss in wetland” principle is adopted for any change in use within this zone. The primary intention is to discourage new development unless it is required to support the conservation of the ecological integrity of the wetland ecosystem or the development is an essential infrastructure project with overriding public interest.

Remarks

- (a) No redevelopment, including alteration and/or modification, of an existing house shall result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication in the Gazette of the notice of the draft development permission area plan.
- (b) Any diversion of streams, filling of land/pond or excavation of land, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes, shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the draft development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/C**

EXPLANATORY STATEMENT

**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/C**

EXPLANATORY STATEMENT

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**DRAFT MA TSO LUNG AND HOO HOK WAI
OUTLINE ZONING PLAN NO. S/NE-MTL/C**

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

EXPLANATORY STATEMENT

Note : For the purposes of the Town Planning Ordinance, this statement shall not be deemed to constitute a part of the Plan.

1. INTRODUCTION

This Explanatory Statement is intended to assist an understanding of the draft Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan (OZP) No. S/NE-MTL/C. It reflects the planning intention and objectives of the Town Planning Board (the Board) for various land use zonings of the Plan.

2. AUTHORITY FOR THE PLAN AND PROCEDURE

- 2.1 On 10 September 2004, under the power delegated by the Chief Executive (CE), the then Secretary for Housing, Planning and Lands directed the Board, under section 3(1)(b) of the Town Planning Ordinance (the Ordinance), to prepare a draft plan designating the Ma Tso Lung and Hoo Hok Wai area as a development permission area (DPA). Subsequently on 17 June 2010, the Secretary for Development directed the Board to extend the coverage of the draft DPA plan.
- 2.2 On 30 July 2010, the draft Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/1 was exhibited for public inspection under section 5 of the Ordinance. During the two-month exhibition period, a total of 8 valid representations were received. On 8 October 2010, the representations were published for three weeks for public comments and 1 valid comment was received.
- 2.3 On 25 February 2011, the Board considered the representations and comments and decided to defer the consideration of the representations and comments pending further review by the Planning Department on the land use proposals, in particular on the "Village Type Development" ("V") zones, taking into account the views of the representers and commenters and any other relevant planning considerations.
- 2.4 On 16 June 2011, the CE, under section 8(2) of the Ordinance, agreed to extend the statutory time limit for the Board to submit the draft DPA Plan to the Chief Executive in Council (CE in C) for approval for a period of six months from 30 June 2011 to 30 December 2011.
- 2.5 On 8 September 2011, upon further consideration of the representations and comment to the draft Plan, the Board decided to propose amendments to partially meet a representation by rezoning an area to the northwest of Liu Pok from "Agriculture" ("AGR") to "V" and an area to the northeast of Liu Pok from "V" to "AGR". On 16 September 2011, the proposed amendments were published for public inspection under section 6C(2) of the Ordinance. Upon expiry of the three-week public inspection period, 1 further representation was received. On 11 November 2011, the Board considered the further representation and decided not to

uphold the further representation. The Board decided that the proposed amendments to the DPA Plan would form part of the DPA Plan under section 6F(8) of the Ordinance.

- 2.6 On 21 February 2012, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Ma Tso Lung and Hoo Hok Wai DPA Plan, which was subsequently re-numbered as DPA/NE-MTL/2. On 2 March 2012, the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 was exhibited for public inspection under section 9(5) of the Ordinance.
- 2.7 On 8 February 2013, under the power delegated by the CE, the Secretary for Development directed the Board, under section 3(1)(a) of the Ordinance, to prepare an OZP to cover the Ma Tso Lung and Hoo Hok Wai area.
- 2.8 On ____ 2013, the draft Ma Tso Lung and Hoo Hok Wai OZP No. S/NE-MTL/C (the Plan) was exhibited for public inspection under section 5 of the Ordinance.

3. OBJECT OF THE PLAN

- 3.1 The object of the Plan is to indicate the broad land use zonings for the Ma Tso Lung and Hoo Hok Wai area (the Area) so that development and redevelopment within the Area can be put under statutory planning control. It also provides the planning framework for preparing more detailed non-statutory plans which form the basis for public works planning and site reservation for various uses.
- 3.2 The Plan is to illustrate the broad principles of development and planning control only. It is a small-scale plan and the road alignments and boundaries between the land use zones may be subject to minor alterations as detailed planning proceeds.

4. NOTES OF THE PLAN

- 4.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Planning Scheme Area and in particular zones and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land use planning and control of development to meet changing needs.
- 4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board's website at <http://www.info.gov.hk/tpb>.

5. THE PLANNING SCHEME AREA

- 5.1 The Area covers an area of about 553 ha of land. It is located approximately 2 km to the northwest of Fanling/Sheung Shui. It is bounded by the southern bank of Sham Chun River in the north, Lo Wu Station and Mass Transit Railway (East Rail Line) in the east, Fung Kong Shan in the south as well as Tai Law Hau in the west. The

boundary of the Area is shown by a heavy broken line on the Plan.

- 5.2 The Area commands the cross boundary location in the northernmost rural area of the North District adjoining Shenzhen City in the north. The surroundings are predominantly agricultural spotted with rural settlements. The highest point with an elevation of 183 mPD is located at Tai Shek Mo. Another hilly upland is to the west of Tse Koo Hang with a height of 108 mPD. The extensive lowlands mainly comprise arable land intermixed with clusters of village settlements, abandoned fish ponds, marsh, undisturbed woodlands, vegetated habitats and natural watercourse.
- 5.3 A spectrum of natural habitats including woodland, mixed shrubland, lowland forests, freshwater/brackish wetlands, natural watercourses, abandoned fish ponds and marshy wetland are found in the Area. Hoo Hok Wai, situated at the northern portion of the Area, is a large plain of ecologically sensitive area which consists of a range of ponds, marsh, reedbeds and seasonally wet grassland. Ho Sheung Heung Egrettry, an important breeding site for ardeids particularly for Chinese Pond Heron, is located near Ngam Pin.
- 5.4 There are no significant economic activities in the Area. Only small-scale cultivated land and livestock farms are found near the settlements. A number of cottage workshops and open storage sites, however, have been established in the Area. Some economic activities tailored to the unique landscape and resources, including agriculture and aquaculture/fisheries, can also be found in the Area.
- 5.5 The graded historic building within the Area is MacIntosh Fort at Ma Tso Lung (Grade 2), which is worthy of preservation.

6. POPULATION

According to the 2011 Population Census, the total population within the Area was 1,000 persons. It is expected that the total planned population of the Area would be about 2,101 persons.

7. OPPORTUNITIES AND CONSTRAINTS

7.1 Opportunities

7.1.2 Tourism

The rural landscape, natural features, fishponds/wetlands with the rural villages in traditional setting and orderly pattern form tranquil and scenic attractions of the Area. The hilly landscaped areas to the south of Hoo Hok Wai at Ma Tso Lung have an elevated position with expansive views over the wetland system. The wetland system with its extensive bird populations creates opportunities for bird watching and the relatively lower ecological value of the hilly area presents opportunities to develop an eco-lodge. Liu Pok is well-preserved in its traditional rural village setting with fishponds and agricultural land in front of the village and the green backdrop of buried grounds and hilly landscaped areas at the back. All of these create an attractive atmosphere that can be celebrated through appropriate tourism

activities.

7.1.3 Economic and Employment

The proposed development in the Area will enhance economic and employment opportunities. The provision of land for the proposed eco-lodge at the hillside of Ma Tso Lung could provide job opportunities for the locals while enhancement of the leisure and recreational opportunities such as birdwatching will attract visitors. Supporting uses e.g. cafes, shops, accommodation, markets etc. can be established within the village areas. There are also opportunities for conventional agricultural, tourism and leisure uses e.g. hobby farm. This will provide opportunities for local residents to harness the economic opportunities created by the release of the Frontier Closed Area (FCA). Besides, the proximity to Kwu Tung North New Development Area (NDA) and Lok Ma Chau Loop (with a possible access road through Hoo Hok Wai/Ma Tso Lung) will also provide job opportunities to the local residents.

7.1.4 Agricultural

Large pieces of flat fallow agricultural land are concentrated near Shun Yee San Tsuen, Liu Pok and the strip near Tse Koo Hang. The rehabilitation of fallow farm land and preservation of wet agriculture land would be effective in conserving the rural setting as well as essential to preserve the natural environment and the ecological value in many parts of the FCA.

7.1.5 Nature Conservation

The environmental value of the Hoo Hok Wai in the Area within the wider Deep Bay wetland ecosystem creates visual and ecological opportunities. The ecosystem should be protected and enhanced through existing mechanism provided by the New Nature Conservation Policy so that it can contribute to an environmental corridor which extends from Deep Bay to Ho Sheung Heung Egrettry. Besides, the "no-net-loss in wetland" principle for development in Deep Bay Area as enshrined in 'Town Planning Board Guidelines (No. 12B) for Application for Developments within Deep Bay Area under Section 16 of the Town Planning Ordinance' had been stated in the Notes and the ES of the Plan. The need to revise the Guidelines to cover the HHW area would be further examined upon gazettal of the Plan.

7.2 Constraints

7.2.1 Relief and Geotechnical Aspect

The environmentally important wetlands/fishponds at Hoo Hok Wai and along Ng Tung River present limitation to development within the Area. Extensive natural and hilly landscaped areas at the southern and southwestern parts of the area also restrict opportunities for major development. With hilly topography and occurrence of landslides, majority of the southern part of the Area suffers from high to extreme geological limitations and is mostly unsuitable for development. Such topographic relief imposes geotechnical

constraints on proposed development, and geotechnical assessment would be required for any proposed development involving site formation and slope stabilization works.

7.2.2 Traffic

All vehicular accesses are of a limited capacity and not intended for heavy traffic. Due to the limited transport infrastructure in the Area, uncoordinated development would create problems and hazards to both pedestrian and vehicular traffic. Improvements to transport facilities are required when the Area is released from the FCA in future.

7.2.3 Land Ownership

About 33% of land in the Area are private land. These private land are mainly concentrated in the fish ponds at the northern portion of the Area except those at the northern and western periphery of Hoo Hok Wai, Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok to the north.

7.2.4 Environmental

Part of the Area fall within the consultation zone for the Sheung Shui Water Treatment Works. Also, Lo Wu Firing Range and the nearby helipads are major source of noise pollution in the vicinity. Any new development should be subject to noise impact assessment.

7.2.5 Ecological Aspect

The ecological importance of Hoo Hok Wai poses a major development constraint to the Area. According to the findings of the "Land Use Planning for the Closed Area – Feasibility Study" and the Ecological Field Survey of Hoo Hok Wai, the contiguous wetland complex in Hoo Hok Wai is generally of high ecological importance. Not only is it an important foraging and roosting area for wetland-dependent species, in particular large waterbirds and Eurasian Otter which is a threatened species, but it also contains an important flight line corridor linking the wetlands in Hoo Hok Wai and the Inner Deep Bay area. Developments and man-made disturbances in this area should be avoided as far as possible.

7.2.6 Sewerage

The Area is currently not served by any public sewerage system, Septic tanks and soakaway pits are commonly used in traditional villages. Subject to availability of funds, village sewerage will be provided to Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok under Public Works Programme Item No. 4203 DC/B "North District Sewerage Stage 2 Part 2B". There is otherwise no public sewerage works planned for the Area. As the Area falls within the Deep Bay catchment, no additional pollution loading should be discharged into Deep Bay as a result of any new proposed developments. On-site treatment facilities as an alternative to connection to public sewers may not be possible as such facilities are unlikely to comply with the requirement of "no net increase in pollution load to Deep Bay". The

inadequacies of sewerage infrastructure will pose a constraint to the development of the Area.

7.2.7 Overhead Transmission Lines

There are 400 kV overhead lines running across the southern part of the Area between Fung Kong Shan and Tsung Yuen. Relevant guidelines in Chapter 7 of the Hong Kong Planning Standards and Guidelines should be observed.

7.2.8 Burial Grounds

The permitted burial grounds for indigenous villagers are proposed to be retained and should be refrained and protected from development.

7.2.9 Heritage and Cultural Features

The MacIntosh Fort at Ma Tso Lung in the Area is a Grade 2 historic building worthy of preservation. Prior consultation with the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be made if any development, redevelopment or rezoning proposal might affect the above historic building/structure and its immediate environs.

8 GENERAL PLANNING INTENTION

- 8.1 In January 2008, the Security Bureau announced that about 2,400 hectares of land will be released from the Closed Area in phases. The Study on Land Use Planning for the Closed Area was commissioned by the Government to formulate a planning framework to guide the conservation and development of the land to be released from the Closed Area. The Study recognizes the strategic role of the Closed Area for creation of a conservation, cultural heritage and sustainable development belt between HKSAR and Shenzhen City.
- 8.2 The Study also indicates the need to strengthen nature conservation of rich natural resources, to conserve cultural heritage resources worthy of preservation, to promote sustainable uses by capitalizing on the boundary location and to allow suitable development compatible with the surroundings so as to achieve a balance between conservation and development in the Closed Area.
- 8.3 The Planning Scheme Area is situated at the western portion of the Closed Area and comprises ecologically valuable wetland, fishponds, hilly terrain, agricultural land, village settlements and traditional buildings. The general planning intention of the Area is to protect the natural setting, environmental diversity and to promote heritage conservation and recreation tourism. It is also the planning intention to conserve the rural character, the natural habitats including the undisturbed woodland and lowland river habitats and the unique landscape as well as the ecologically important areas and the upland scene of the Area.

9. LAND USE ZONINGS

9.1 "Village Type Development" ("V") : Total Area 6.33 ha

- (a) The planning intention of this zone is to designate both existing recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructure and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House (NTEH). Other commercial, community and recreational uses may be permitted on application to the Board. In order to provide opportunities for short-term accommodation in existing NTEH, "Hotel (Holiday House only)" may also be permitted on application to the Board. The accommodation can complement any proposed agricultural and recreational uses to promote village life experience, leisure farming and agri-tourism.
- (b) Liu Pok is the only recognized village in the Area and is zoned "V". The boundary of "V" zone is drawn up having regard to the existing village 'environs', outstanding Small House applications, Small House demand forecast, local topography, existing settlement pattern, ecologically important areas and other site specific characteristics. Areas of difficult terrain, dense vegetation, burial grounds and streamcourses have been avoided where possible.
- (c) Except for those specified, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is the greater.
- (d) In order to address the concerns on potential impacts from developments on existing stream courses in general, it is suggested that the Lands Department when processing Small House grant and applications in close proximity to existing stream courses, concerned departments including the Agriculture, Fisheries and Conservation Department and Planning Department should be consulted to ensure that all relevant departments would have adequate opportunity to review and comment on the applications.
- (e) To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.
- (f) As diversion of streams may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activity.

9.2 "Government, Institution or Community" ("G/IC") : Total Area 7.93 ha

- (a) This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.
- (b) Existing facilities under this zoning include MacIntosh Fort at Ma Tso Lung, Lo Wu Correctional Institution, Lo Wu Saddle Club opposite Tsung Yuen, the flood shelter near Tak Yuet Lau, Tak Yuet Lau Police Post, Tai Shek Mo Observation Post and two raw water tunnel portals for Water Supplies Department located near Ma Tso Lung San Tsuen in the west and Ng Tung River in the east respectively.

9.3 "Other Specified Uses" ("OU") : Total Area 14.62 ha

The sites zoned "OU" on the Plan include the following as annotated on the Plan:

"OU (Eco-lodge)" : Total Area 9.15 ha

- (a) The planning intention for this zone is to provide for sustainable-based tourism in the form of an eco-lodge for development of low-rise, low-density resort-type accommodation. The proposed development shall not have adverse impact on the local environment and shall adopt best practice/green architecture/sustainable principles in design, construction and operation. Uses in support of the resort-type accommodation as well as active and/or passive recreational developments may be permitted subject to planning permission.
- (b) The small knoll to the west of Tse Koo Hang is zoned "OU(Eco-lodge)" and it possesses expansive views over the environmentally sensitive fishponds/wetlands of Hoo Hok Wai which serves as a valuable natural setting, but relatively untouched due to restricted public access and physical separation. The site is accessible to high value ecological areas and can be linked with recreational uses as well as historical and cultural interest in the Closed Area.
- (c) Any future development should integrate with the natural topography to provide a low impact sustainable tourism facility that will directly benefit the preservation/appreciation of the surrounding environmental resources and also provide opportunities to enhance the well-being of local residents. The eco-lodge should preferably be constructed on stilts to minimize site formation on the natural landscape of the site.
- (d) Application for development within this zone shall be in the form of a comprehensive development scheme including a layout plan and relevant supporting documents for consideration of the Board. To blend in with the natural landscape and the surrounding rural environment, no new development, or addition, alteration and/or modification to or redevelopment of an existing building within this zone shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.2 and a maximum building height of 6m. The built structure should be 1 storey over stilts to allow the building to be lifted off the ground to minimize site disturbance and permit

variation in building height to create visual interest in the development.

- (e) When opportunity arises, it is desirable to designate the whole proposed eco-lodge area as "OU(Eco-lodge)" within one statutory plan to achieve the future planning intention as stated above and for better planning control purpose.

"OU (Firing Range)" : Total Area 5.47 ha

The Lo Wu Firing Range is zoned "OU (Firing Range)". It is an ex-military site currently allocated to the Hong Kong Police Force for firearm training purpose.

9.4 "Agriculture" ("AGR") : Total Area 38.42 ha

- (a) This zone is intended primarily to retain and safeguard good quality agricultural land, farm and fish ponds for agricultural purposes. It is also intended to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes.
- (b) Most of the agricultural land of good quality are found in western and central part of the Area. With basic agricultural infrastructure, including irrigation facilities, fallow arable land can be easily rehabilitated for agricultural purpose. On the other hand, the agricultural land to the west and north of Liu Pok has the potential to provide low intensity leisure farming or organic farming to promote village life experience.
- (c) As diversion of streams or filling of land/pond may cause adverse drainage and environmental impacts on the adjacent areas, permission from the Board is required for such activities. However, filling of land for genuine agricultural practice including laying of soil not exceeding 1.2m in thickness for cultivation, and construction of agricultural structure with prior written approval from the Lands Department is exempted from the control.

9.5 "Green Belt" ("GB") : Total Area 234.64 ha

- (a) The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to preserve the existing topography and natural vegetation as well as to provide passive recreational outlets. There is a general presumption against development within this zone. However, limited developments may be permitted if they are justified on strong planning grounds. Developments requiring planning permission from the Board will be assessed on their individual merits taking into account the relevant Town Planning Board Guidelines.
- (b) The "GB" zone mainly includes the woodland and densely vegetated hillslopes at Ma Tso Lung, Tai Shek Mo, and Tse Koo Hang, and the permitted burial grounds for indigenous villagers. The burial grounds have been in existence for many years, which are considered as an existing use and intended for burial places of deceased indigenous villagers in the Area.
- (c) The "GB" zone also includes the planted mitigation woodland in the northeastern Hoo Hok Wai area (adjacent to Sham Chun River), two ruderal vegetation areas and two planted woodlands alongside the border road and the marsh located to

the north of Liu Pok which forms a buffer area between the Hoo Hok Wai wetland ecosystem and the village type developments in Liu Pok.

- (d) As diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities.

9.6 "Conservation Area" ("CA") : Total Area 10.81 ha

- (a) This zoning is intended to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment from the adverse effects of development. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.
- (b) Ho Sheung Heung Egretty is one of the largest egrettries in Hong Kong with increasing number of breeding birds in recent decade. The Ho Sheung Heung Egretty together with its peripheral secondary woodland and fishponds are zoned "CA" to protect and conserve the ecological value of the egretty and associated habitat, to protect the natural landscape and topographical features as well as to restrict further development in the immediate vicinity of the egretty.
- (d) Within the "CA" zone, redevelopment of an existing house shall not result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication of the draft DPA plan.
- (e) Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

9.7 "Conservation Area (1)" ("CA (1)") : Total Area 228.37 ha

- (a) The planning intention of this zone is to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem at Hoo Hok Wai area. The "no-net-loss in wetland" principle is adopted for any change in use within this zone. The primary intention is to discourage new development unless it is required to support the conservation of the ecological integrity of the wetland ecosystem or the development is an essential infrastructure project with overriding public interest.
- (b) The "CA(1)" zone covers the extensive fish ponds that occupy a majority of the Hoo Hok Wai area and the freshwater marshes which forms an integral part of the Hoo Hok Wai area. These features are to be protected and conserved in order to maintain the ecological integrity of the Deep Bay wetland ecosystem as a whole.

- (c) Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

10 COMMUNICATIONS

10.1 Road Network

The central part of the Area is served by Ma Tso Lung Road. It is a very narrow and sub-standard single track access with carriageway width less than 5m. The eastern part of the Area is served by the single two-lane Ho Sheung Heung Road. The northern part of the Area, Hoo Hok Wai, is mainly served by the single-lane Border Road. There are also narrow village roads scattered in the Area to serve the residents, especially the clustered population at Liu Pok, Ma Tso Lung San Tsuen and Shun Yee San Tsuen.

10.2 Public Transport

Given its remote location, restricted access and sparse population, the Area is not well served by any public transport facilities. There is a green minibus route (No. 51K) plying between the Area and Sheung Shui East Rail Station with restricted services. There are also locally run buses serving Ma Tso Lung San Tsuen and Shun Yee San Tsuen to connect to Sheung Shui East Rail Station.

11 UTILITY SERVICES

11.1 Sewerage and Drainage System

11.1.1 The Area is susceptible to flooding during rainy seasons. To ameliorate the flooding problem in the Area, training of a section of the natural stream to the northwest of Shun Yee San Tsuen was completed under the project "Drainage Improvement Works in Ki Lun Tsuen, Kwu Tung, Ma Tso Lung and Sha Ling in New Territories" in 2011. Most parts of the Area are flood prone because they lie on a tidal flood plain with a high ecological value which prevents major drainage improvement works. Major developments should be subject to Drainage Impact Assessment to address the local drainage impacts on areas in the vicinity, as well as the provision of proper drainage facilities for the development.

11.1.2 The Area is currently not served by any public sewerage system. Septic tanks and soakaway pits are commonly used in traditional villages. Subject to availability of funds, village sewerage will be provided to Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok under Public Works Programme Item No. 4203 DC/B "North District Sewerage Stage 2 Part 2B". There is otherwise no public sewerage works planned for the Area. As the Area falls within the Deep Bay catchment, no additional pollution loading should be discharged into Deep Bay as a result of any new proposed developments. On-site treatment facilities as an alternative to connection to public sewers may not be possible as such facilities are

unlikely to comply with the requirement of "no net increase in pollution load to Deep Bay". The inadequacies of sewerage infrastructure will pose a constraint to the development of the Area.

11.2 Water Supply

11.2.1 Potable water supply is generally available in the Area. Liu Pok in the north is served by Table Hill Fresh Water Service Reservoir while rest of the Area is served by Kwu Tung Fresh Water Service Reservoir, both outside the Area. Supply of seawater for flushing is not available and fresh water is used instead currently. Upgrading of the existing water supply system may be required for new developments.

11.2.2 Water Supplies Department (WSD) Western Aqueduct including various sizes of water mains, tunnels and the corresponding portals are located within the Area. Advice from WSD should be sought in protecting these waterworks facilities.

11.3 Other Public Utility Services

11.3.1 Solid waste disposal relies on small refuse collection points scattered throughout the Area. Collected wastes are transported to the North East New Territories Landfill for disposal.

11.3.2 Electricity supply and telephone networks are available in the Area. There is however no existing piped gas system in the Area.

12 CULTURAL HERITAGE

The MacIntosh Fort at Ma Tso Lung in the Area is a Grade 2 historic building worthy of preservation. The Antiquities Advisory Board (AAB) also released a list of new items in addition to the list of 1,444 historic buildings. These items are subject to the grading assessment by the AAB. Details of the list of 1,444 historic buildings and the new items have been uploaded onto the official website of the AAB at <http://www.aab.gov.hk>. Prior consultation with the AMO of the Leisure and Cultural Services Department should be made if any development, redevelopment or rezoning proposals might affect the above graded historic buildings/structures, new items pending grading assessment and its immediate environs.

13. IMPLEMENTATION

13.1 The Plan provides a broad land use framework for development control and implementation of planning proposals for the Area. More detailed plans will be prepared as a basis for public works planning and private developments.

13.2 At present, there is no definite programme for the provision of comprehensive infrastructure within the Area. The implementation process will be gradual and may stretch over a long period of time depending on the availability of resources. It will be undertaken through the participation of both the public and private sectors.

- 13.3 Notwithstanding the above, minor improvement works e.g. widening of access road and laying of utility services will be implemented through the Public Works Programme and the Rural Public Works as and when resources are available. Private developments will be effected principally through private sector initiatives to develop or redevelop their properties in accordance with the zoned uses indicated on the Plan, provided that their proposals meet Government requirements.

14. PLANNING CONTROL







- 14.1 The types of permitted developments and uses on land within the Area are listed in the Notes to the Plan. Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted developments and uses within the same zone are always permitted and no separate permission is required.
- 14.2 Uses of land or building which were in existence immediately before the first publication in the Gazette of the notice of the draft DPA plan and which are not in compliance with the terms of the Plan may have adverse impact on the environment, drainage and traffic of the area. Although no action is required to make such use conform to the Plan, any material change of such use or any other development (except minor alteration and/or modification to the development of the land or building in respect of such use which is always permitted) must be always permitted in terms of the Plan or, if permission is required, in accordance with a permission granted by the Board. The Board will consider these applications on their individual merits. Those alteration and/or modification works which may lead to an environmental improvement or upgrading to the Area may be considered favourably by the Board.
- 14.3 Planning applications to the Board will be assessed on individual merits. In general, the Board, in considering planning applications, will take into account all relevant planning considerations including guidelines published by the Board. Guidelines published by the Board are available from the Board's website, the Secretariat of the Board and the Technical Services Division of the Planning Department. Application forms and Guidance Notes for planning application can be downloaded from the Board's website and are available from the Secretariat of the Board, the Technical Services Division and relevant District Planning Office of the Planning Department. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.
- 14.4 Any development, other than those referred to in paragraph 14.1 above or in conformity with this plan or with the permission of the Board, undertaken or continued on land included in this plan on or after the date of the first publication in the Gazette of the notice of the draft DPA plan may be subject to enforcement proceedings under the Ordinance. Any filling of land/pond, excavation of land or diversion of streams in the relevant zones on or after the first publication in the Gazette of the notice of the draft DPA plan without permission from the Board may also be subject to enforcement proceedings. Moreover, there is a presumption against filling of ponds for temporary land uses/developments in conservation-related zonings, such as "CA" and "CA(1)".

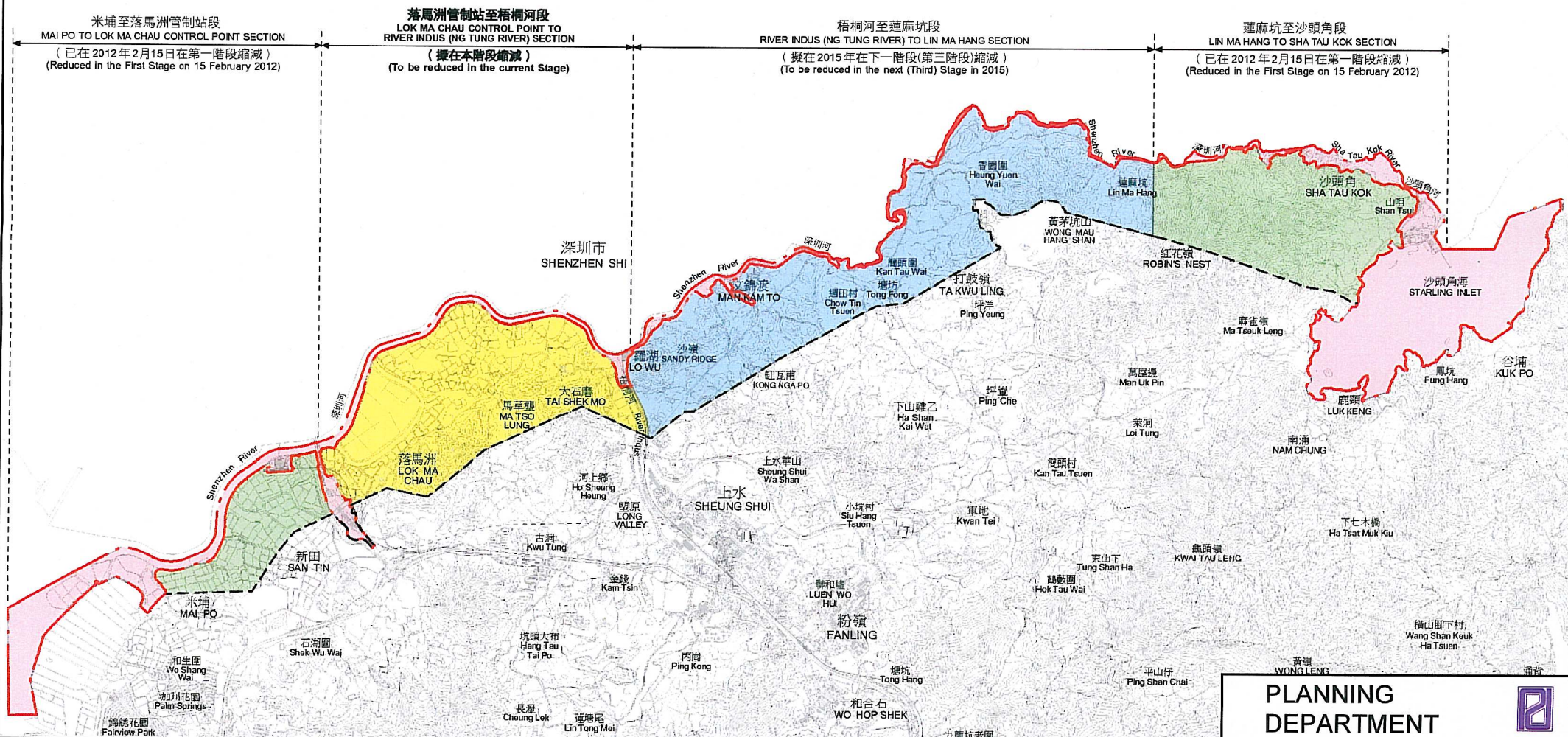
TOWN PLANNING BOARD
_____ 2013

邊境禁區圖

PLAN OF FRONTIER CLOSED AREA

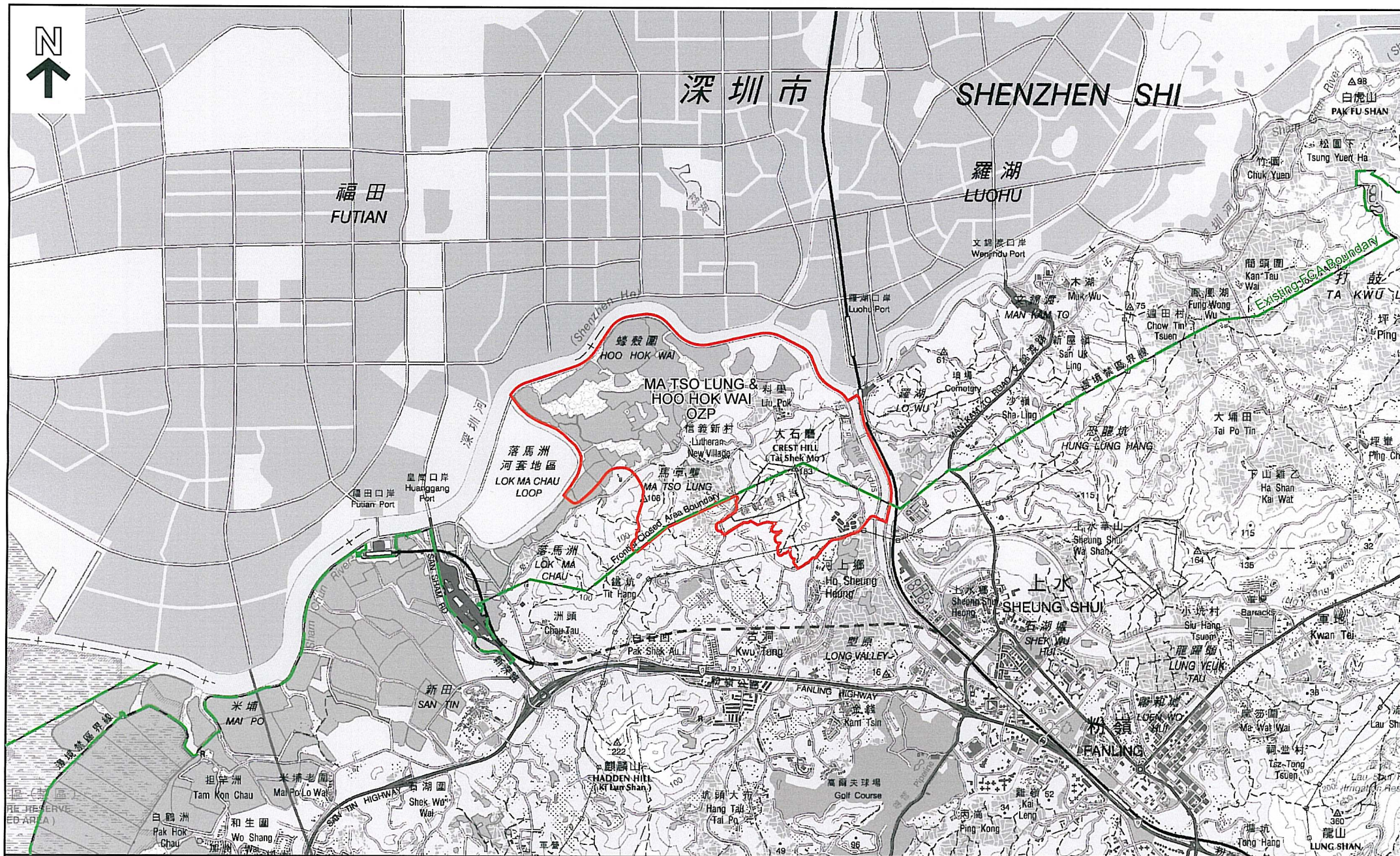
圖例 LEGEND

- | | | | |
|---|---|---|---|
|  | 縮減後的邊境禁區
Frontier Closed Area after reduction |  | 縮減後的邊境禁區界線
Frontier Closed Area Boundary after reduction |
|  | 擬在本階段縮減的邊境禁區範圍
FCA Area to be reduced in the current Stage |  | 釋放前的禁區界線
Existing (before reduction) FCA Boundary |
|  | 已在第一階段縮減的邊境禁區範圍
FCA Area reduced in the First Stage | | |
|  | 擬在第三階段縮減的邊境禁區範圍
FCA Area to be reduced in the Third Stage | | |



PLANNING
DEPARTMENT





EXTRACT PLAN PREPARED ON 23.4.2013
BASED ON SERIES HM50C/1 & HM50C/2

LOCATION PLAN OF MA TSO LUNG
& HOO HOK WAI

SCALE 1: 50 000



PLANNING
DEPARTMENT

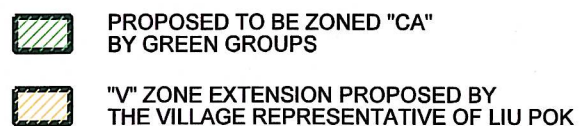


REFERENCE No.

M/NE/13/44A

PLAN 2

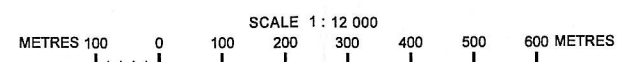
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MAJOR LAND USE PROPOSALS RAISED BY REPRESENTERS



PLAN 3

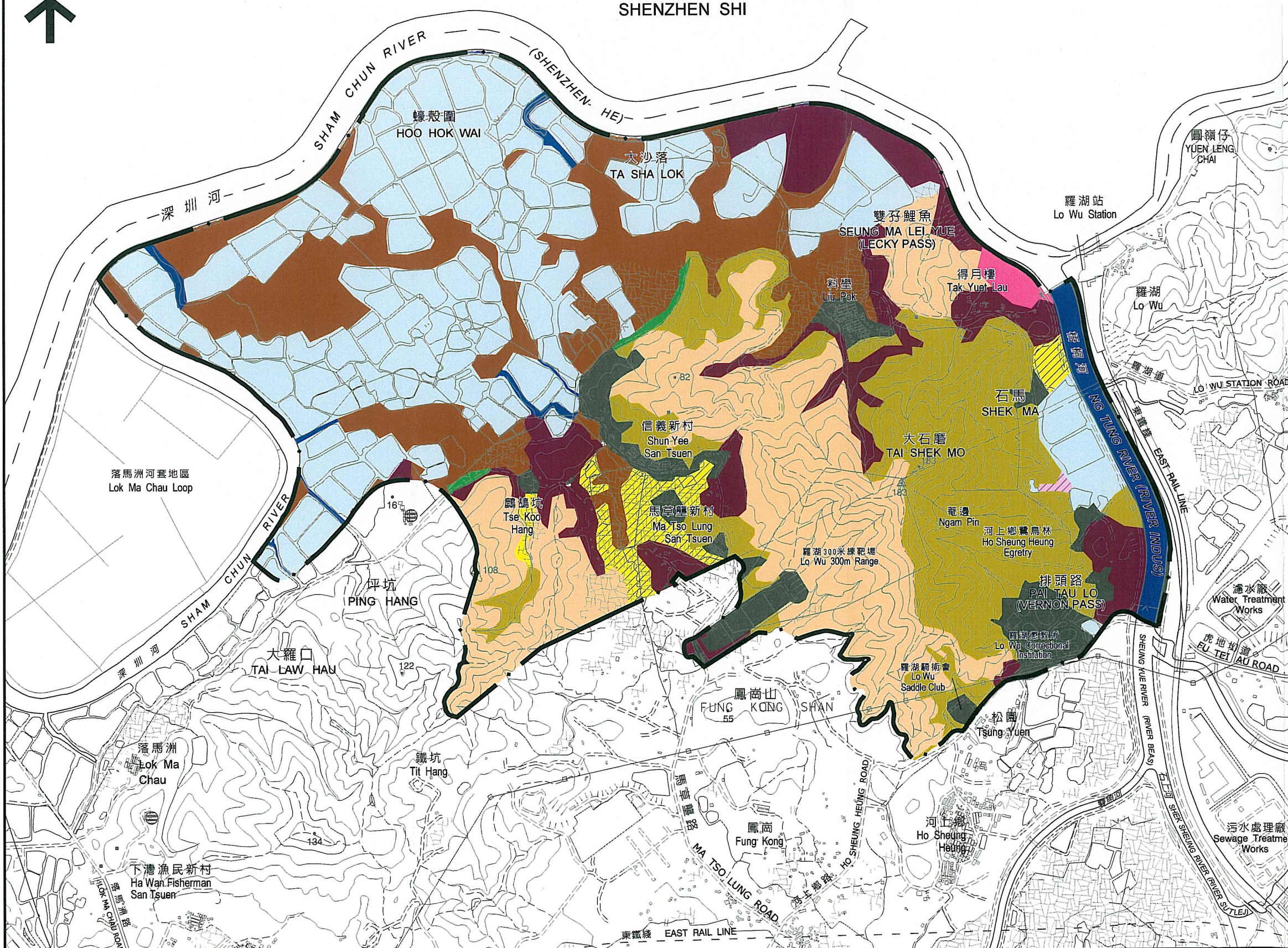




深圳市
SHENZHEN SHI

LEGEND

- BOUNDARY OF MA TSO LUNG & HOO HOK WAI PLANNING SCHEME AREA
- POND
- MAJOR STREAM / DRAINAGE CHANNEL
- MARSH / REEDBED
- INACTIVE WET AGRICULTURAL LAND
- SEASONALLY WET GRASSLAND
- LOWLAND GRASSLAND
- UPLAND GRASSLAND
- SHRUBLAND
- SECONDARY WOODLAND / PLANTATION
- DEVELOPED LAND
- WASTELAND
- RUDERAL VEGETATION



EXTRACT PLAN PREPARED ON 17.4.2013
BASED ON SERIES HM20C SHEETS 2 & 3

HABITAT MAP OF MA TSO LUNG & HOO HOK WAI

SCALE 1 : 15 000

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/44A

PLAN 4



MACINTOSH FORT (MA TSO LUNG) (GRADE 2)
(PHOTO TAKEN ON 27.2.2013)



LEGEND

— • — BOUNDARY OF MA TSO LUNG & HOO HOK WAI
PLANNING SCHEME AREA

GRADED BUILDINGS

① MACINTOSH FORT (MA TSO LUNG) (GRADE 2)

EXTRACT PLAN PREPARED ON 16.4.2013
BASED ON SERIES HM20C SHEETS 2 & 3

CULTURAL HERITAGE PLAN OF MA TSO LUNG & HOO HOK WAI

SCALE 1 : 15 000

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/44A

PLAN 5

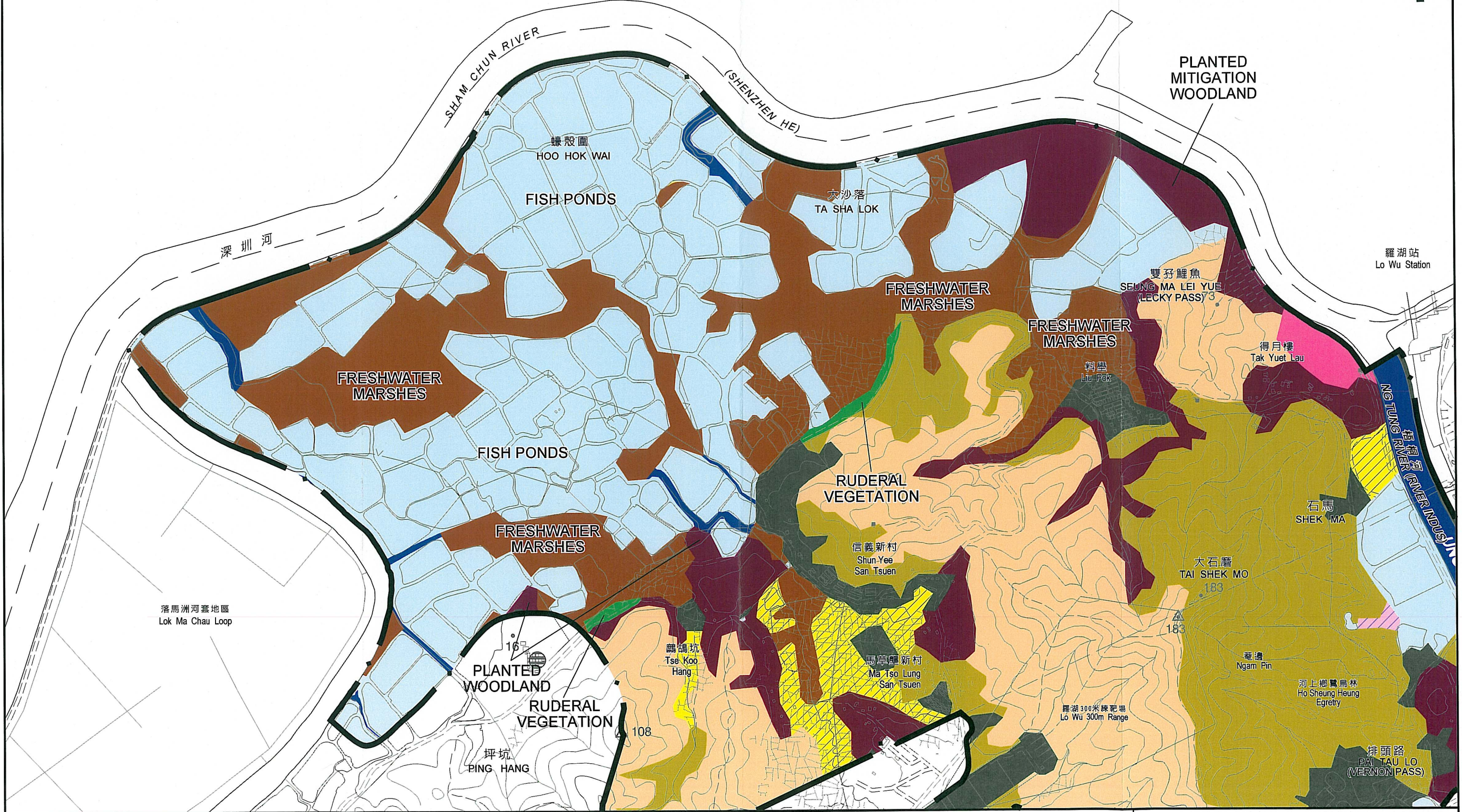


SCALE 1 : 7 500



PLAN 6

深圳市
SHENZHEN SHI



EXTRACT PLAN PREPARED ON 24.4.2013
BASED ON DEVELOPMENT PERMISSION
AREA PLAN No. DPA/NE-MTL/2
APPROVED ON 21.2.2012

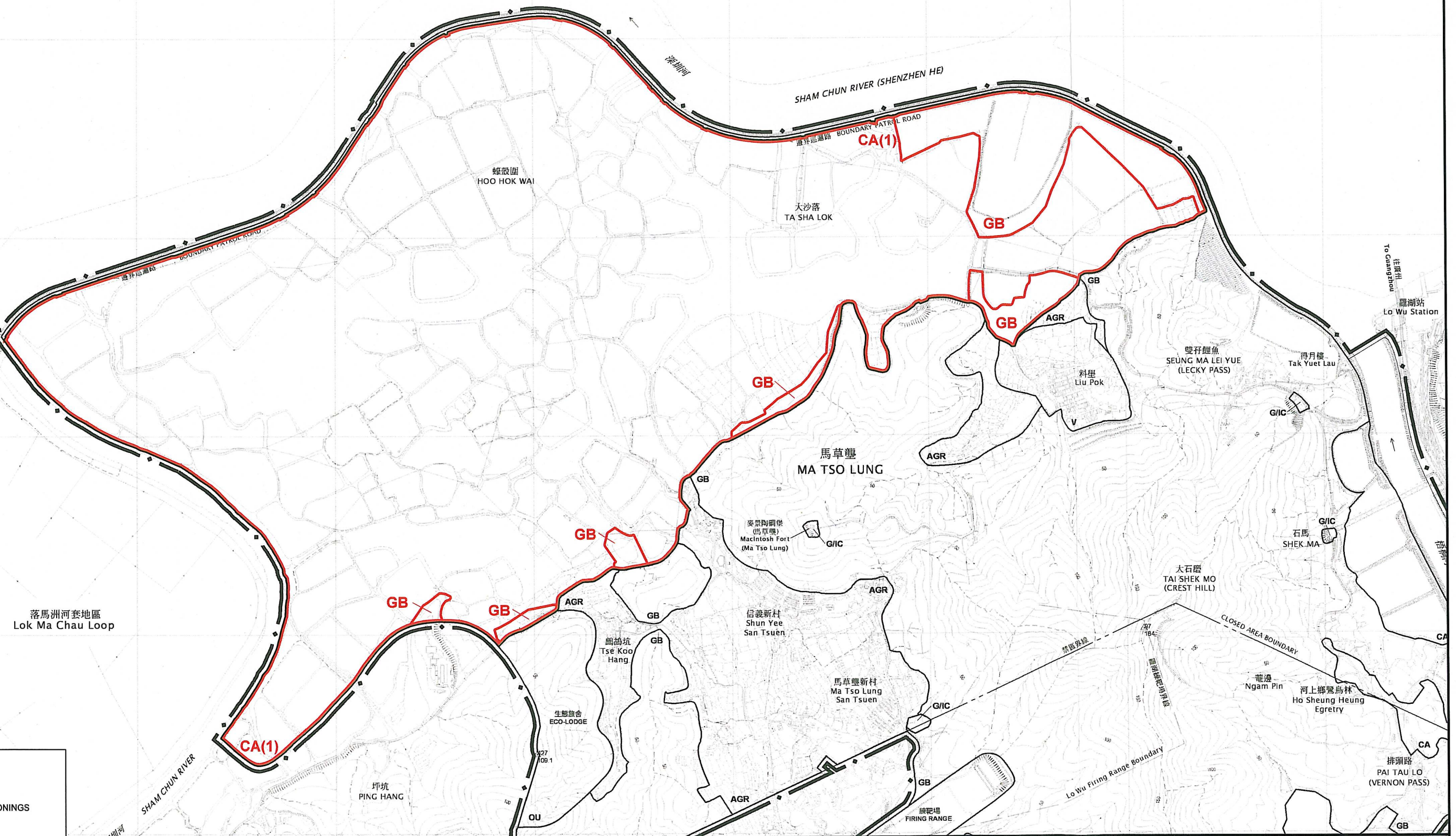
HABITAT MAP OF HOO HOK WAI

SCALE 1 : 10 000

PLANNING DEPARTMENT 

REFERENCE No.
M/NE/13/44A

PLAN 7



LEGEND

 PROPOSED ZONINGS

EXTRACT PLAN PREPARED ON 24.4.2013
BASED ON DEVELOPMENT PERMISSION
AREA PLAN No. DPA/NE-MTL/2
APPROVED ON 21.2.2012

PROPOSED ZONINGS FOR THE "UNSPECIFIED USE" AREA OF HOO HOK WAI

SCALE 1 : 10 000

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/44A


PLAN 8



AERIAL PHOTO

PROPOSED ZONINGS FOR THE "UNSPECIFIED USE" AREA OF HOO HOK WAI

EXTRACT PLAN PREPARED ON 24.4.2013
 BASED ON ORTHOPHOTO 2011 PREPARED
 BY LANDS DEPARTMENT

PLANNING DEPARTMENT 	
REFERENCE No. M/NE/13/44A	PLAN 9



ZONING BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

SITE PHOTO

PROPOSED ZONINGS FOR THE "UNSPECIFIED USE" AREA OF HOO HOK WAI

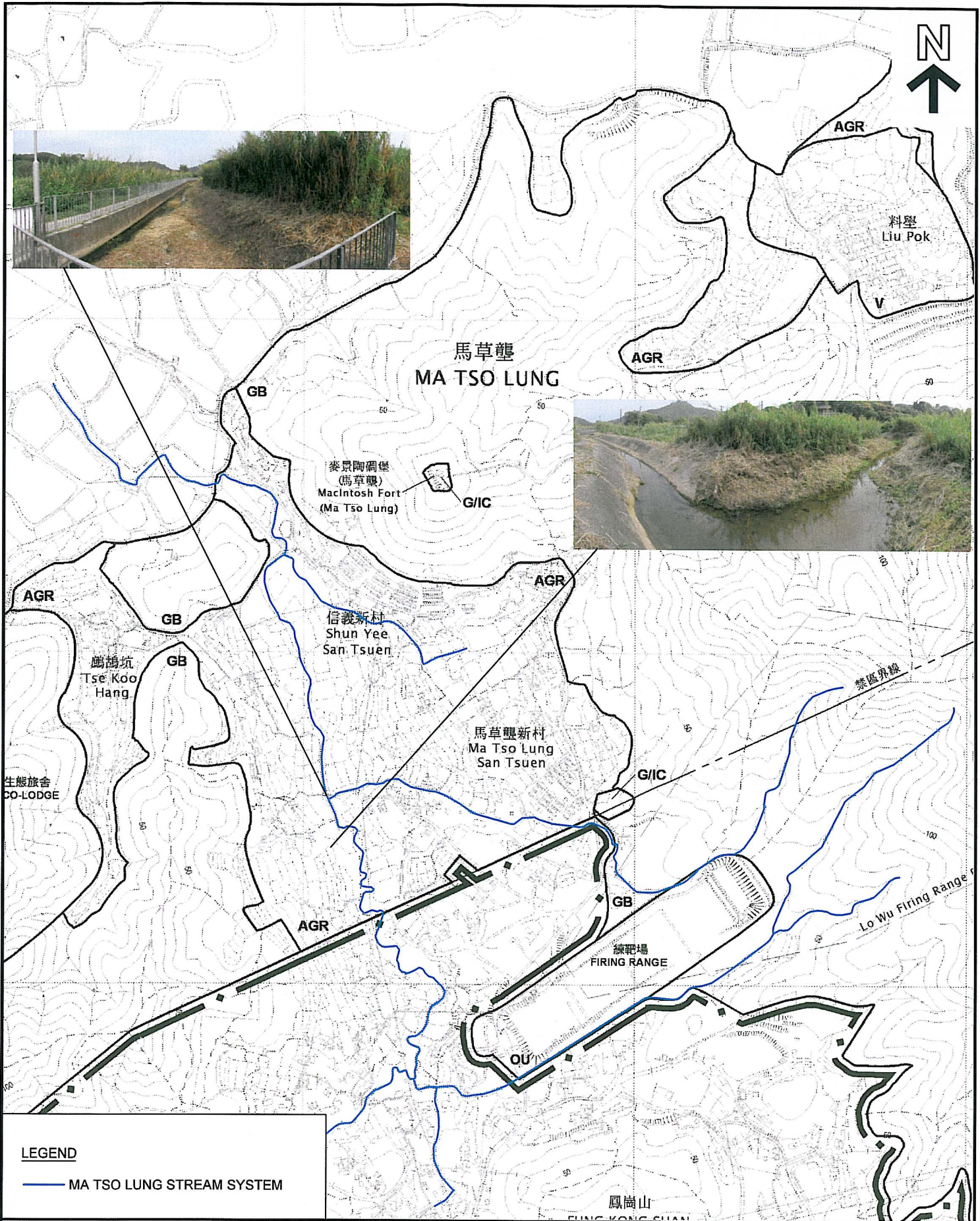
PLAN PREPARED ON 24.4.2013 BASED ON
SITE PHOTO TAKEN ON 27.2.2013

PLANNING DEPARTMENT

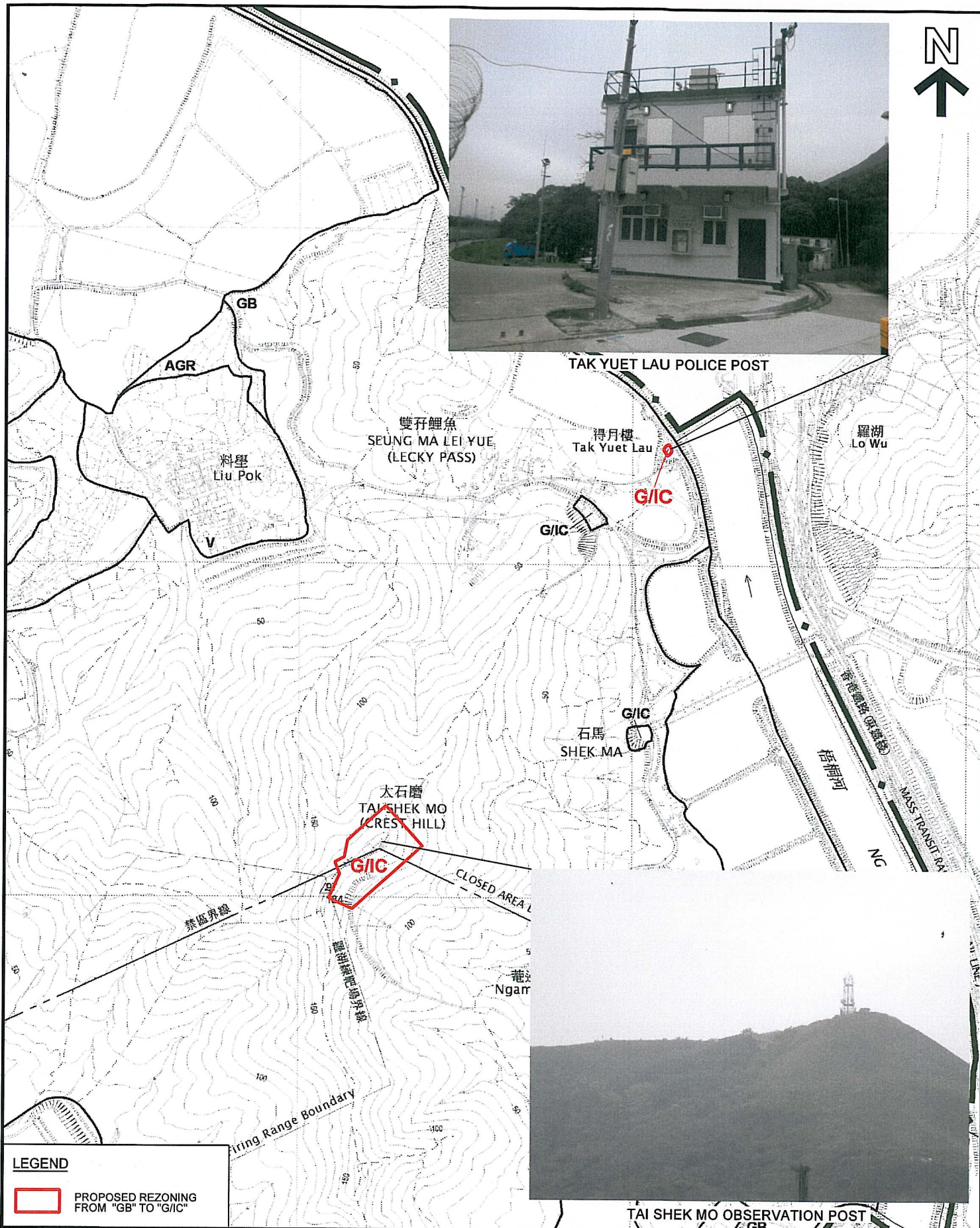


REFERENCE No.
M/NE/13/44A

PLAN 10



<p>EXTRACT PLAN PREPARED ON 24.4.2013 BASED ON DEVELOPMENT PERMISSION AREA PLAN No. DPA/NE-MTL/2 APPROVED ON 21.2.2012</p>	<p>REVIEW OF THE ZONINGS FOR MA TSO LUNG STREAM</p> <p>SCALE 1 : 7 500</p>	<p>PLANNING DEPARTMENT</p> <p>REFERENCE No. M/NE/13/44A</p> <p>PLAN 11</p>
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LEGEND



PROPOSED REZONING
FROM "GB" TO "G/IC"

EXTRACT PLAN PREPARED ON 24.4.2013
BASED ON DEVELOPMENT PERMISSION
AREA PLAN No. DPA/NE-MTL/2
APPROVED ON 21.2.2012

PROPOSED REZONING OF EXISTING
GOVERNMENT, INSTITUTION OR COMMUNITY
USES FROM "GB" TO "G/IC"

SCALE 1 : 7 500

PLANNING
DEPARTMENT



REFERENCE No.
M/NE/13/44A

PLAN
12

PLANNING REPORT ON MA TSO LUNG AND HOO HOK WAI

**SHA TIN, TAI PO AND NORTH
DISTRICT PLANNING OFFICE
PLANNING DEPARTMENT**

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ATTACHMENTS

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1. INTRODUCTION

1.1 Purpose of the Planning Report

The purpose of the Planning Report is to give an account of the background and an appraisal of the existing conditions, characteristics and development requirements of the Ma Tso Lung and Hoo Hok Wai area (the Area). It aims to provide a basis for the preparation of the Ma Tso Lung and Hoo Hok Wai Outline Zoning Plan (OZP) for the Area and the formulation of a planning framework to guide future development.

1.2 Background

- 1.2.1 On 10.9.2004, under the power delegated by the Chief Executive (CE), the then Secretary for Housing, Planning and Lands directed the Board, under section 3(1)(b) of the Town Planning Ordinance (the Ordinance), to prepare a draft plan designating the Ma Tso Lung and Hoo Hok Wai area as a development permission area (DPA). Subsequently on 17.6.2010, the Secretary for Development directed the Board to extend the coverage of the draft DPA plan.
- 1.2.2 On 30.7.2010, the draft Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/1 was exhibited for public inspection under section 5 of the Ordinance. During the two-month exhibition period, a total of 8 valid representations were received. On 8.10.2010, the representations were published for three weeks for public comments and 1 valid comment was received.
- 1.2.3 On 25.2.2011, the Board considered the representations and comments and decided to defer the consideration of the representations and comments pending further review by the Planning Department on the land use proposals, in particular on the "Village Type Development" ("V") zones, taking into account the views of the representers and commenters and any other relevant planning considerations.
- 1.2.4 On 16.6.2011, the CE, under section 8(2) of the Ordinance, agreed to extend the statutory time limit for the Board to submit the draft DPA Plan to the Chief Executive in Council (CE in C) for approval for a period of six months from 30.6.2011 to 30.12.2011.
- 1.2.5 On 8.9.2011, upon further consideration of the representations and comment to the draft Plan, the Board decided to propose amendments to partially meet a representation by rezoning an area to the northwest of Liu Pok from "Agriculture" ("AGR") to "V" and an area to the northeast of Liu Pok from "V" to "AGR". On 16.9.2011, the proposed amendments were published for public inspection under section 6C(2) of the Ordinance. Upon expiry of the three-week public inspection period, 1 further

representation was received. On 11.11.2011, the Board considered the further representation and decided not to uphold the further representation. The Board decided that the proposed amendments to the DPA Plan would form part of the DPA Plan under section 6F(8) of the Ordinance. About 246 ha of land/fish pond in the northern part of the Area was zoned "Unspecified Use" pending a detailed study on the development content to be undertaken in future. A 12-month ecological survey was conducted from January 2012 to January 2013. The findings of the survey would form the basis for determining the appropriate zoning of this area.

- 1.2.6 On 21.2.2012, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Ma Tso Lung and Hoo Hok Wai DPA Plan, which was subsequently re-numbered as DPA/NE-MTL/2. On 2.3.2012, the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 (the Plan) was exhibited for public inspection under section 9(5) of the Ordinance.
- 1.2.7 In accordance with section 20(5) of the Ordinance, the DPA Plan is effective for three years unless extension is obtained from CE in C. On 8.2.2013, under the power delegated by the CE, the Secretary for Development directed the Board, under section 3(1)(a) of the Ordinance, to prepare an OZP to cover the Area.

2. THE PLANNING SCHEME AREA

2.1 Location

The Area covers an area of about 553 ha of land. It is located approximately 2 km to the northwest of Fanling/Sheung Shui. It is bounded by the southern bank of Sham Chun River in the north, Lo Wu Station and Mass Transit Railway (East Rail Line) in the east, Fung Kong Shan in the south as well as Tai Law Hau in the west. The boundary of the Area is shown by a heavy broken line on the Plan (**Appendix 1**). The location of the Area is shown in **Figure 1**.

2.2 The Surrounding Area

The Area commands the cross boundary location in the northernmost rural area of the North District adjoining Shenzhen City in the north. The surroundings are predominantly agricultural land spotted with rural settlements. An aerial view and an overview of the Area and its surroundings are shown in **Figure 2**.

2.3 Physical Setting and Topography (Figure 3)

- 2.3.1 Hoo Hok Wai, situated at the northern portion of the Area, is a large plain of ecologically sensitive area which consists of ponds, marsh, reedbeds and seasonally wet grassland as shown in the

Habitat Map. Inactive agricultural areas can be found in the north-eastern area around rural settlement of Liu Pok.

- 2.3.2 The southern portion of the Area is dominated by a succession of grassy, hilly terrain extending from Chau Tau and Ma Tso Lung eastward to Tai Shek Mo and Ngam Pin, providing a natural shield to Hoo Hok Wai. A small valley forms through the west of the non-indigenous village of Ma Tso Lung. The area is generally flat fallow agricultural land that is dominated by seasonally wet grassland.
- 2.3.3 On the eastern side of the Area, Tai Shek Mo provides dominating hilly terrain that has a strong presence in the local visual setting with an elevation of 183 mPD. Another hilly upland is to the west of Tse Koo Hang with a height of 108 mPD. The extensive lowlands mainly comprise arable land intermixed with clusters of village settlements, abandoned fish ponds, marsh, undisturbed woodlands, vegetated habitats and natural watercourse.
- 2.3.4 Ho Sheung Heung Egretty is located at the eastern base of Tai Shek Mo near Ngam Pin and is an important breeding site for ardeids particularly for Chinese Pond Heron. Ho Sheung Heung Egretty is one of the largest egrettries in Hong Kong, and adjacent to the estuary flows Ng Tung River which forms the eastern boundary of the Area. The flat areas adjoining Ng Tung River are occupied by a number of habitats from developed land and waste land to ponds and secondary woodland.
- 2.3.5 The northern portion of the Area is occupied by a spectrum of natural habitats including woodland, mixed shrubland, lowland forests, freshwater/brackish wetlands, natural watercourses, abandoned fish ponds and marshy wetland.

2.4 Population and Employment

- 2.4.1 According to the 2011 Population Census, the Area had a population of about 1,000 persons. The population is mainly concentrated in the recognized village of Liu Pok and the settlements of Ma Tso Lung San Tsuen and Shun Yee San Tsuen.
- 2.4.2 Economic activities are limited in the Area owing to the environmentally sensitive landscape and topography. Only small-scale cultivated land and livestock farms are found near the settlements. In addition, a number of cottage workshops and open storage sites have been established in the eastern foothill of Tai Shek Mo and some economic activities tailored to the unique landscape and resources, including agriculture and aquaculture/fisheries, can be found.

2.5 Existing Land Uses

Major existing land uses of the Area include the following (**Figure 4**):

2.5.1 Rural Settlements

Existing rural settlements are mainly located in the recognized village at Liu Pok and rural settlements at Ma Tso Lung San Tsuen and Shun Yee San Tsuen. Liu Pok is the only recognized village in the Area. A majority of the village houses in Liu Pok are typical Small House of three-storey high. Ma Tso Lung San Tsuen and Shun Yee San Tsuen are made up of two-storey high terrace houses arranged in an orderly pattern. Scattered village houses and on-farm domestic structures are also found in the lowland in Tse Koo Hang, Ma Tso Lung San Tsuen and Shun Yee San Tsuen and near the ponds at the foothill in the eastern part, some of which are in dilapidated conditions and left vacant.

2.5.2 Agricultural Use

2.5.2.1 Large stretches of agricultural land are found in the flat land at Ma Tso Lung San Tsuen, Tse Koo Hang and adjoining the northern part of Liu Pok. However, most of them are fallow since farming activities in the Area are diminishing. Growing of traditional crops is concentrated in Tse Koo Hang while horticulture and plant nurseries are scattered at the lowland area near Ma Tso Lung San Tsuen and Ngam Pin/Pai Tau Lo.

2.5.2.2 Contiguous large abandoned fish ponds are clustered in the eastern foothill along Ng Tung River and some small ones are scattered in the area. Fish pond culture is still practiced in some of the ponds.

2.5.3 Burial Grounds

Two burial grounds are located at the hill slopes near Liu Pok and Ho Sheung Heung

2.5.4 Government, Institution and Community (GIC) Uses (**Figure 5**)

Major existing facilities under this zoning include MacIntosh Fort at Ma Tso Lung, Lo Wu Correctional Institution, Lo Wu Saddle Club opposite Tsung Yuen, the flood shelter near Tak Yuet Lau, Tak Yuet Lau Police Post, the Tai Shek Mo Observation Post and two raw water tunnel portals for Water Supplies Department located near Ma Tso Lung San Tsuen in the west and Ng Tung River in the east respectively.

2.5.5 Land Ownership

About 67% of the land in the southeastern portion of the Area is Government land (**Figure 6**). Private lots are largely

concentrated in the fish ponds at the northern portion of the Area except those at the northern and western periphery of Hoo Hok Wai, Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok to the north.

2.6 Transportation Facilities

- 2.6.1 The central part of the Area is served by Ma Tso Lung Road. It is a very narrow and sub-standard single track access with carriageway width less than 5m. The eastern part of the Area is served by the single two-lane Ho Sheung Heung Road. The northern part of the Area, Hoo Hok Wai, is mainly served by the single-lane Border Road. There are also narrow village roads scattered in the Area to serve the residents, especially the clustered population at Liu Pok, Ma Tso Lung San Tsuen and Shun Yee San Tsuen.
- 2.6.2 The Area is not well served by public transport facilities due to access restriction, remoteness and sparse population. There is a green minibus route (No. 51K) plying between the Area and Sheung Shui East Rail Station with restricted services. There are also locally-run buses serving Ma Tso Lung San Tsuen and Shun Yee San Tsuen to connect Sheung Shui East Rail Station.

2.7 Infrastructure and Utility Services

2.7.1 Water Supply

- 2.7.1.1 Portable water supply for the Area is generally available in the Area. The northern part of the Area including Liu Pok falls within the water supply zone of Table Hill Fresh Water Service Reservoir. For the rest of the area, supply of fresh water is provided by Kwu Tung Fresh Water Service Reservoir. Currently freshwater is used for flushing in the Area as supply of seawater is not available.
- 2.7.1.2 Water Supplies Department (WSD) Western Aqueduct including various sizes of water mains, tunnels and the corresponding portals are located within the Area. Advice from WSD should be sought in protecting these waterworks facilities.

2.7.2 Drainage and Sewerage

- 2.7.2.1 The Area is susceptible to flooding during rainy seasons. To ameliorate the flooding problem in the Area, training of a section of the natural stream to the northwest of Shun Yee San Tsuen was completed under the project "Drainage Improvement Works in Ki Lun Tsuen, Kwu Tung, Ma Tso Lung and Sha Ling in New Territories" in

2011. Most parts of the Area are flood prone because they lie on a tidal flood plain with a high ecological value which prevents major drainage improvement works. Major developments should be subject to Drainage Impact Assessment to address the local drainage impacts on areas in the vicinity, as well as the provision of proper drainage facilities for the development.

2.7.2.2 The Area is currently not served by any public sewerage system. Septic tanks and soakaway pits are commonly used in traditional villages. Subject to availability of funds, village sewerage will be provided to Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok under Public Works Programme Item No. 4203 DC/B "North District Sewerage Stage 2 Part 2B". There is otherwise no public sewerage works planned for the Area. As the Area falls within the Deep Bay catchment, no additional pollution loading should be discharged into Deep Bay as a result of any new proposed developments. On-site treatment facilities as an alternative to connection to public sewers may not be possible as such facilities are unlikely to comply with the requirement of "no net increase in pollution load to Deep Bay". The inadequacies of sewerage infrastructure will pose a constraint to the development of the Area.

2.7.3 Solid Waste

Solid waste disposal relies on small refuse collection points scattered throughout the Area. Collected wastes are transported to North East New Territories Landfill for disposal.

2.7.4 Electricity, Telephone and Gas Supply

There is no existing piped gas system in the Area. Electricity supply and telephone networks are available in the Area.

2.8 Heritage and Cultural Features

The MacIntosh Fort at Ma Tso Lung is a Grade 2 historic building in the Area worthy of preservation (Figure 8). Prior consultation with the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be made if any development, redevelopment or rezoning proposal might affect the above historic building/structure and its immediate environs.

3. PLANNING ANALYSIS

Within the Area, the following broad development constraints and opportunities

are identified (Figure 7)

3.1 Development Constraints

3.1.1 Relief and Geotechnical Aspect

The environmentally important wetlands/fishponds at Hoo Hok Wai and along Ng Tung River present limitation to development within the Area. Extensive natural and hilly landscaped areas at the southern and southwestern parts of the area also restrict opportunities for major development. With hilly topography and occurrence of landslides, majority of the southern part of the Area suffers from high to extreme geological limitations and is mostly unsuitable for development. Such topographic relief imposes geotechnical constraints on proposed development, and geotechnical assessment would be required for any proposed development involving site formation and slope stabilization works.

3.1.2 Traffic

All vehicular accesses are of a limited capacity and not intended for heavy traffic. Due to the limited transport infrastructure in the Area, uncoordinated development would create problems and hazards to both pedestrian and vehicular traffic. Improvements to transport facilities are required when the Area is released from the FCA in future.

3.1.3 Land Ownership

About 33% of land in the Area are private land. These private land are mainly concentrated in the fish ponds at the northern portion of the Area except those at the northern and western periphery of Hoo Hok Wai, Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok to the north (Figure 6).

3.1.4 Environmental

Part of the Area fall within the consultation zone for the Sheung Shui Water Treatment Works. Also, Lo Wu Firing Range and the nearby helipads are major source of noise pollution in the vicinity. Any new development should be subject to noise impact assessment.

3.1.5 Ecological Aspect

The ecological importance of Hoo Hok Wai poses a major development constraint to the Area. According to the findings of the "Land Use Planning for the Closed Area – Feasibility Study" and the Ecological Field Survey of Hoo Hok Wai, the contiguous wetland complex in Hoo Hok Wai is generally of high ecological

importance. Not only is it an important foraging and roosting area for wetland-dependent species, in particular large waterbirds and Eurasian Otter which is a threatened species, but it also contains an important flight line corridor linking the wetlands in Hoo Hok Wai and the Inner Deep Bay area. Developments and man-made disturbances in this area should be avoided as far as possible.

3.1.6 Sewerage

The Area is currently not served by any public sewerage system. Septic tanks and soakaway pits are commonly used in traditional villages. Subject to availability of funds, village sewerage will be provided to Ma Tso Lung San Tsuen, Shun Yee San Tsuen and Liu Pok under Public Works Programme Item No. 4203 DC/B "North District Sewerage Stage 2 Part 2B". There is otherwise no public sewerage works planned for the Area. As the Area falls within the Deep Bay catchment, no additional pollution loading should be discharged into Deep Bay as a result of any new proposed developments. On-site treatment facilities as an alternative to connection to public sewers may not be possible as such facilities are unlikely to comply with the requirement of "no net increase in pollution load to Deep Bay". The inadequacies of sewerage infrastructure will pose a constraint to the development of the Area.

3.1.7 Overhead Transmission Lines

There are 400 kV overhead lines running across the southern part of the Area between Fung Kong Shan and Tsung Yuen. Relevant guidelines in Chapter 7 of the Hong Kong Planning Standards and Guidelines should be observed.

3.1.8 Burial Grounds

The permitted burial grounds for indigenous villagers are proposed to be retained and should be refrained and protected from development.

3.1.9 Heritage and Cultural Features

The MacIntosh Fort at Ma Tso Lung in the Area is a Grade 2 historic building worthy of preservation (**Figure 8**). Prior consultation with the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be made if any development, redevelopment or rezoning proposal might affect the above historic building/structure and its immediate environs.

3.2 Development Opportunities

3.2.1 Tourism

The rural landscape, natural features, fishponds/wetlands with the rural villages in traditional setting and orderly pattern form tranquil and scenic attractions of the Area. The hilly landscaped areas to the south of Hoo Hok Wai at Ma Tso Lung have an elevated position with expansive views over the wetland system. The wetland system with its extensive bird populations creates opportunities for bird watching and the relatively lower ecological value of the hilly area presents opportunities to develop an eco-lodge. Liu Pok is well-preserved in its traditional rural village setting with fishponds and agricultural land in front of the village and the green backdrop of buried grounds and hilly landscaped areas at the back. All of these create an attractive atmosphere that can be celebrated through appropriate tourism activities,

3.2.2 Economic and Employment

The proposed development in the Area will enhance economic and employment opportunities. The provision of land for the proposed eco-lodge at the hillside of Ma Tso Lung could provide job opportunities for the locals while enhancement of the leisure and recreational opportunities such as birdwatching will attract visitors. Supporting uses e.g. cafes, shops, accommodation, markets etc. can be established within the village areas. There are also opportunities for conventional agricultural, tourism and leisure uses e.g. hobby farm. This will provide opportunities for local residents to harness the economic opportunities created by the release of the Frontier Closed Area (FCA). Besides, the proximity to Kwu Tung North New Development Area (NDA) and Lok Ma Chau Loop (with a possible access road through Hoo Hok Wai/Ma Tso Lung) will also provide job opportunities to the local residents.

3.2.3 Agricultural

Large pieces of flat fallow agricultural land are concentrated near Shun Yee San Tsuen, Liu Pok and the strip near Tse Koo Hang. The rehabilitation of fallow farm land and preservation of wet agricultural land would be effective in conserving the rural setting as well as essential to preserve the natural environment and the ecological value in many parts of the FCA.

3.2.4 Nature Conservation

The environmental value of the Hoo Hok Wai in the Area within the wider Deep Bay wetland ecosystem creates visual and ecological opportunities. The ecosystem should be protected and enhanced through existing mechanism provided by the New Nature Conservation Policy so that it can contribute to an

environmental corridor which extends from Deep Bay to Ho Sheung Heung Egrettry. Besides, the “no-net-loss in wetland” principle for development in Deep Bay Area as enshrined in ‘Town Planning Board (TPB) Guidelines (No. 12B) for Application for Developments within Deep Bay Area under Section 16 of the Town Planning Ordinance’ had been stated in the Notes and the ES of the Plan. The need to revise the Guidelines to cover the HHW area would be further examined upon gazettal of the Plan.

3.3 Review of Zoning Boundaries

Review of “Village Type Development” Zone

- 3.3.1 As agreed by the TPB on 8 September 2011, the following established criteria have been adopted in reviewing the “V” zones:
- (a) The current “V” zones on the DPA Plan will be extended if the available land for SH development within the “V” zones cannot meet the demand figures. “V” zone areas adjusted should be within or contiguous to the ‘VE’ and should preferably include Government land, if available, in the vicinity and take due considerations of the topography, woodlands, roads, streams, burial grounds and ecological features etc.
 - (b) The “V” zones would be adjusted to meet the increased demand figure but up to the limit equivalent to the area bounded by the ‘VE’.
 - (c) The current “V” zones on the DPA Plan will not need to be adjusted if the available land for SH development within the “V” zones is sufficient to meet the increase demand figure. As such, the area of “V” zones would remain smaller than that of ‘VE’.
 - (d) In determining land for SH developments, both government land and private land would be considered.
- 3.3.2 In the event that the designated “V” zones (albeit size already adjusted to match the size of the ‘VE’) are still not sufficient to meet the future demand, there is provision under the Notes of the draft OZP for planning applications of SH developments to the Town Planning Board.
- 3.3.3 Following the current practice, the District Lands Officer/North, Lands Department (DLO/N, LandsD) was approached to provide the latest Small House (SH) demand figures. The information provided by DLO/N has taken account of the outstanding SH applications and the 10-year demand forecast supplied by the

Indigenous Inhabitants Representatives. It should be noted that the 10-year SH demand forecasts have not been supported by evidence and will not be subject to verification by DLO/N. However, if there is a substantial increase between the updated 10-year demand figure and the figure previously adopted when preparing the DPA Plan, the latter would be adopted in the preparation of the Plan unless strong justifications are received by the respective Village Representatives.

- 3.3.4 The existing conditions within the “V” zones and in the immediate vicinities within the Ma Tso Lung and Hoo Hok Wai area have been reviewed. As there is no substantial increase between the updated 10-year demand forecast and the figure previously adopted when preparing the DPA Plan, the updated demand figure of 2012 provided by DLO/N has been adopted. Based on the updated demand figures of 2012 from DLO/N, the “V” zones within the Area were reviewed in an attempt to meet the SH demand. On-site surveys were carried out on the boundaries of the “V” zones, taking into account the existing ‘VE’, local topography, settlement patterns, ecologically important areas and other site specific characteristics including vegetations, burial grounds and stream courses etc.
- 3.3.5 As there is no substantial increase between the updated 10-year demand figure and the figure previously adopted when preparing the DPA Plan, the current demand figure has been adopted. It is noted that there is a slight increase in total SH demand for Liu Pok from 349 to 353, as compared with the figure adopted in the preparation of the Plan and those presented to the Board during the hearings of representations/comments in 2011 (**Appendix I**). As the boundaries of the respective “V” zone have been fully deliberated at the hearing in 2011 and there is no significant change in planning circumstances, no change is proposed for Liu Pok as the size of the existing “V” zone is already equivalent to the size of the ‘VE’ of the recognized village (**Figures 9 and 10**).

Review of Area Shown as “Unspecified Use” at Hoo Hok Wai

- 3.3.6 Hoo Hok Wai (HHW), situated at the northern portion of the Area, stretching from the east of Lok Ma Chau Loop to Liu Pok, is a large plain of ecologically sensitive wetland that comprises fishponds, freshwater marshes, reedbed and seasonally wet grassland which form an integral part of the Deep Bay wetland ecosystem. The HHW area is mostly shown as “Unspecified Use” on the draft Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2 (the DPA Plan) currently in force.
- 3.3.7 An Ecological Field Survey of Hoo Hok Wai (the Survey) has been undertaken to identify the ecological values at various parts of the HHW area. The results of the survey and the proposals on appropriate zonings for respective areas are summarized below

(Figures 11, 12 and 13):

- (a) the extensive fish ponds that occupy majority of the HHW area are rated as of **high** ecological value due to their importance to waterbirds including ardeids (鷺鳥) and spoonbills (琵鷺) and other wetland-dependent species, including the globally-threatened Eurasian Otter (歐亞水獺)¹, and their strong ecological linkages with other wetlands within the Deep Bay area, including the Mai Po Inner Deep Bay Ramsar Site². In view of its ecological significance, this part of the HHW area is proposed to be zoned "CA(1)" (para. 4.5.8 refers) to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem;
- (b) the freshwater marshes which forms an integral part of the HHW area are largely rated as of **high** ecological value. These freshwater marshes are known to support a rare community of reed-associated species and Eurasian Otter. It is considered appropriate to zone the marshes "CA(1)" (para. 4.5.8 refers) to reflect the ecological value of the marshes and to conserve the ecological integrity of the HHW wetland ecosystem; and
- (c) the remaining part of the area is recommended to be zoned "GB" due to their relatively less importance in ecological value, in order to define the limits of development areas by natural features and to preserve the existing topography and natural vegetation. These areas include the planted mitigation woodland in the northeastern HHW area³, the marsh located to the north of Liu Pok⁴, two ruderal vegetation areas⁵ and two planted woodlands alongside the border road⁶.

¹ There are records of Eurasian Otter throughout the year from widespread parts of the area from the northeast near Shenzhen River to Lok Ma Chau Loop, and HHW appears to be one of the last remaining strongholds of this threatened species in the whole of the Pearl River Delta region.

² Such linkages are expressed in the form of flight lines linking HHW with breeding areas at Ho Sheung Heung and foraging and roosting areas elsewhere in the Deep Bay area.

³ The planted mitigation woodland in the northeast of the HHW area, adjacent to Shenzhen River, is the largest in the Study Area and supports a typical suite of woodland flora species common and widespread in HK; however, its isolation from woodland areas of the central New Territories (NT) and adjacent parts of Guangdong province means it is unlikely to develop a community of flora and fauna typical of mature forest. The planted mitigation woodland is thus rated as of **moderate** ecological value.

⁴ This marsh lacks reed marsh and fewer fauna of conservation significance were recorded therein, and as a result is rated as of **moderate** ecological value.

⁵ The two narrow ruderal areas alongside the boundary fence road are rated as of **low** ecological value due to their low diversity of flora and fauna, limited linkage with adjacent habitats and low abundance/richness of wildlife.

⁶ These self-sown woodland areas are rated as of **moderate** ecological value as they are fragmented from mature woodland of central NT, has limited scope for further enhancement and have moderate abundance of wildlife and low to moderate ecological diversity.

Review of Ma Tso Lung Stream and Its Riparian Area (Figures 14 and 15)

- 3.3.8 Kadoorie Farm and Bontanic Garden (KFBG) and World Wildlife Fund (WWF) in November 2012 and January 2013 discussed their proposals with PlanD regarding the Ma Tso Lung stream and its riparian area which is currently zoned mostly “AGR” and “Green Belt”(“GB”) on the DPA Plan. They reported that two endangered species, *Somanniathelphusa zanklon* (鐮刀束腰蟹) which is classified as ‘Globally Endangered’ in the International Union for Conservation of Nature (IUCN) redlist and *Cuora trifasciata* (金錢龜) which is classified as ‘Globally Critically Endangered’ in the IUCN redlist have been found in the stream. Therefore, it is proposed that the stream and its riparian area should be covered with at least “CA” zone. However, according to the “Land Use Planning for the Closed Area – Feasibility Study”, Ma Tso Lung stream is a narrow, partially-channelised stream that appears to provide suitable habitat for fish and odonates, with low to moderate abundance/richness of wildlife. Its ecological value is constrained by the modification that has occurred to the stream. It was also noted that the riparian area of Ma Tso Lung stream was predominately covered by weeds and shrubs. Based on the assessments above, it is considered appropriate to retain the current “AGR” and “GB” zonings which should provide adequate protection to the stream and its riparian area. Under the remarks of “AGR” and “GB” zones, permission from the Board is required for diversion of streams or filling of land/pond which may cause adverse drainage and environmental impacts on the adjacent areas. AFCD agrees to the “AGR” and “GB” zonings for this area.
- 3.3.9 Regarding KFBG and WWF’s concerns on potential impacts of developments, in particular small houses within “V” zone, on existing stream courses in the Area, it should be noted that in accordance with the Environmental, Transport and Works Bureau’s Technical Circular (Works) No. 5/2005, under the current administrative practice, development proposals/submissions that may affect natural streams/rivers, the approving/processing authorities at various stages of the development should consult and collate comments from the Agriculture, Fisheries and Conservation Department (AFCD) and relevant authorities and incorporate relevant comments/advice as conditions of approval wherever possible. Accordingly, LandsD when processing Small House grant and applications in close proximity to existing stream course, should consult concerned departments including AFCD and PlanD to ensure that all relevant departments would have adequate opportunity to review and comment on the applications. It is suggested to clearly state this requirement in the Explanatory Statement of the “V” zone that when processing Small House grant and applications in close proximity to existing stream courses, AFCD and PlanD should be

consulted. Besides, any diversion of streams or filling of pond to effect any permitted uses would also require permission from the Board in accordance with the Notes of the “V” zone.

Existing Government, Institution or Community Uses (Figures 16 and 17)

- 3.3.10 In order to reflect the two existing government uses on the Plan, it is proposed to rezone two sites which are currently utilized by the HKPF from the current “GB” zone to “Government, Institution or Community” (“G/IC”) zone. The two concerned sites are Tak Yuet Lau Police Post and the Tai Shek Mo Observation Post.

4. PLANNING PROPOSALS

4.1 The Outline Zoning Plan (OZP)

The draft Ma Tso Lung and Hoo Hok Wai OZP (the Plan) prepared under section (3)(1)(a) of the Town Planning Ordinance (the Ordinance) is to provide a statutory basis for planning control over the Area. It will supersede the approved Ma Tso Lung and Hoo Hok Wai DPA Plan No. DPA/NE-MTL/2, which was exhibited for public inspection under section 9(5) of the Ordinance on 2.3.2012. Uses and development that are always permitted and those uses that require permission from the Board upon application in various land-use zones are set out in a schedule of Notes attached to the Plan. Also accompanying the Plan is an Explanatory Statement to assist an understanding of the Plan and to reflect the planning intentions and objectives of Board for various land-use zonings.

4.2 Objectives of the Plan

The objective of the Plan is to establish the broad land use zonings to provide a statutory planning control and guidance for future development of the Area and to enable enforcement actions to be taken against any unauthorized development. It also provides a general planning framework for preparing more detailed non-statutory plans which form the basis for planning and site reservation for various uses.

4.3 Planning Intention

- 4.3.1 The strategic role of the FCA is recognized for creation of a conservation, cultural heritage and sustainable development belt between HKSAR and Shenzhen City. There is a need to strengthen nature conservation of rich natural resources, to conserve cultural heritage resources worthy of preservation, to promote sustainable uses by capitalizing on the boundary location and to allow suitable development compatible with the surroundings so as to achieve a balance between conservation and development in the FCA.

- 4.3.2 The Area is situated at the western portion of the FCA and

comprises ecologically valuable wetland, fishponds, hilly terrain, agricultural land, village settlements and traditional buildings. The general planning intention of the Area is to protect the natural setting, environmental diversity and to promote heritage conservation and recreation tourism. It is also the planning intention to conserve the rural character, the natural habitats including the undisturbed woodland and lowland river habitats and the unique landscape as well as the ecologically important areas and the upland scene of the Area.

4.4 Population and Provision of GIC Facilities

4.4.1 Population

Based on the following proposed land uses, the future expansion of population in the Area will be concentrated in the recognized villages of Liu Pok. It is estimated that the planned population of the Area will reach about 2,101 persons.

4.4.2 GIC Facilities

Based on the planned population, the requirements for open space and GIC facilities in the Area are summarized at **Appendix II**. The required provisions will either be met within the Area or at the adjoining areas in Kwu Tung and Fanling/Sheung Shui.

4.5 Land Use Proposals

In the designation of various land use zones in the Area, consideration has been given to the natural environment, physical landform, vegetation, existing development pattern, demand for Small Houses, and availability of infrastructure. The following land uses proposed to be designated on the Plan (**Figure 19**):

4.5.1 “Village Type Development” (“V”) : Total Area 6.33 ha

- (a) The planning intention of this zone is to designate both existing recognized village and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructure and services. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House (NTEH). Other commercial, community and recreational uses may be permitted on application to the Board. In order to provide opportunities for short-term accommodation in existing NTEH, “Hotel (Holiday House only)” may also be

permitted on application to the Board. The accommodation can complement any proposed agricultural and recreational uses to promote village life experience, leisure farming and agri-tourism.

- (b) Liu Pok is the only recognized village in the Area and is zoned "V". The boundary of "V" zone is drawn up having regard to the existing village 'environs', outstanding Small House applications, Small House demand forecast, local topography, existing settlement pattern, ecologically important areas and other site specific characteristics. Areas of difficult terrain, dense vegetation, burial grounds and streamcourses have been avoided where possible.
- (c) Except for those specified, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m) or the height of the building which was in existence on the date of the first publication in the Gazette of the notice of the draft DPA plan, whichever is the greater.
- (d) In order to address the concerns on potential impacts from developments on existing stream courses in general, it is suggested that the Lands Department when processing Small House grant and applications in close proximity to existing stream courses, concerned departments including the Agriculture, Fisheries and Conservation Department and Planning Department should be consulted to ensure that all relevant departments would have adequate opportunity to review and comment on the applications.
- (e) To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the building height restriction may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.
- (f) As diversion of streams may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activity.

4.5.2 "Government, Institution or Community" ("G/IC") : Total Area 7.93 ha

- (a) This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government,

organizations providing social services to meet community needs, and other institutional establishments.

- (b) Existing facilities under this zoning include MacIntosh Fort at Ma Tso Lung, Lo Wu Correctional Institution, Lo Wu Saddle Club opposite Tsung Yuen, the flood shelter near Tak Yuet Lau, Tak Yuet Lau Police Post, Tai Shek Mo Observation Post and two raw water tunnel portals for Water Supplies Department located near Ma Tso Lung San Tsuen in the west and Ng Tung River in the east respectively.

4.5.3 “OU (Eco-lodge)” : Total Area 9.15 ha

- (a) The planning intention for this zone is to provide for sustainable-based tourism in the form of an eco-lodge for development of low-rise, low-density resort-type accommodation. The proposed development shall not have adverse impact on the local environment and shall adopt best practice/green architecture/sustainable principles in design, construction and operation. Uses in support of the resort-type accommodation as well as active and/or passive recreational developments may be permitted subject to planning permission.
- (b) The small knoll to the west of Tse Koo Hang is zoned “OU(Eco-lodge)” and it possesses expansive views over the environmentally sensitive fishponds/wetlands of Hoo Hok Wai which serves as a valuable natural setting, but relatively untouched due to restricted public access and physical separation. The site is accessible to high value ecological areas and can be linked with recreational uses as well as historical and cultural interest in the Closed Area.
- (c) Any future development should integrate with the natural topography to provide a low impact sustainable tourism facility that will directly benefit the preservation/appreciation of the surrounding environmental resources and also provide opportunities to enhance the well-being of local residents. The eco-lodge should preferably be constructed on stilts to minimize site formation on the natural landscape of the site.
- (d) Application for development within this zone shall be in the form of a comprehensive development scheme including a layout plan and relevant supporting documents for consideration of the Board. To blend in with the natural landscape and the surrounding rural environment, no new development, or addition, alteration and/or modification to or redevelopment of an existing building within this zone shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.2 and a maximum building height of 6m. The built structure should be 1 storey over

stilts to allow the building to be lifted off the ground to minimize site disturbance and permit variation in building height to create visual interest in the development.

- (e) When opportunity arises, it is desirable to designate the whole proposed eco-lodge area as “OU(Eco-lodge)” within one statutory plan to achieve the future planning intention as stated above and for better planning control purpose.

4.5.4 “OU (Firing Range)” : Total Area 5.47 ha

The Lo Wu Firing Range is zoned “OU (Firing Range)”. It is an ex-military site currently allocated to the Hong Kong Police Force for firearm training purpose.

4.5.5 “Agriculture” (“AGR”) : Total Area 38.42 ha

- (a) This zone is intended primarily to retain and safeguard good quality agricultural land, farm and fish ponds for agricultural purposes. It is also intended to retain fallow arable land with good potential for rehabilitation for cultivation and other agricultural purposes.
- (b) Most of the agricultural land of good quality are found in western and central part of the Area. With basic agricultural infrastructure, including irrigation facilities, fallow arable land can be easily rehabilitated for agricultural purpose. On the other hand, the agricultural land to the west and north of Liu Pok has the potential to provide low intensity leisure farming or organic farming to promote village life experience.
- (c) As diversion of streams or filling of land/pond may cause adverse drainage and environmental impacts on the adjacent areas, permission from the Board is required for such activities. However, filling of land for genuine agricultural practice including laying of soil not exceeding 1.2m in thickness for cultivation, and construction of agricultural structure with prior written approval from the Lands Department is exempted from the control.

4.5.6 “Green Belt” (“GB”) : Total Area 234.64 ha

- (a) The planning intention of this zone is primarily for defining the limits of urban and sub-urban development areas by natural features and to preserve the existing topography and natural vegetation as well as to provide passive recreational outlets. There is a general presumption against development within this zone. However, limited developments may be permitted if they are justified on strong planning grounds. Developments requiring planning permission from the Board will be assessed on their individual merits taking into account

the relevant Town Planning Board Guidelines.

- (b) The “GB” zone mainly includes the woodland and densely vegetated hillslopes at Ma Tso Lung, Tai Shek Mo, and Tse Koo Hang, and the permitted burial grounds for indigenous villagers. The burial grounds have been in existence for many years, which are considered as an existing use and intended for burial places of deceased indigenous villagers in the Area.
- (c) The “GB” zone also includes the planted mitigation woodland in the northeastern Hoo Hok Wai area (adjacent to Sham Chun River), two ruderal vegetation areas and two planted woodlands alongside the border road and the marsh located to the north of Liu Pok which forms a buffer area between the Hoo Hok Wai wetland ecosystem and the village type developments in Liu Pok.
- (d) As diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment, permission from the Board is required for such activities.

4.5.7 “Conservation Area” (“CA”) : Total Area 10.81 ha

- (a) This zoning is intended to protect and retain the existing natural landscape, ecological or topographical features of the area for conservation, educational and research purposes and to separate sensitive natural environment from the adverse effects of development. There is a general presumption against development in this zone. In general, only developments that are needed to support the conservation of the existing natural landscape or scenic quality of the area or are essential infrastructure projects with overriding public interest may be permitted.
- (c) Ho Sheung Heung Egretty is one of the largest egrettries in Hong Kong with increasing number of breeding birds in recent decade. The Ho Sheung Heung Egretty together with its peripheral secondary woodland and fishponds are zoned “CA” to protect and conserve the ecological value of the egretty and associated habitat, to protect the natural landscape and topographical features as well as to restrict further development in the immediate vicinity of the egretty.
- (d) Within the “CA” zone, the redevelopment of an existing house shall not result in a total redevelopment in excess of the plot ratio, site coverage and height of the house which was in existence on the date of the first publication of the draft DPA plan.

- (e) Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

4.5.8 “Conservation Area (1)” (“CA (1)”) : Total Area 228.37 ha

- (a) The planning intention of this zone is to conserve the ecological value of wetland and fish ponds which form an integral part of the wetland ecosystem at Hoo Hok Wai area. The “no-net-loss in wetland” principle is adopted for any change in use within this zone. The primary intention is to discourage new development unless it is required to support the conservation of the ecological integrity of the wetland ecosystem or the development is an essential infrastructure project with overriding public interest.
- (b) The “CA(1)” zone covers the extensive fish ponds that occupy a majority of the Hoo Hok Wai area and the freshwater marshes which forms an integral part of the Hoo Hok Wai area. These features are to be protected and conserved in order to maintain the ecological integrity of the Deep Bay wetland ecosystem as a whole.
- (c) Diversion of streams, filling of land/pond or excavation of land may cause adverse drainage impacts on the adjacent areas and adverse impacts on the natural environment. In view of the conservation value of the area within this zone, permission from the Board is required for such activities.

5. IMPLEMENTATION

5.1 The draft OZP provides a broad land use framework for development control and implementation of planning proposals for the Area. Detailed plans will be prepared as a basis for public works planning and private developments. The type of permitted developments and uses on land within the Area are listed in the Notes of the Plan. Implementation of the proposed land uses and development control would be made according to the planning intentions and stated restrictions of the respective zones of the Plan. Provision for planning application would allow flexibility in land use planning and control of development to meet changing needs.

5.2 Eco-lodge

The proposed eco-lodge site is situated entirely on Government land. The implementation schedule and development time frame of the eco-lodge therefore hinges on the land disposal programme. Prior to land disposal, there is a need to provide appropriate infrastructure (transport and services)

to the area. In addition, to achieve the principles for promoting eco-tourism, suitable assessment guidelines for eco-lodge development and related green measures should be incorporated within the sale/lease documents as well as future Planning Brief for the eco-lodge site.

5.3 Utility Infrastructure

Given the small scale development proposed in the Area, there is no overall programme for the provision of infrastructure within the Area

5.4 Planning Enforcement

Any development, other than those referred to in paragraph 5.1 above or in conformity with this Plan or with the permission of the Board, undertaken or continued on land included in this Plan on or after the date of the first publication in the Gazette of the notice of the draft DPA plan may be subject to enforcement proceedings under the Ordinance.

Sha Tin, Tai Po and North District Planning Office
PLANNING DEPARTMENT
APRIL 2013

Appendix I of Annex A

Small House Demand for the Recognized Villages in Draft Ma Tso Lung and Hoo Hok Wai OZP

Recognised Villages	Demand figure prepared for TPB hearings in 2011		New demand figures		'VE' Approx. Area (ha)	"V" zone on draft OZP (ha)	Required land to meet new demand (ha)	Available Land to meet new demand figure (ha)	Percentage of the new demand met by available land (%)
	Outstanding Demand	10-year forecast	Outstanding Demand	10-year forecast					
Liu Pok	12	337	16	337	6.34	6.34	8.83	3.69	41.8

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/ Deficit	Theoretical Minimum Requirements	Provision	Surplus/ Deficit	
OPEN SPACE								
1. Local Open Space	10ha/ 100,000 persons	0.10	0.05	-0.05	0.21	0.05	-0.16	Existing local open spaces at Liu Pok.
2. District Open Space	10ha/ 100,000 persons	0.10	0.00	-0.10	0.21	0.00	-0.21	Noting the rural locations of these settlements which enable the residents to have more easy access to the countryside, and the small population level, there is no requirement for the provision of District Open Space. Sufficient district open spaces are available in North District to serve the Area.

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/ Deficit	Theoretical Minimum Requirements	Provision	Surplus/ Deficit	
RECREATIONAL FACILITIES								
1. Sports Centre	1/50, 000 – 65, 000 persons	0.02	0.00	-0.02	0.3	0.00	-0.03	
2. Sports Ground/ Sports Complex	1/200, 000 – 250, 000 persons	0.00	0.00	0.00	0.01	0.00	-0.01	
3. Swimming Pool Complex	1/287, 000 persons	0.00	0.00	0.00	0.01	0.00	-0.01	
4. Indoor Stadium (Sports)	Territorial facility based on need	N/A	0.00	N/A	N/A	0.00	N/A	
5. Outdoor Stadium	Territorial facility based on need	N/A	0.00	N/A	N/A	0.00	N/A	
EDUCATION								

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/Deficit	Theoretical Minimum Requirements	Provision	Surplus/Deficit	
1. Nursery Classes and Kindergartens	26 classrooms for every 1000 children aged 3- under	1.60	0.00 (0 School)	-1.60	2.78	0.00 (0 School)	-2.78	Sheung Shui Pui Yau Kindergarten, Sheung Shui.
2. Primary Schools	1 whole-day classroom per 25.5 persons aged 6-11	2.61	0.00 (1 School)	-2.61	4.54	0.00 (1 School)	-4.54	Existing School: Kam Tsin Village Ho Tung School in Kwu Tung South & Fung Kai No.1 Primary School in Sheung Shui
3. Secondary Schools	1 whole-day classroom per 40 persons aged 12-17	2.03	0.00 (0 School)	-2.03	4.45	0.00 (0 School)	-4.45	Existing School: De la Salle Secondary School N.T. in Kwu Tung South & Fung Kai Liu Man Shek Tong Secondary School in Sheung Shui
4. Special Schools	No set standard	N/A	0.00 (0 School)	N/A	N/A	0.00 (0 School)	N/A	
MEDICAL AND HEALTH SERVICES								
1. Hospital	5.5 beds/1,000 persons	5.50	0.00 (0 Hospitals)	-5.50	11.56	0.00	-11.56	Requirements are covered by North District Hospital in Sheung Shui.

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/Deficit	Theoretical Minimum Requirements	Provision	Surplus/Deficit	
2. Polyclinic/ Specialist Clinic	1 specialist clinic/polyclinic whenever a regional or district hospital is built	N/A	0.00	N/A	N/A	0.00	N/A	
3. Clinic/Health Centre	1 clinic/health centre per 100,000 persons	0.01	0.00	-0.01	0.02	0.00	-0.02	
SOCIAL WELFARE AND COMMUNITY SERVICES								
1. Community Halls	To be determined on the basis of need, having regard to community aspirations and other relevant considerations.	N/A	0.00	N/A	N/A	0.00	N/A	
2. Child Care Centre	To be based on the estimated demand, socio-economic factors, district	N/A	0.00	N/A	N/A	0.00	N/A	Child Care Centre at Wah Ming Estate, Fanling.

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/ Deficit	Theoretical Minimum Requirements	Provision	Surplus/ Deficit	
3. Integrated Children and Youth Services Centres	characteristics and the provision of other child care support services for the area. No set standard	0.01	0.00	-0.01	0.01	0.00	-0.01	
4. District Elderly Community Centres	To be determined taking into account the elderly population, demographic characteristics, geographical factor, existing service provision and service demand.	N/A	0.00	N/A	N/A	0.00	N/A	
5. Neighbourhood Elderly Centres	To be determined taking into account the elderly	N/A	0.00	N/A	N/A	0.00	N/A	

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/ Deficit	Theoretical Minimum Requirements	Provision	Surplus/ Deficit	
6. Day Care Centres for the Elderly	<p>population, demographic characteristics, geographical factor, existing service provision and service demand.</p> <p>To be determined taking into account the elderly population, demographic characteristics, geographical factor, existing service provision and service demand.</p>	N/A	0.00	N/A	N/A	0.00	N/A	
7. Day Care Unit for the Elderly in District Elderly Community Centres	<p>To be determined taking into account the elderly population, demographic characteristics,</p>	N/A	0.00	N/A	N/A	0.00	N/A	

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/ Deficit	Theoretical Minimum Requirements	Provision	Surplus/ Deficit	
8. Day Care Unit for the Elderly in Residential Care Homes for the Elderly	geographical factor, existing service provision and service demand. To be determined taking into account the elderly population, demographic characteristics, geographical factor, existing service provision and service demand.	N/A	0.00	N/A	N/A	0.00	N/A	
9. Residential Care Homes for the Elderly	To be determined taking into account the service demand and the availability of suitable premises.	N/A	0.00	N/A	N/A	0.00	N/A	Nursing home for the Elderly at Po Ping Road, Sheung Shui
10. Integrated Family Service Centres	1/100,000 to 150,000 persons	0.01	0.00	-0.01	0.01	0.00	-0.01	Caritas Integrated Family Service Centre at Wah Ming Estate, Fanling serves the Area.

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/ Deficit	Theoretical Minimum Requirements	Provision	Surplus/ Deficit	
LAW AND ORDER								
1. District Police Stations	1/200,000 to 500,000 persons	0.00	0.00	0.00	0.00	0.00	0.00	Requirement covered by Sheung Shui Divisional Police Station
2. Divisional Police Stations	1/100,000 to 200,000 persons	0.01	0.00	-0.01	0.01	0.00	-0.01	
3. Sub-divisional Police Stations/Police Posts	No set standard	N/A	1.00	N/A	N/A	1.00	N/A	
4. Divisional Fire Stations	Provision depends on graded response time determined by fire risk category system. Generally 1 standard divisional	N/A	0.00	N/A	N/A	0.00	N/A	Requirement covered by Sheung Shui Divisional Fire Station

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/Deficit	Theoretical Minimum Requirements	Provision	Surplus/Deficit	
5. Sub-divisional Fire Stations	station is provided for 1 fire station Depends on local needs.	N/A	0.00	N/A	N/A	0.00	N/A	
6. Non-standard Fire Stations	Depends on local needs.	N/A	0.00	N/A	N/A	0.00	N/A	
7. Ambulance Depots and Ambulance Stations	Provision depends on the requirement of accommodation for ambulance to give an emergency coverage of 10 minutes and 20 minutes in urban/new towns and rural areas respectively	N/A	0.00	N/A	N/A	0.00	N/A	
8. Magistracies (8 courtrooms)	1 per 660,000 persons	0.00	0.00	0.00	0.00	0.00	0.00	

Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

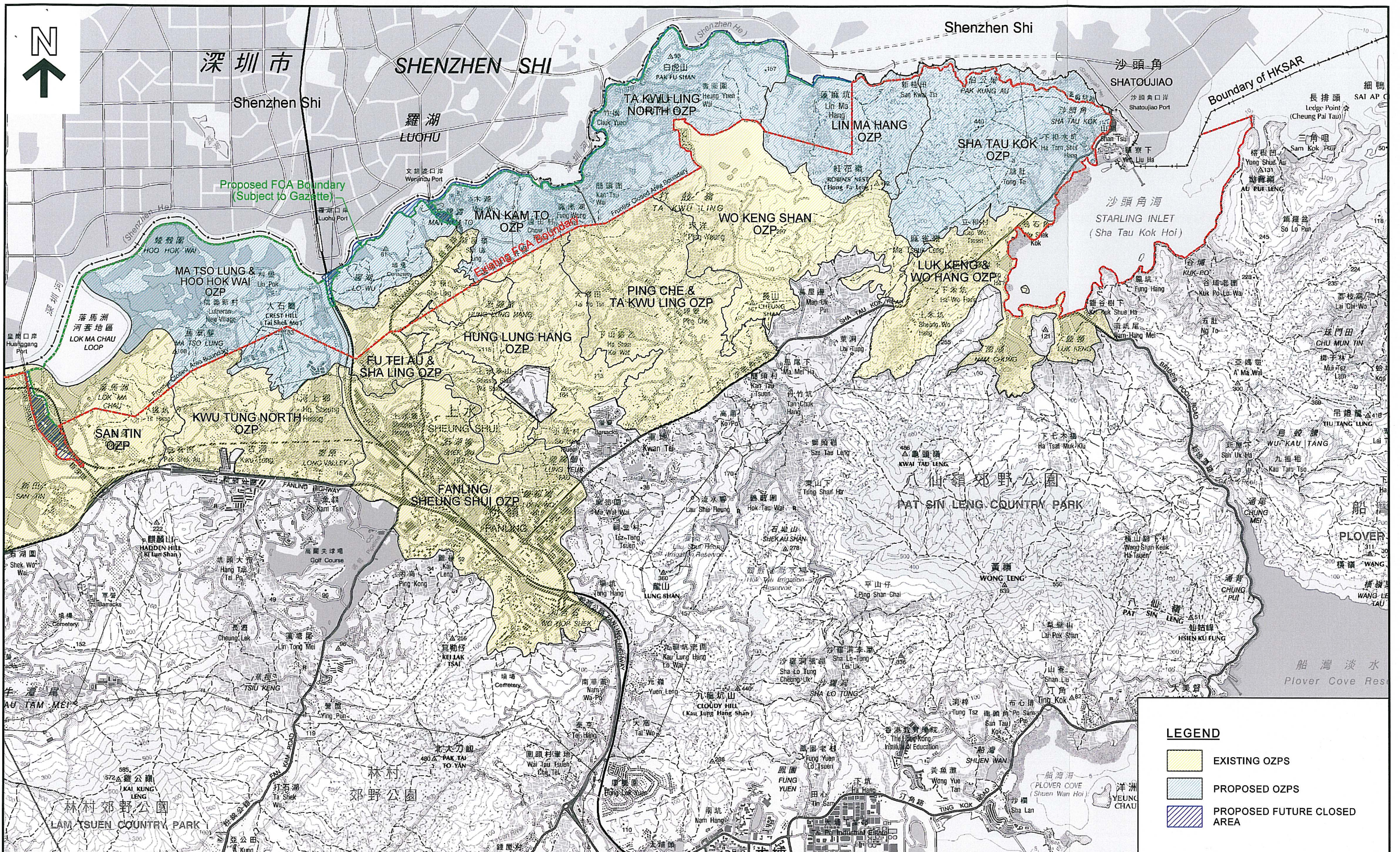
Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/ Deficit	Theoretical Minimum Requirements	Provision	Surplus/ Deficit	
OTHER COMMUNITY FACILITIES								
1. Arts Venues	No set standard	N/A	0.00	N/A	N/A	0.00	N/A	
2. Library	1 district library per 200,000 persons	0.01	0.00	-0.01	0.01	0.00	-0.01	
3. Post office	In rural areas, a distance of 3.2 km should be assumed. In general, 1 for a population of not less than 30,000 persons	0.03	0.00	-0.03	0.07	0.00	-0.07	
4. Study Rooms	(a) Usually 1 in each public major/district library. (b) Provision in Community Centre is governed by the	N/A	0.00	N/A	N/A	0.00	N/A	

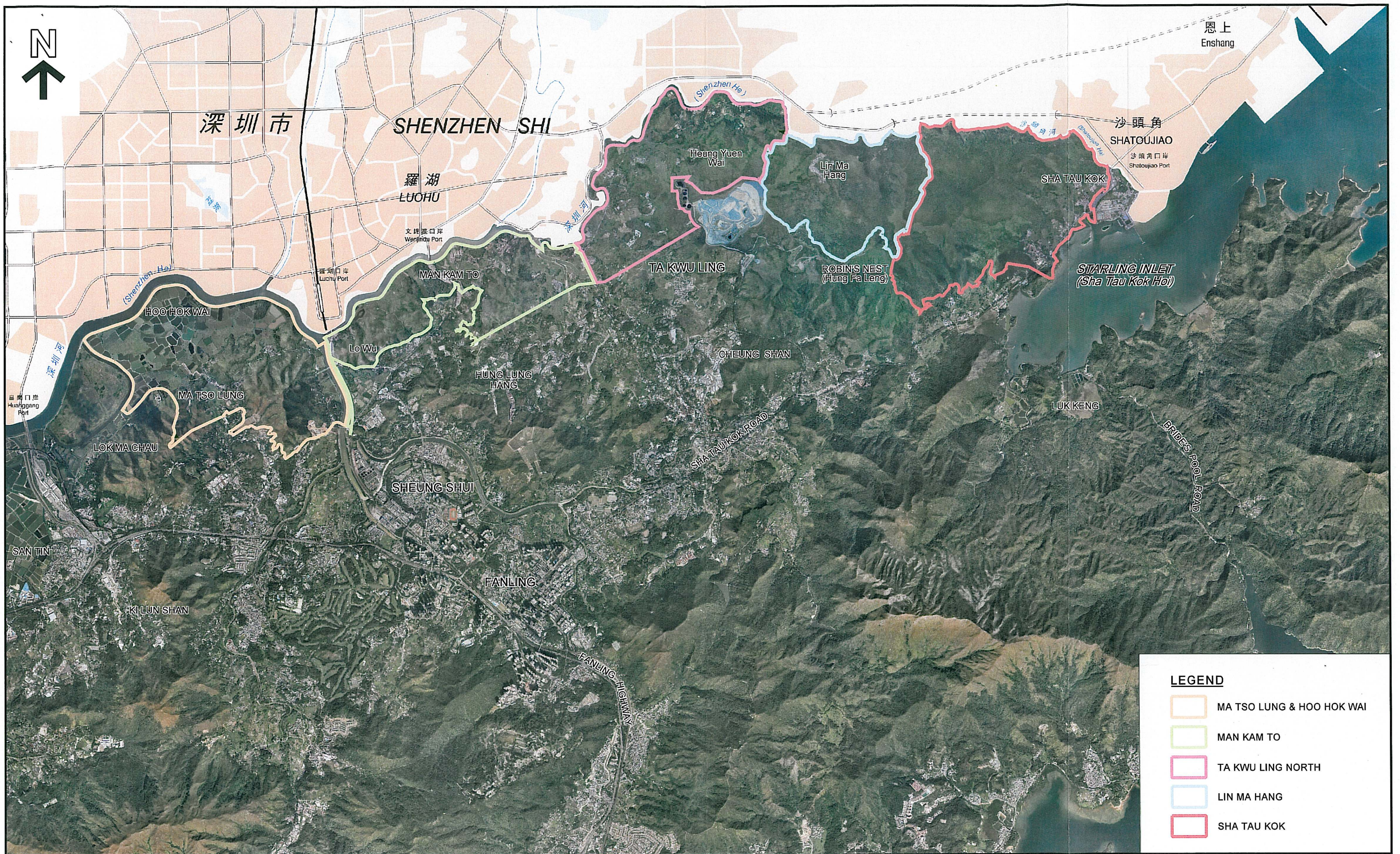
Schedule of Requirements and Provision of Open Space and Major GIC Facilities in Draft Ma Tso Lung And Hoo Hok Wai OZP

Existing Population: 1,000 persons

Planned Population: 2,101 persons

Type of Facility	HKPSG Requirements	Existing			Planned			Remarks
		Theoretical Minimum Requirements	Provision	Surplus/Deficit	Theoretical Minimum Requirements	Provision	Surplus/Deficit	
	approved schedule of accommodation. (c) Provision in public housing estates is based on a need basis.							





EXTRACT PLAN PREPARED ON 23.4.2013
 BASED ON ORTHOPHOTO 2011 PREPARED
 BY LANDS DEPARTMENT

AERIAL PHOTO OF FIVE OUTLING ZONING PLANS

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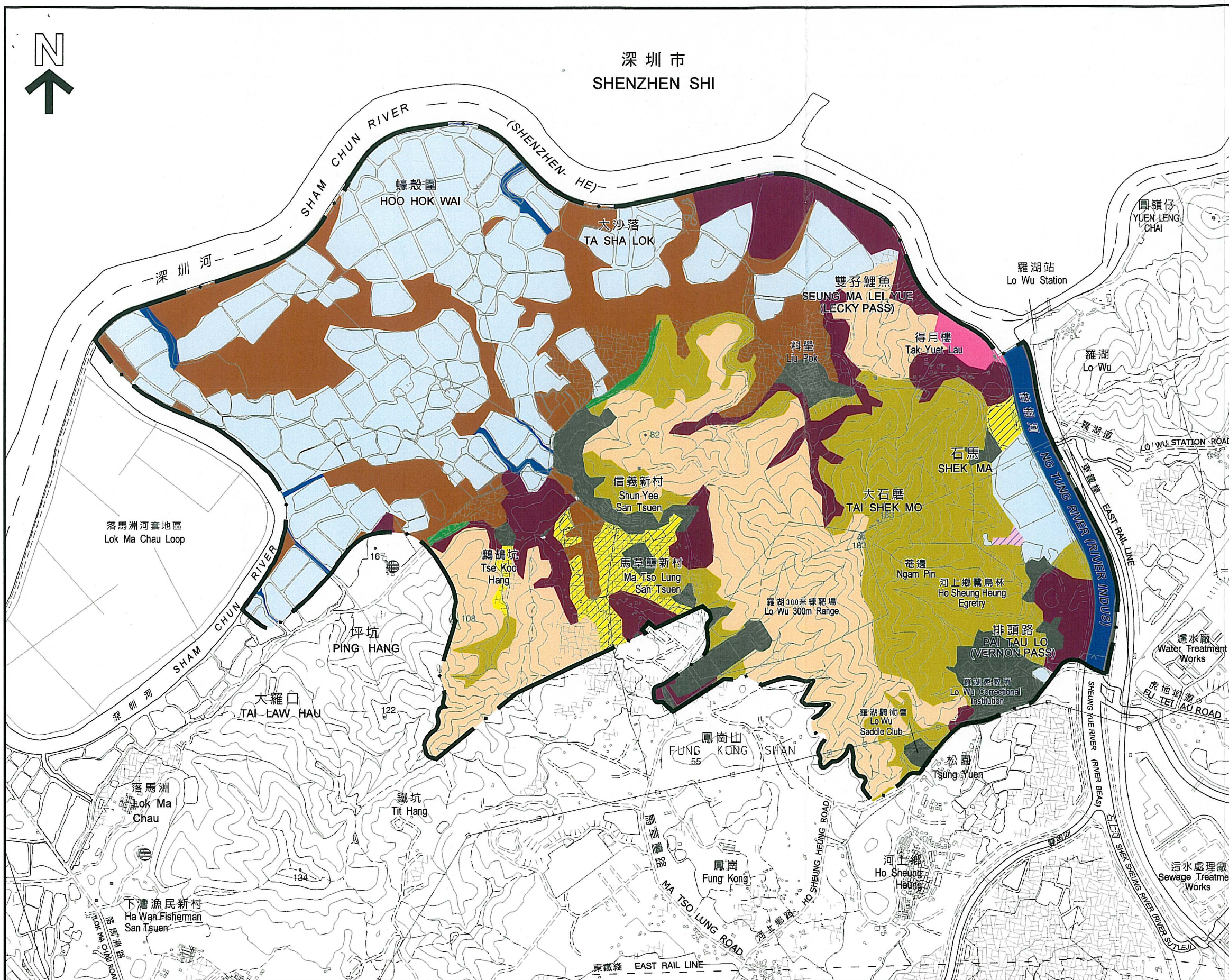
FIGURE 2



深圳市
SHENZHEN SHI

LEGEND

- BOUNDARY OF MA TSO LUNG & HOO HOK WAI PLANNING SCHEME AREA
- POND
- MAJOR STREAM / DRAINAGE CHANNEL
- MARSH / REEDBED
- INACTIVE WET AGRICULTURAL LAND
- SEASONALLY WET GRASSLAND
- LOWLAND GRASSLAND
- UPLAND GRASSLAND
- SHRUBLAND
- SECONDARY WOODLAND / PLANTATION
- DEVELOPED LAND
- WASTELAND
- RUDERAL VEGETATION



EXTRACT PLAN PREPARED ON 23.4.2013
BASED ON SERIES HM20C SHEETS 2 & 3

HABITAT MAP OF MA TSO LUNG & HOO HOK WAI

SCALE 1 : 15 000

PLANNING DEPARTMENT

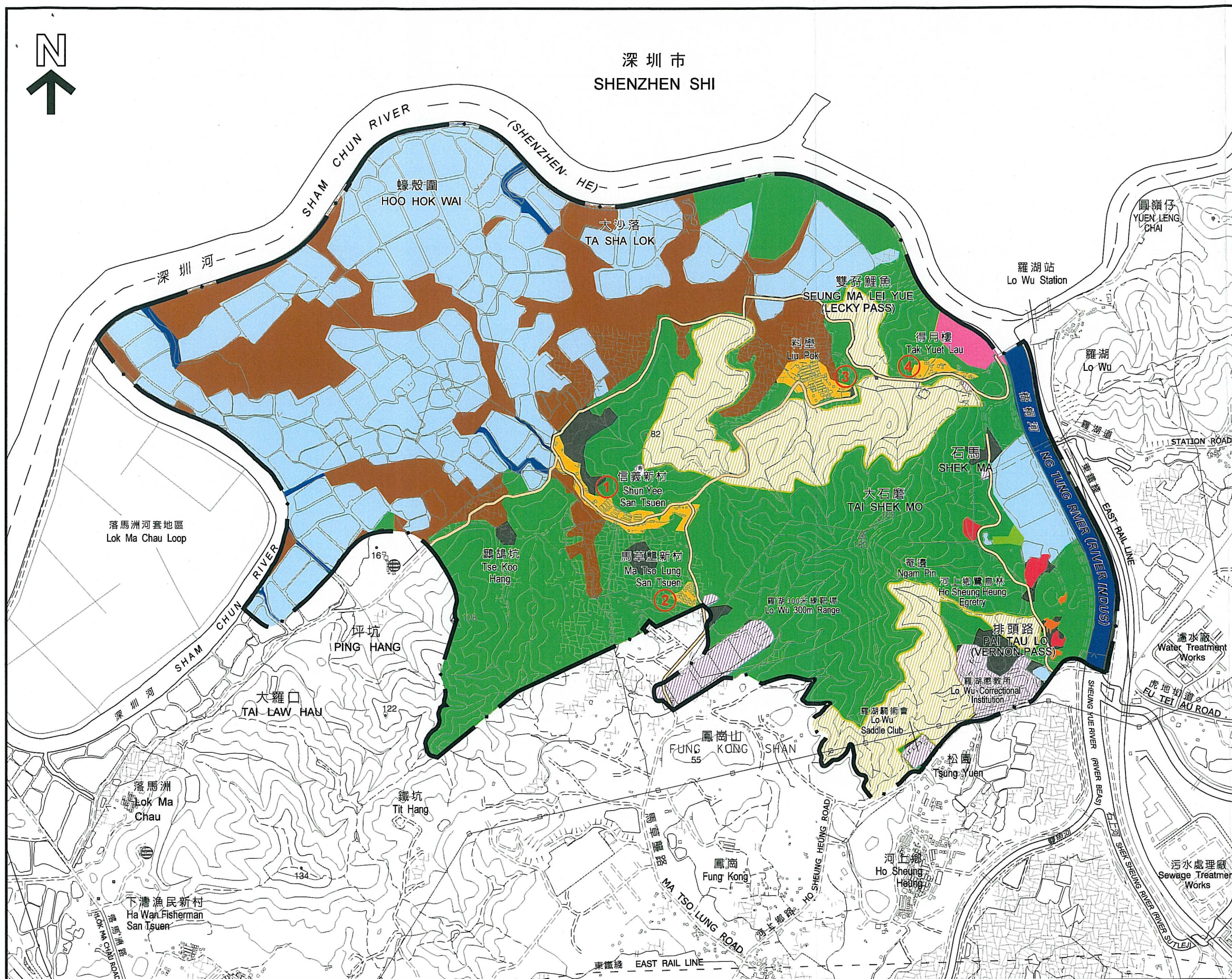


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FIGURE 3



深圳市
SHENZHEN SHI



LEGEND

- BOUNDARY OF MA TSO LUNG & HOO HOK WAI PLANNING SCHEME AREA
- ROAD
- PERMITTED BURIAL GROUND
- EXISTING G/I C SITES
- RURAL SETTLEMENT
- OPEN STORAGE
- CONTAINER VEHICLE PARK / OPEN STORAGE
- MAJOR STREAM / DRAINAGE CHANNEL
- POND AREA
- AGRICULTURAL LAND
- VEGETATED LAND
- DEVELOPED LAND
- WASTELAND
- MARSH / REEDBED
- 1 SHUN YEE SAN TSUEN
- 2 MA TSO LUNG SAN TSUEN
- 3 LIU POK (INDIGENOUS VILLAGE)
- 4 TAK YUET LAU

EXTRACT PLAN PREPARED ON 23.4.2013
BASED ON SERIES HM20C SHEETS 2 & 3

EXISTING LAND USE OF MA TSO LUNG & HOO HOK WAI

SCALE 1 : 15 000

PLANNING DEPARTMENT

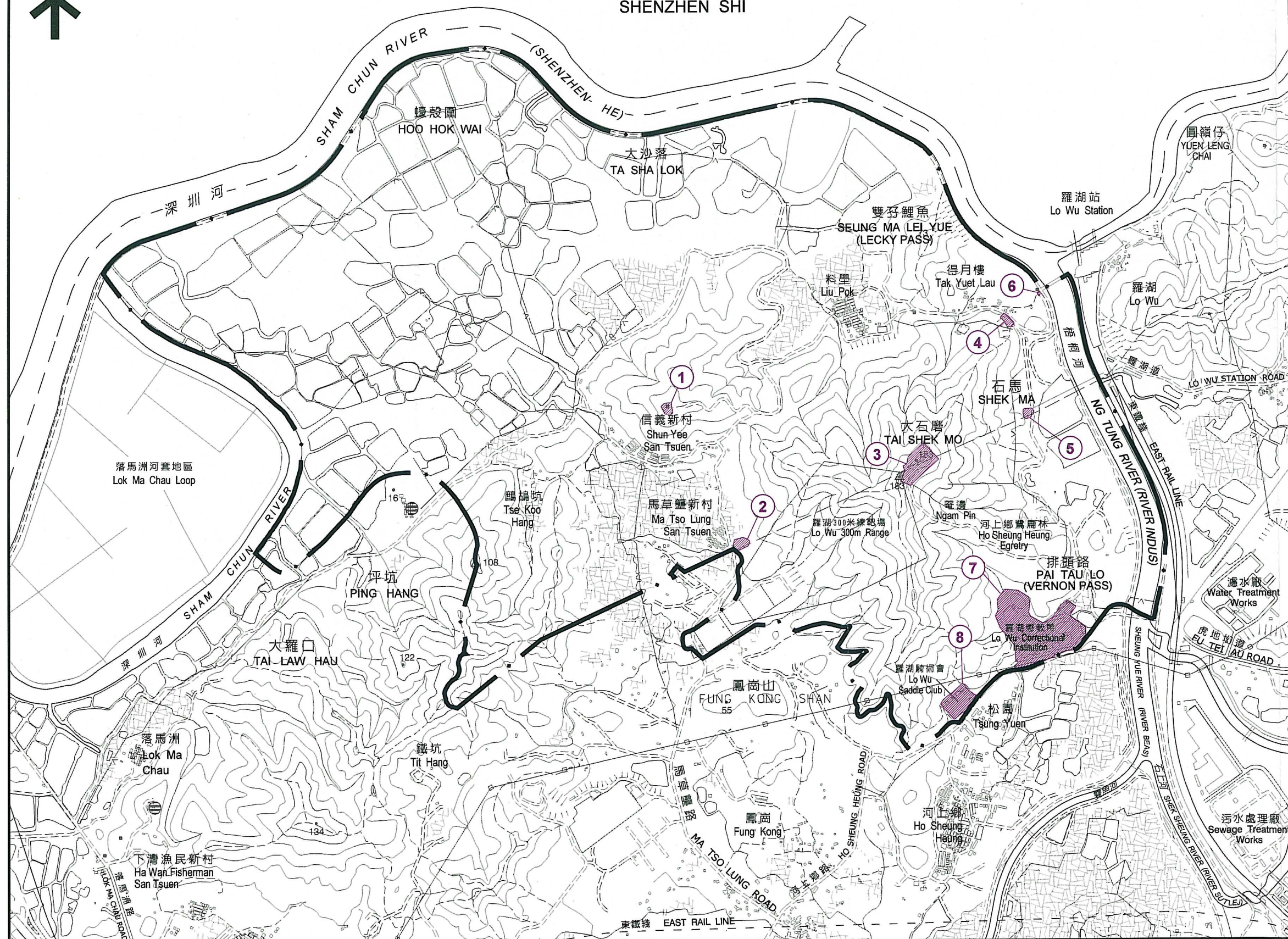


REFERENCE No.
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FIGURE 4



深圳市
SHENZHEN SHI



LEGEND

-  BOUNDARY OF MA TSO LUNG & HOO HOK WAI PLANNING SCHEME AREA
-  EXISTING G/IC SITES
-  1 MACINTOSH FORT (MA TSO LUNG)
-  2 MA TSO LUNG TUNNEL PORTAL
-  3 TAI SHEK MO OBSERVATION POST
-  4 TAK YUET LAU FLOOD SHELTER
-  5 SHEK MA TUNNEL PORTAL
-  6 TAK YUET LAU POLICE POST
-  7 LO WU CORRECTIONAL INSTITUTION
-  8 LO WU SADDLE CLUB

EXTRACT PLAN PREPARED ON 23.4.2013
BASED ON SERIES HM20C SHEETS 2 & 3

EXISTING G/IC SITES OF MA TSO LUNG & HOO HOK WAI

SCALE 1 : 15 000

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/34A

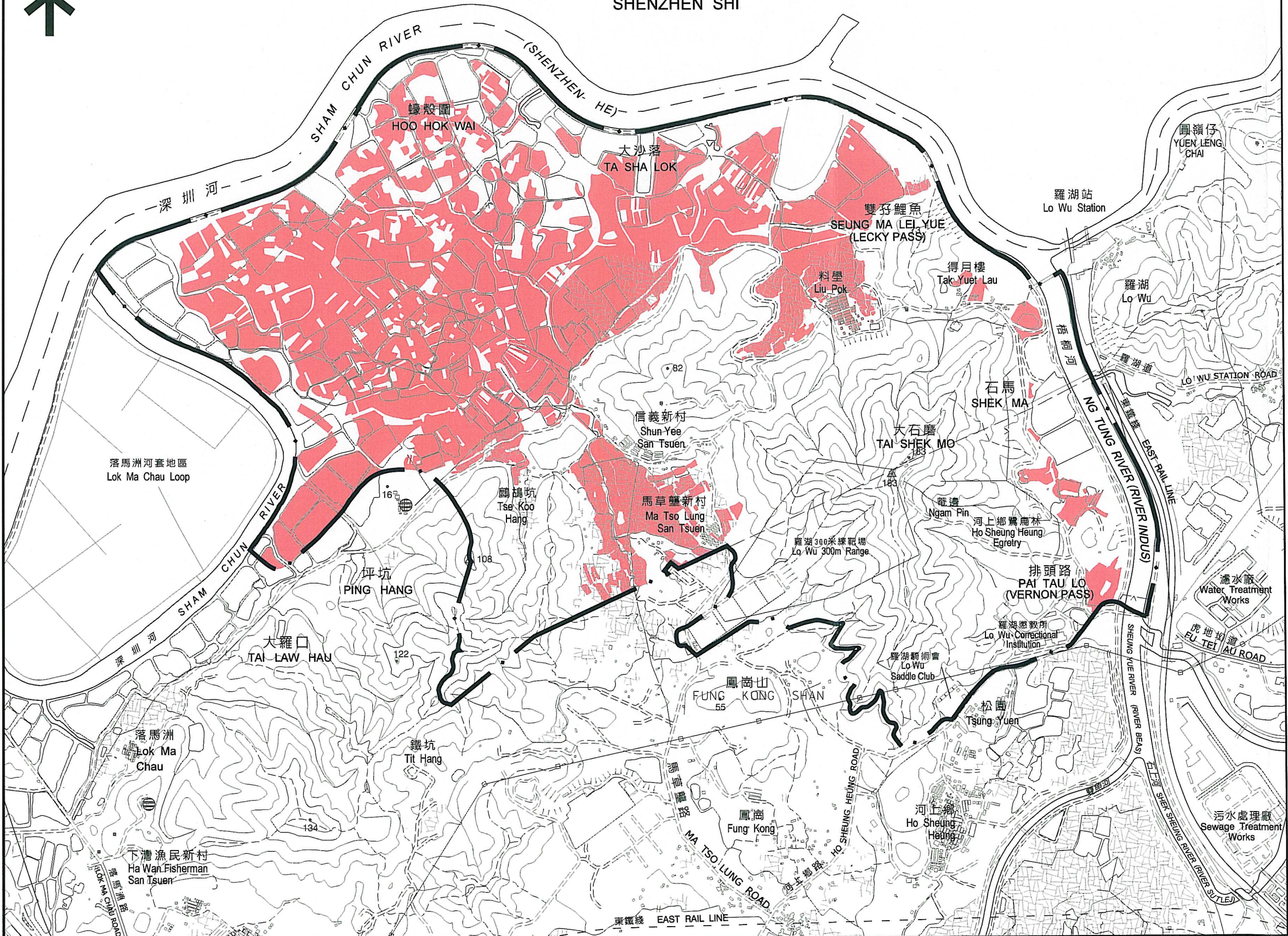
FIGURE 5



深圳市
SHENZHEN SHI

LEGEND


- BOUNDARY OF MA TSO LUNG & HOO HOK WAI PLANNING SCHEME AREA
- PRIVATE LAND



EXTRACT PLAN PREPARED ON 23.4.2013
BASED ON SERIES HM20C SHEETS 2 & 3

EXISTING LAND OWNERSHIP PLAN OF MA TSO LUNG & HOO HOK WAI

SCALE 1 : 15 000

PLANNING DEPARTMENT 	
REFERENCE No. M/NE/13/34A	FIGURE 6



MACINTOSH FORT (MA TSO LUNG) (GRADE 2)
(PHOTO TAKEN ON 27.2.2013)



LEGEND

— • — BOUNDARY OF MA TSO LUNG & HOO HOK WAI
PLANNING SCHEME AREA

GRADED BUILDINGS

① MACINTOSH FORT (MA TSO LUNG) (GRADE 2)

EXTRACT PLAN PREPARED ON 23.4.2013
BASED ON SERIES HM20C SHEETS 2 & 3

CULTURAL HERITAGE PLAN OF MA TSO LUNG & HOO HOK WAI

SCALE 1 : 15 000

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/34A

FIGURE 8



SITE PHOTO

REVIEW OF THE "V" ZONE BOUNDARY OF LIU POK

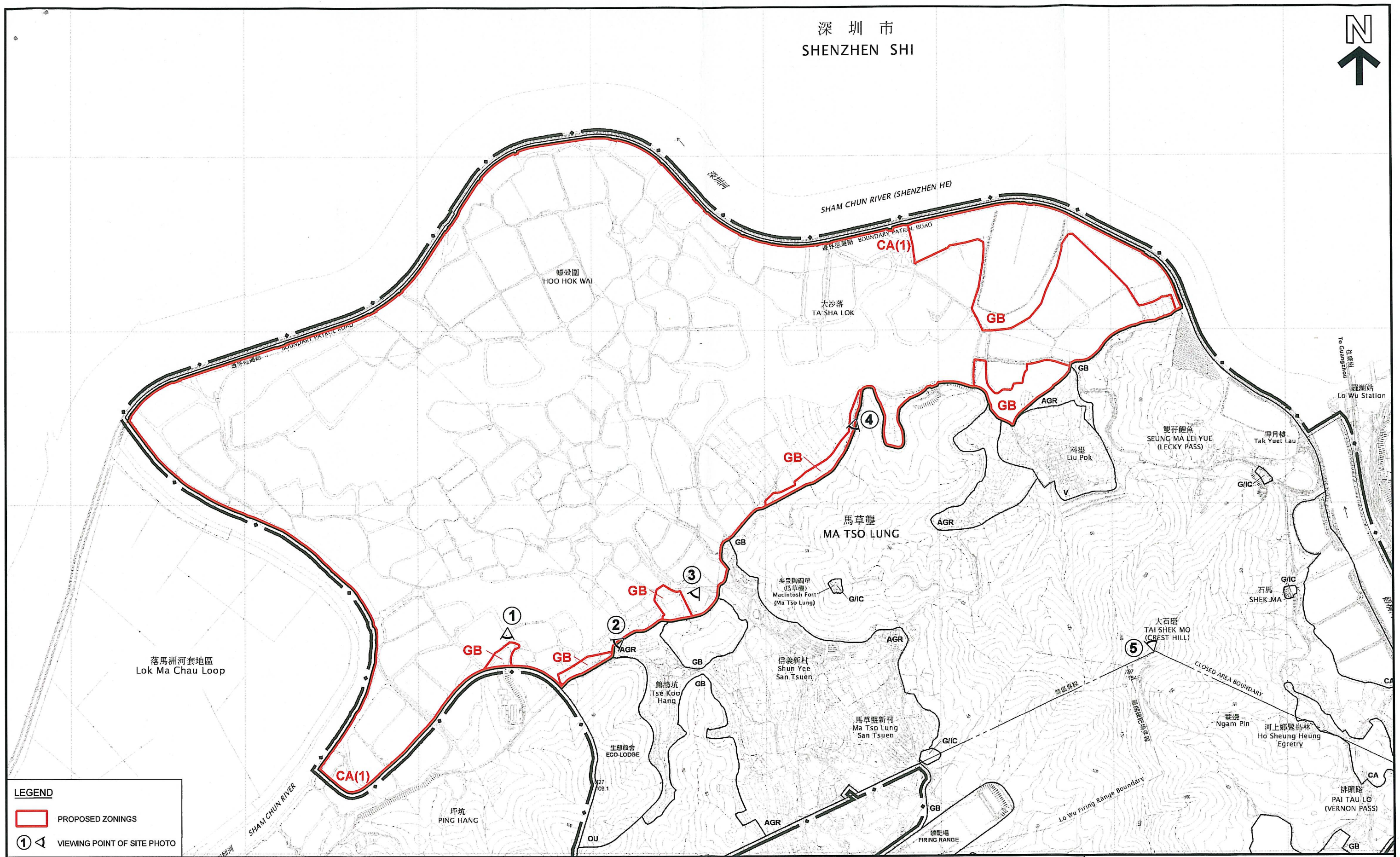
PLAN PREPARED ON 23.4.2013
PHOTO TAKEN ON 27.2.2013

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DEPARTMENT



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M/NE/13/34A

FIGURE
10



LEGEND

- PROPOSED ZONINGS
- ◀ VIEWING POINT OF SITE PHOTO

EXTRACT PLAN PREPARED ON 22.4.2013
BASED ON DEVELOPMENT PERMISSION
AREA PLAN No. DPA/NE-MTL/2
APPROVED ON 21.2.2012

PROPOSED ZONINGS FOR THE "UNSPECIFIED USE" AREA OF HOO HOK WAI

SCALE 1 : 10 000

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/34A

FIGURE 11



AERIAL PHOTO

PROPOSED ZONINGS FOR THE "UNSPECIFIED USE" AREA OF HOO HOK WAI

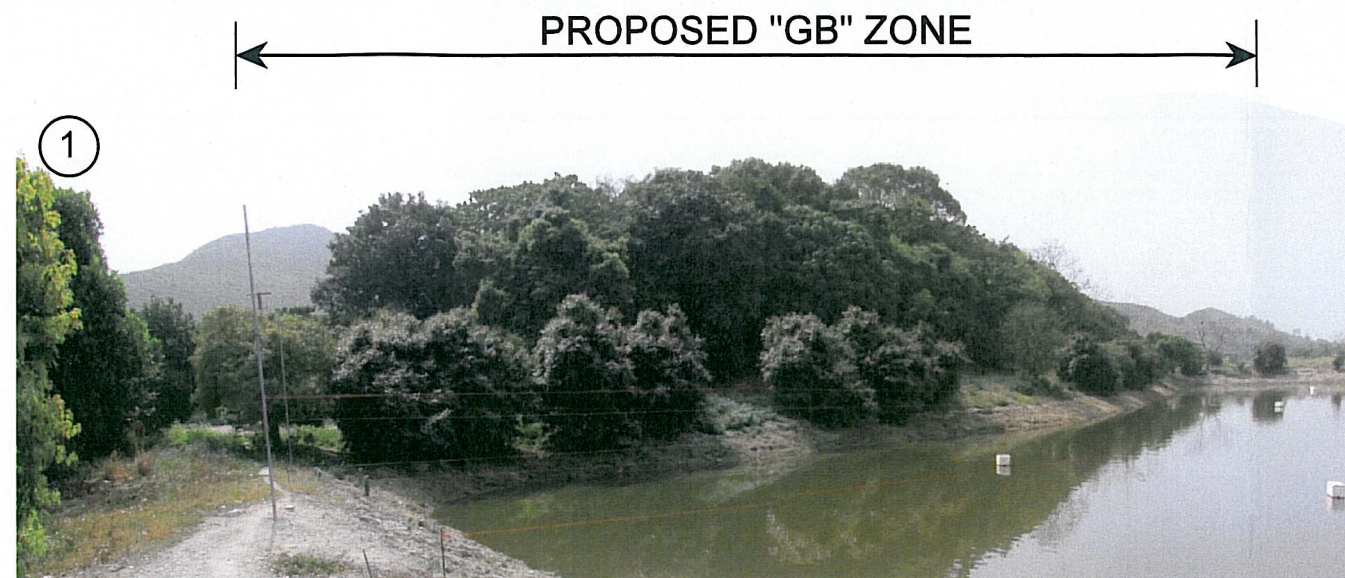
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FIGURE 12



ZONING BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

PLAN PREPARED ON 23.4.2013 BASED ON
SITE PHOTO TAKEN ON 27.2.2013

SITE PHOTO

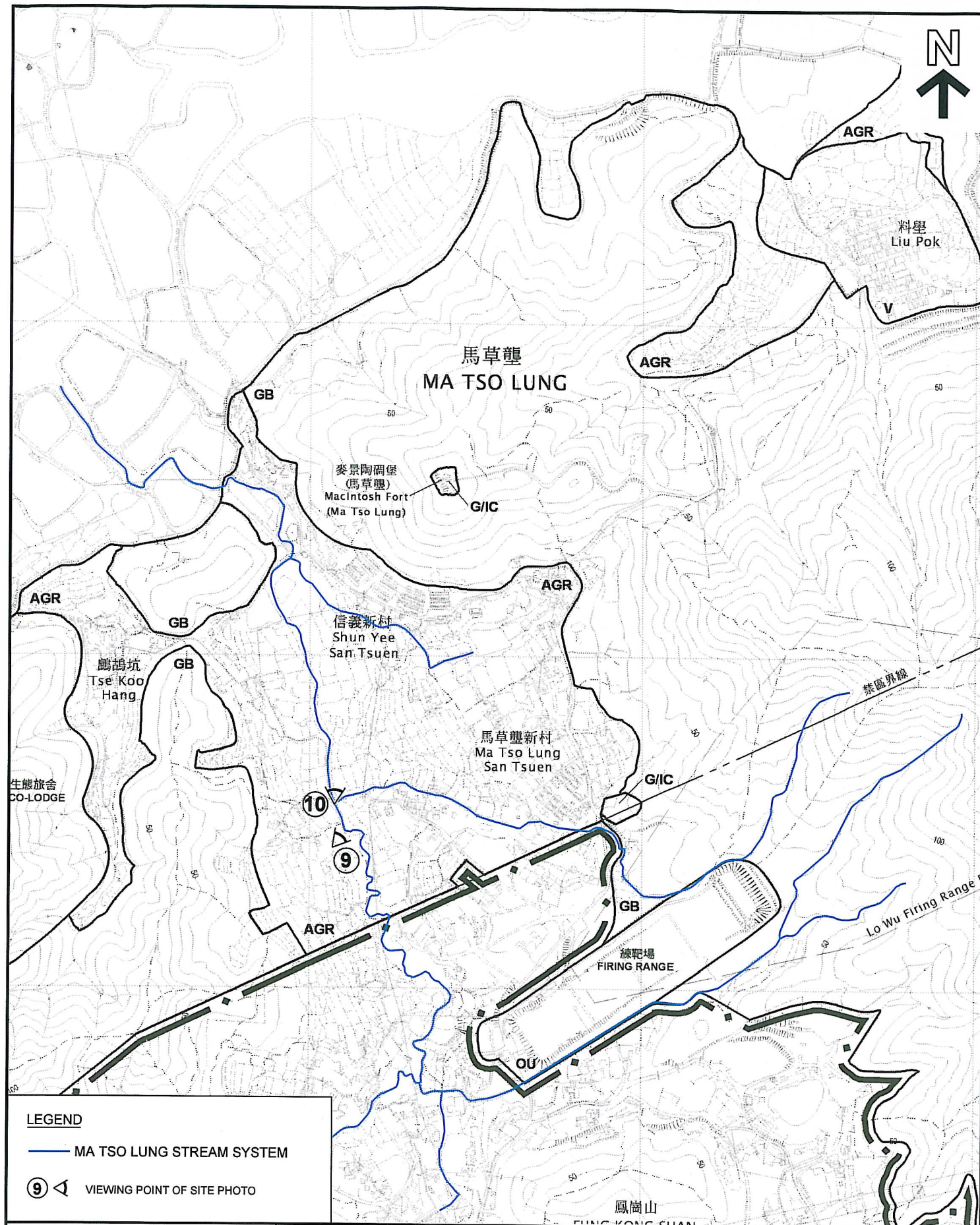
PROPOSED ZONINGS FOR THE "UNSPECIFIED USE" AREA OF HOO HOK WAI

PLANNING DEPARTMENT



REFERENCE No.
M/NE/13/34A

FIGURE 13



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 BASED ON DEVELOPMENT PERMISSION
 AREA PLAN No. DPA/NE-MTU/2
 APPROVED ON 21.2.2012

REVIEW OF THE ZONINGS FOR MA TSO LUNG STREAM

SCALE 1 : 7 500

PLANNING
 DEPARTMENT



REFERENCE No.
 M/NE/13/34A

FIGURE
 14



SITE PHOTO

PLAN PREPARED ON 23.4.2013
PHOTO TAKEN ON 27.2.2013

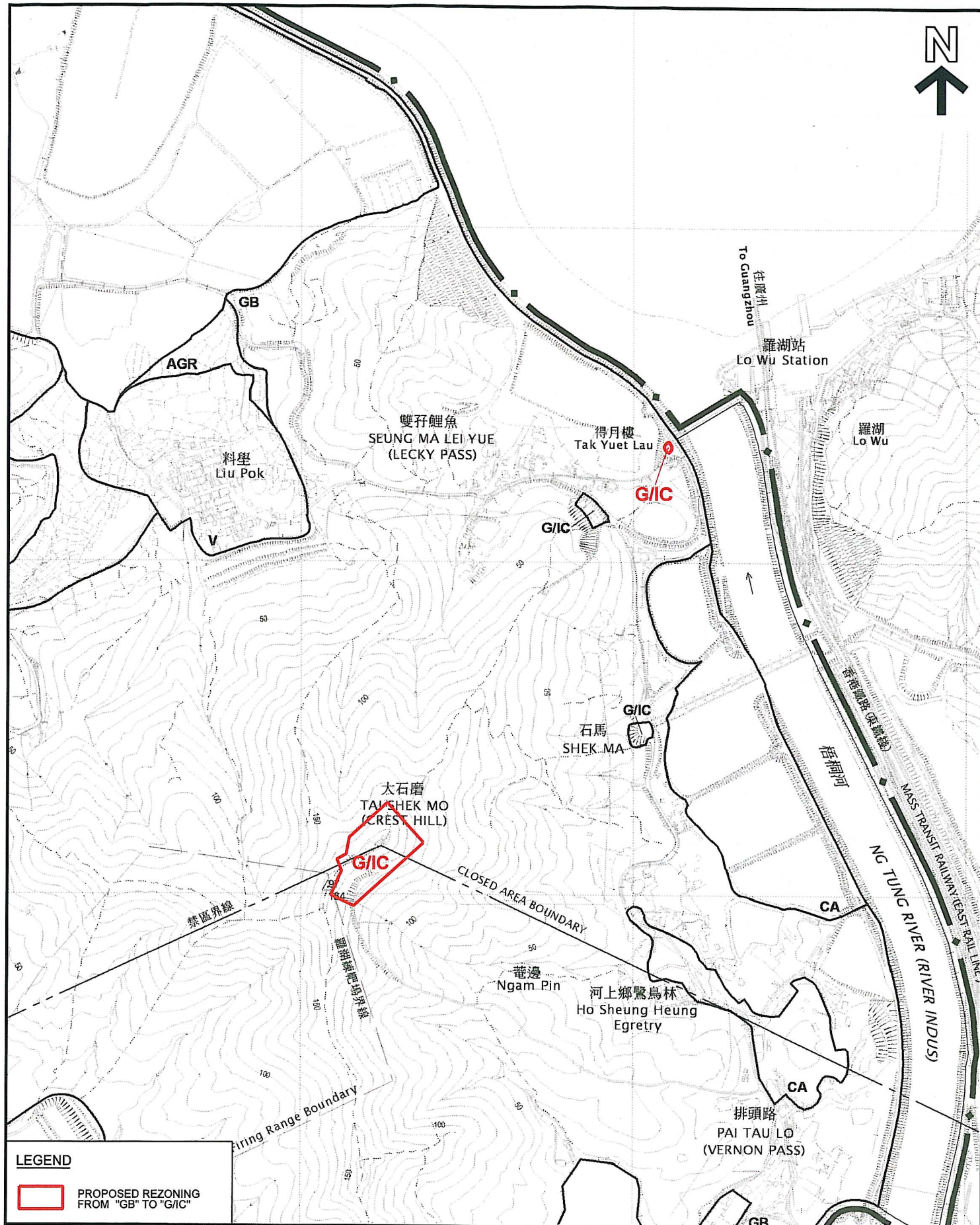
REVIEW OF THE ZONINGS FOR MA TSO LUNG STREAM

PLANNING
DEPARTMENT



REFERENCE No.
M/NE/13/34A

FIGURE
15



EXTRACT PLAN PREPARED ON 23.4.2013
BASED ON DEVELOPMENT PERMISSION
AREA PLAN No. DPA/NE-MTL/2
APPROVED ON 21.2.2012

PROPOSED REZONING OF EXISTING
GOVERNMENT, INSTITUTION OR COMMUNITY
USES FROM "GB" TO "G/IC"

SCALE 1 : 7 500

PLANNING
DEPARTMENT



REFERENCE No.
M/NE/13/34A

FIGURE
16



LEGEND



PROPOSED REZONING
FROM "GB" TO "G/IC"

AERIAL PHOTO

PROPOSED REZONING OF EXISTING
GOVERNMENT, INSTITUTION OR COMMUNITY
USES FROM "GB" TO "G/IC"

PLANNING
DEPARTMENT



EXTRACT PLAN PREPARED ON 23.4.2013
BASED ON ORTHOPHOTO 2011 PREPARED
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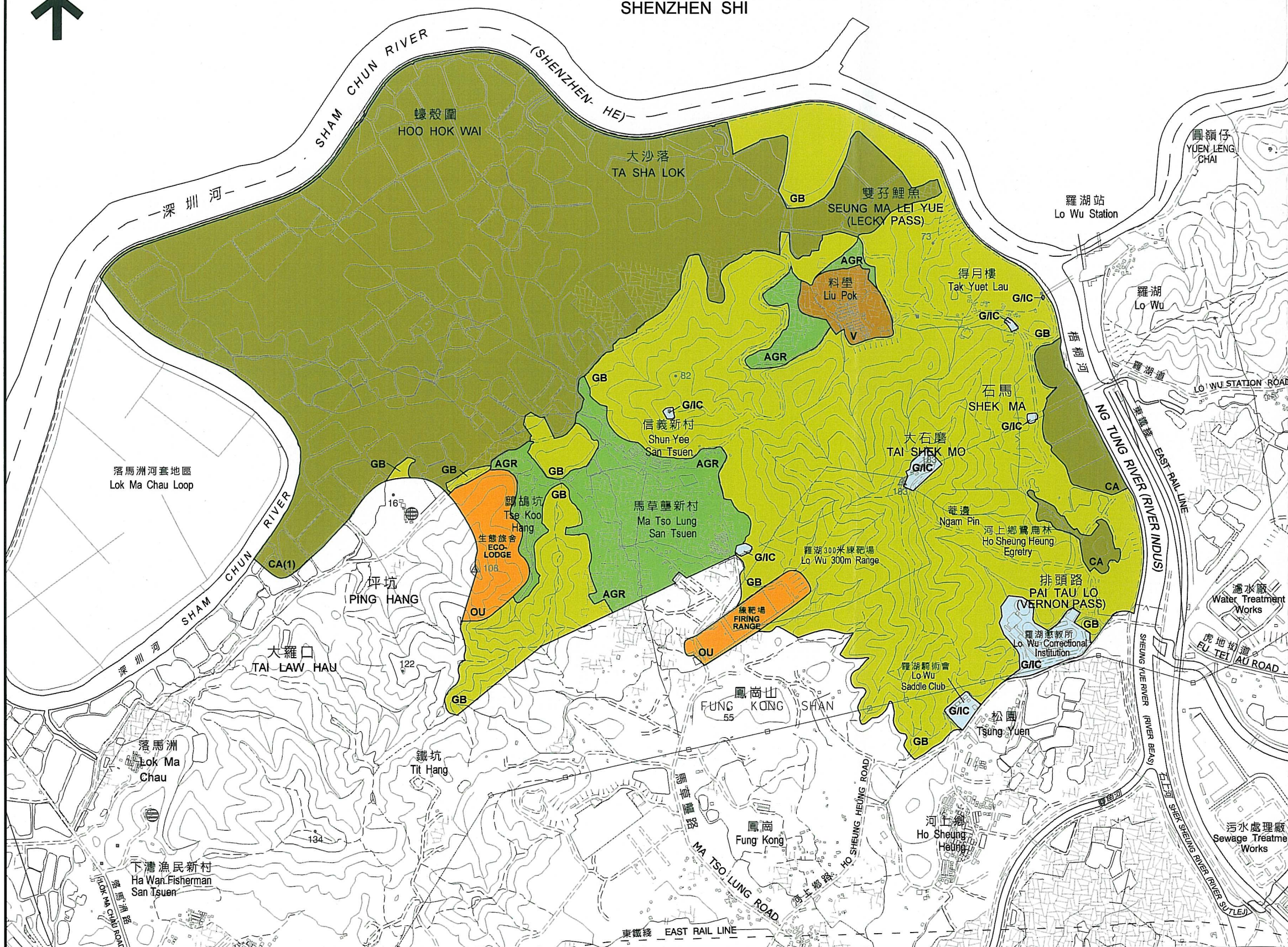
FIGURE
17



深圳市
SHENZHEN SHI

LEGEND

- . — BOUNDARY OF MA TSO LUNG & HOO HOK WAI PLANNING SCHEME AREA
- V VILLAGE TYPE DEVELOPMENT
- G/I/C GOVERNMENT, INSTITUTION OR COMMUNITY
- OU OTHER SPECIFIED USES
- AGR AGRICULTURE
- GB GREEN BELT
- CA CONSERVATION AREA



EXTRACT PLAN PREPARED ON 19.4.2013
BASED ON SERIES HM20C SHEETS 2 & 3

LAND USE ZONES OF DRAFT MA TSO LUNG & HOO HOK WAI OZP

SCALE 1 : 15 000

PLANNING DEPARTMENT



REFERENCE No.
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FIGURE 18

SHENZHEN SHI



PLAN PREPARED ON 23.4.2013
BASED ON SITE PHOTO TAKEN ON 22.4.2010

FISH PONDS AT HOO HOK WAI

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FIGURE 19

Agreement No. PLNQ 73/2011

Ecological Field Survey of Hoo Hok Wai

Final Report

Job Ref.: 11/598/235 PLAND-HHW

Date: April 2013


Agreement No. PLNQ 73/2011

Ecological Field Survey of Hoo Hok Wai

Final Report

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April 2013

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Agreement No. PLNQ 73/2011
Ecological Field Survey of Hoo Hok Wai
Final Report

1 INTRODUCTION

1.1 Overview

- 1.1.1 The area of Hoo Hok Wai (HHW) is located northeast of LMC Loop near the confluence of the Shenzhen and Ng Tung Rivers, and largely comprises commercial fish ponds. It lies in the western part of the Closed Area and is bounded by the southern bank of the Shenzhen River in the north, Lo Wu Station and East Line Railway in the east, the (old) boundary fence road and Ma Tso Lung in the south, and LMC Loop in the west. The size of the Study Area is 246.32ha; as this ecological assessment is not part of an environmental impact assessment, there is no 500m assessment area. An aerial photo of the Study Area is provided in **Figure 1**.
- 1.1.2 HHW forms part of an extensive area of wetlands extending from Tsim Bei Tsui on the west side of Inner Deep Bay to the Ng Tung River in the northeast. The wetland habitats of HHW currently constitute active and inactive fish ponds, freshwater marsh, reed marsh and streams. The area is included in one of the 12 priority sites (Deep Bay Wetland outside Ramsar Site) identified for enhanced conservation under the New Nature Conservation Policy, and is an important foraging and roosting area for wetland-dependent fauna, in particular waterbirds and Eurasian Otter. Significant functional linkages exist with the other wetlands of the Deep Bay area, including the Ramsar Site
- 1.1.3 The main human activities in the area are associated with fish pond management, and very few, if any, people live permanently in the area. Most ponds are under commercial operation, which has intensified somewhat in the recent 12 to 18 months: fish culture has extended to certain ponds previously inactive or abandoned, and intensified at already managed ponds. During the course of the Study, ponds 131 to 133 were brought into operation, while during the past 1-2 years automated feeders have been installed at many of the managed ponds, the main access tracks have been provided with a hard or improved surface and gates have been placed at certain locations. The increased intensity was most evident at pond 60, which is currently netted to completely exclude medium to large waterbirds (including all ardeids) from access. It is also obvious, based on discussions with pond managers in the area, that management of some ponds is no longer carried out by individual operators, and that workers are now employed to carry out management activities. The exception to this intensification of management relates to pond numbers 105 – 126, which remain largely unchanged: either unmanaged or managed at a very low intensity.
- 1.1.4 Despite the increased intensity of management and higher number of workers engaged in pond management work, given the location of the area within the Frontier Closed Area (FCA) and the nature of existing land uses, levels of human disturbance in the area remain low, even compared to other areas of fish ponds in the Deep Bay area (DBA).
- 1.1.5 In view of the relatively large area of HHW and its fragmented ownership, it was anticipated that there would be difficulties in implementation of a comprehensive development plan. The draft Ma Tso Lung and HHW DPA Plan No. DPA/NE-MTL/1 thus delineated the HHW area as 'Unspecified Use', pending a future detailed study. In conducting a detailed review of the zoning of HHW, it is considered essential to establish a robust and comprehensive ecological dataset for the area.

1.2 Objectives of the Study

1.2.1 The primary aim of the Study is to carry out a literature review and detailed ecological field survey of Hoo Hok Wai in order to describe its ecological value both overall and, where possible, in terms of discrete areas within the site. This is done with a view to establishing a comprehensive ecological dataset for a zoning review of HHW. The Study Area is as illustrated in Annex 1 of the Assignment Brief.

1.2.2 The specific objectives are as follows:

- To compile, review and consolidate all the available information regarding, inter alia, the ecological characteristics and resources of the Study Area.
- To carry out ecological field surveys for at least 12 months covering both wet and dry seasons to verify the information collected and fill information gaps as identified under subsection (a) above, if any.
- To establish an ecological profile of the Study Area based on information collected in the tasks mentioned in subsection (a) to (b) above, and evaluate the ecological importance of the Study Area according to established criteria. Reference shall be made to the Technical Memorandum on EIA Process issued under the EIA Ordinance and relevant guidance notes.

1.3 Main Tasks

1.3.1 There are three main tasks.

- Task 1: review existing information and proposal of survey approaches and methodologies;
- Task 2: carry out ecological field survey and interim reporting of survey results;
- Task 3: Ecological evaluation of Study Area;

1.3.2 This report is the primary deliverable with regard to Task 3. The major information to be provided is listed in Section 4.3(c) of the Assignment Brief. Based on this information, an evaluation of the ecological importance of various habitats and wildlife groups of the Study Area should be prepared in a Final Report with relevant plans/drawings.

1.4 Literature reviewed

1.4.1 Literature reviewed for data specific to the Study Area comprised the following:

- Anon. 2011. Study of the Day Time Movement of Great Cormorant in Inner Deep Bay, winter 2010-2011. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government;
- Arup. 2010. Agreement No. CE60/2005 (TP). Land Use Planning for the Closed Area – Feasibility Study. Final Report
- Aspinwall. 1997. Agreement No. CE 72/94. Study on the Ecological Value of Fish Ponds in the Deep Bay Area. Final Report. Report for Planning Dept, Hong Kong Government;
- Carey, G.J., Chalmers, M.L., Diskin, D.A., Kennerley, P.R., Leader, P.J., Leven, M.R., Lewthwaite, R.W., Melville, D.S., Turnbull, M. and Young, L. 2001. The Avifauna of Hong Kong. Hong Kong Bird Watching Society, Hong Kong;

- ENSR 2009. Ecological Baseline Survey for Lok Ma Chau Loop Area. Ecological Baseline Report. Report for Shenzhen Academy of Environmental Science;
- Mott MacDonald Hong Kong Ltd. 2009. Construction of a Secondary Boundary Fence and new sections of Primary Boundary Fence and Boundary Patrol Road. Environmental Impact Assessment. Report No. 216727/08/02/E. January 2009;
- Ove Arup 2009. Agreement No CE 60/2005 (TP) Land Use Planning for the Closed Area - Feasibility Study. Ecological Assessment of Hoo Hok Wai. Report for Planning Department, HKSAR Government.

1.4.2 In addition, findings of the Study Team for the ongoing Agreement No. CE53/2008(CE) Planning and Engineering Study on Development of Lok Ma Chau Loop was also referred to.

1.5 Physical Environment¹

- 1.5.1 The Study Area of HHW is dominated by 229 ha of wetland habitats, which currently constitute active and inactive fish ponds, freshwater marsh, reed marsh and streams (see Figure 1). Active fish ponds predominate and are located along LMC Meander and in the central part of the area, while inactive fish ponds tend to lie closer to the Shenzhen River where access is not so convenient. The location of managed and unmanaged ponds is illustrated in Figure 15.
- 1.5.2 Large areas of freshwater marsh are also found at HHW. Water levels in these areas are seasonally-influenced, with some parts wet year-round, and others in the wet season only. Marsh in these areas tends to be of limited structural or micro-habitat diversity, with reed in the wetter areas and grasses in the drier areas.
- 1.5.3 Smaller streams are limited in extent, and are mainly located in the southern part of the Study Area where watercourses flow down from the adjacent hills. However, the Study Area is bounded to the west by LMC Meander, which is one of the largest natural river courses remaining in HK, though its shape is more that of an oxbow lake. Its steep profile and heavily-vegetated banks limit its importance to foraging birds, while water quality and the influence of the Shenzhen River (of which it formerly was a part) limit diversity of the aquatic faunal community. Although the Meander has limited importance to foraging birds, as the primary focus of the flight line corridor that connects Hoo Hok Wai with other parts of the Deep Bay Area, its ecological value is high.
- 1.5.4 The area of land, primarily comprising fish ponds, that lies to the southeast of LMC Meander, between that watercourse and the current boundary fence, possibly also forms a corridor for terrestrial mammals, linking HHW with areas to the south of the Spur Line.
- 1.5.5 Previous studies (e.g. Aspinwall 1997) have identified a flight line broadly aligned with Ng Tung River linking the Ho Sheung Heung egretty with HHW. Although not explicitly described in previous work, it is presumed that the Ng Tung River also provides a focus for flight line connectivity between HHW and Long Valley. The occurrence in the Long Valley area in recent years of foraging Black-faced Spoonbills indicates that HHW probably lies under the flight path to/from roost sites at Mai Po Nature Reserve, and it is presumed that these birds access the area along the low-lying land along the Ng Tung River, rather than directly over Crest Hill and adjacent hilly areas (though the latter is also possible).

¹ Addresses Section 4.3(c)i of the Assignment Brief

- 1.5.6 There appears to be no specific site or feature of conservation importance. The whole wetland area, which has habitat diversity and is relatively little fragmented by roads or buildings, has considerable ecological value, though it varies somewhat according to location
- 1.5.7 LMC Meander, which lies adjacent to the western boundary of the Study Area, appears to be important to Eurasian Otter both as a foraging area and movement corridor, and is certainly of significance to the flight line corridor that is focussed on this water channel, can be considered a feature of conservation importance for these reasons.
- 1.5.8 Ho Sheung Heung Egretty is located to the southeast of the Study Area, near the Ng Tung River. Birds from this egretty forage in the wetland habitats of HHW, and the area is of importance to this colony.

2 METHODOLOGY

Table 1 provides the dates on which flora and fauna surveys were carried out. Figure 2 illustrates the transect survey route, and the locations of point and flight-line counts.

Table 1. Survey schedule, January to December 2012.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Habitat mapping							30 th	23 rd			11 th	
Botanical survey								23 rd , 28 th			11 th	
Birds: transect survey	27 th 30 th	20 th 21 st	27 th 28 th	28 th	21 st	19 th	17 th	30 th	19 th , 20 th	24 th , 25 th	19 th , 20 th	16 th , 17 th
Birds: flight line survey	31 st	1 st Mar	26 th	18 th	9 th	28 th	30 th	23 rd	26 th	27 th	21 st	13 th
Birds: Ho Sheung Heung egretty flight lines						1 st 15 th 20 th 29 th						
Mammals	27 th 30 th	20 th 21 st	27 th 28 th 31 st	12 th 24 th 28 th	21 st 29 th 25 th	19 th 28 th 29 th	17 th 30 th 31 st	22 nd 23 rd , 30 th	14 th 19 th , 20 th 26 th	15 th 24 th 25 th 27 th	8 th 9 th 19 th 20 th 21 st	13 th 16 th 17 th
Bats				25 th			11 th			15 th		
Nocturnal herpetofauna and fireflies				12 th	29 th	28 th	30 th 31 st	22 nd	14 th			
Diurnal herpetofauna			31 st	24 th	25 th	28 th 29 th	30 th	22 nd	14 th	15 th	9 th	
Dragonflies			31 st	24 th	25 th	28 th 29 th	30 th	22 nd	14 th	15 th		
Butterflies			31 st	24 th	25 th	28 th 29 th	30 th	22 nd	14 th	15 th	9 th	
Aquatic Fauna							31 st	1 st			8 th	

2.1 Habitats and Flora

- 2.1.1 Based on aerial photos and previous AEC work in the area, a detailed habitat map was prepared that was subsequently refined via wet and dry season ground-truthing in July, August and November.
- 2.1.2 Moderately detailed botanical surveys of the whole HHW area were carried out in summer 2008 by AEC, and these were validated. In order to define the floral characteristics of each

habitat type, further surveys were carried out where required to provide a botanical inventory and identify such factors as dominant species present. These surveys were carried out in August and November.

2.2 Avifauna

- 2.2.1 A two-pronged approach to describing bird usage of HHW was adopted, with flight line surveys helping to clarify numbers of large waterbird species using the area, while transect and point count survey allowed assessment of distribution of all birds across the area.

Transect Surveys

- 2.2.2 Monthly transect surveys through the whole HHW study area (access permitting) were carried out adopting the methodology used in the Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme (WMP). Broadly speaking this involved surveys carried out on foot, with the surveyor actively scanning the banks and water surface of every pond for birds using binoculars and, when required, a telescope to ensure that as few birds are missed as possible. Pond conditions such as water level (monthly), and bank vegetation and management status (once during the 12-month period) were recorded. In addition, larger waterbirds (cormorants, herons and egrets) were assigned to categories of foraging or roosting, in order to better define the nature of their usage of different areas. For other species, any evidence of communal roosting or breeding behaviour such as dependent juveniles or nests was recorded.
- 2.2.3 Species that are common and widespread in suitable habitat in HK including the Deep Bay area, were not counted, but simply their presence during the survey noted, in order that survey effort could be directed to species of greater significance. Species not quantified in the transect surveys were as follows: Domestic Pigeon, Spotted Dove, Long-tailed Shrike, Eurasian Magpie, Red-whiskered and Chinese Bulbuls, Yellow-bellied and Plain Prinias, Common Tailorbird, Masked Laughingthrush, Crested Myna, Black-collared Starling, Oriental Magpie Robin and Eurasian Tree Sparrow.
- 2.2.4 The large size of the Study Area necessitated the survey being carried out either simultaneously by two observers or split into two and carried out on consecutive days. Otherwise, air temperature and water conditions at the beginning of the survey would have been very different from those near the end, and the data not comparable.

Point count surveys

- 2.2.5 In order to assess the usage of large areas of closed habitats, for which transect surveys are less appropriate, point counts were carried out at five locations (marked A to E in Figure 2). All species seen or heard in a five-minute period in the relevant marsh were recorded.

Flight line surveys

- 2.2.6 In order to assess the strength of linkages between HHW and other areas of Deep Bay in respect of large waterbirds, which is the avifaunal group of greatest conservation significance occurring at HHW, flight line surveys of these birds (as well as raptors, in particular eagles) were carried out from LMC Lookout, which commands an unobstructed view of the full width of the flight line corridor across to Shenzhen River. Previous surveys have suggested that the majority of these birds landed at HHW, and the paucity of suitable foraging habitat to the north of the Ng Tung would indicate this is likely, but it has not been confirmed. In order to determine what proportion of these birds fly beyond HHW to forage in other areas, an observer was situated at the top of Crest Hill to count birds flying beyond the HHW area.

- 2.2.7 Surveys were carried out for three hours beginning 15 minutes before sunrise according to the time forecast by Hong Kong Observatory (on the dates shown in **Table 1**), as previous experience has shown this to be necessary to record the great majority of birds early in the morning. All large waterbirds and raptors flying toward the HHW area were identified and counted using binoculars and telescope (the latter is essential to accurately survey birds flying in the area of Shenzhen River). In addition, any movements of Black-faced Spoonbill or eagles to or from LMC were also recorded.
- 2.2.8 Surveys were carried out once a month throughout the year, apart from February when, due to persistent misty weather affecting visibility, the survey was delayed until 1 March; despite this, the Crest Hill survey could not take place.
- 2.2.9 Analysis of data collected during both transect and flight line surveys was informed by a review of avifaunal data collected under the 'Study on the Ecological Value of Fish Ponds in the Deep Bay Area' (Aspinwall 1997) and data collected as part of the WMP, which has comprised monthly surveys of wetland-dependent bird species since 1998. With respect to Aspinwall (1997), however, little actual data is presented in the report; further, given that the data was collected approximately 18 years ago, it is considered they would be out of date. The exception relates to flight line surveys of breeding ardeids at Ho Sheung Heung egretty.
- 2.2.10 Although Ho Sheung Heung egretty is located outside the Study Area, HHW is a foraging area for a proportion of the birds nesting there. To ascertain the current relative importance of HHW to this egretty, flight-line surveys of breeding birds flying to HHW and elsewhere were carried out once juveniles were being fed. Four flight line surveys were carried out, all in June, by two observers situated at the locations indicated in **Figure 10**. Observations continued from dawn for two hours.

2.3 Mammals

- 2.3.1 Surveys of mammals were carried out in parallel with surveys of other fauna. Signs of mammals were sought, while any sightings of animals were recorded. Attention was also paid to LMC Meander, in which Eurasian Otter was recorded during fieldwork for the LMC Loop study. Dates of survey are indicated in **Table 1**.
- 2.3.2 Surveys of bats were carried out using a bat detector, and any potential roost sites were investigated. Dates of survey are indicated in **Table 1**.

2.4 Herpetofauna

- 2.4.1 Surveys of herpetofauna on the dates indicated in **Table 1** followed the protocol recommended in EIAO Guidance Note No. 10/2010. Reptiles and amphibians seen or heard during general walk-through surveys along a fixed transect were recorded to species level. Active searching of microhabitats or potential refugia took place. Surveys of amphibians and nocturnal reptiles occurred on one evening monthly during the peak period of activity from April to September; diurnal surveys of reptiles occurred one day per month during the period March to November. Any tadpoles, eggs or other signs of breeding activity observed were recorded.

2.5 Dragonflies

- 2.5.1 Surveys of dragonflies on the dates indicated in **Table 1** followed the protocol recommended in EIAO Guidance Note No. 10/2010. Daytime transect counts were conducted once per month in all potential habitats for odonates (i.e. stream, pond, marsh, reed marsh) from March to October. Individuals observed within an estimated 5m of a standard transect were

recorded and counted, with the aid of binoculars. Netting was used only to confirm identification. Particular attention was paid to habitats that might support the damselfly *Mortonagrion hirosei*. Any dragonfly larvae observed were recorded.

2.6 Butterflies

2.6.1 Survey of butterflies on the dates indicated in **Table 1** followed the protocol recommended in EIAO Guidance Note No. 10/2010. Daytime transect counts were conducted once per month in all natural or semi-natural habitats from March to November. All adult butterflies seen were identified and enumerated. Any obvious signs of larval activity were be recorded.

2.7 Aquatic Fauna

2.7.1 Based on previous experience, the habitats at HHW are unsuitable for aquatic species of high conservation concern, mainly due its being an aquaculture site with a high proportion of introduced species and relatively high levels of disturbance. Therefore, surveys of aquatic fauna relied mainly on direct observation from the water's edge with the aid of binoculars. Species observed were counted and recorded. In LMC Meander, direct observation was employed. Given that species of conservation interest were found near Ngau Kok Shan during the LMC Loop study, particular attention will be paid to streams in this and other similar areas.

2.7.2 Aquatic surveys were conducted once in the wet season (between May and September) and once in the dry season (between November and February) during daytime.

2.8 Fireflies

2.8.1 Fireflies were sought during nocturnal surveys of bats and herpetofauna.

3 HABITATS AND FLORA

3.1 Overview

3.1.1 Results of the habitat survey are presented in **Figure 3**². The dominance of the wetland habitats of pond, marsh and reed marsh is evident from this map and **Table 2**, which lists the areas of the different habitats present based on work carried by the Study Team for Ove Arup (2009) and the LMC Loop Study, and ground-truthed during this Study.

3.1.2 Representative colour photographs of each habitat type³, as required by Section 4.3(c)iv of the Assessment Brief, are provided in **Appendices C and E**.

3.1.3 The most thorough survey of the flora of HHW was carried out by the Study Team in 2008, and was published in Ove Arup (2009). A list of plant species recorded at HHW, based on the latter work and field survey during the current Study, is provided as **Appendix A**.

Table 2. Area (ha) of habitats in the Study Area

Habitat	Area (ha)	Habitat	Area (ha)
Pond	160.73	Urban/Residential Area	2.03
Marsh	51.48	Natural Watercourse	2.31
Plantation	11.49	Channelised Watercourse	0.78
Reed/ Marsh	15.56	Ruderal	1.02

² Addresses Section 4.3(c)ii of the Assignment Brief

³ Addresses Section 4.3(c)iv of the Assignment Brief

Habitat	Area (ha)	Habitat	Area (ha)
Secondary Woodland	0.94		

3.2 Pond

- 3.2.1 Pond is the major habitat type in the Study Area and is ecologically of the great faunal significance. However, the botanical significance of these ponds is limited, based on the work of the Closed Area Study, ENSR (2009), Mott Macdonald (2009) and the LMC Loop study⁴, with only common and widespread species present. A total of only 46 species was recorded in this habitat by Ove Arup (2009), with a further 38 species recorded in field work for this Study.
- 3.2.2 Ponds are typically surrounded by vegetation on the bunds. Managed fishponds undergo active pond management in which cutting of the grassy bunds is a regular practice. Thus the vegetation on the bunds mainly comprises exotic grass species such as *Brachiaria mutica*, *Panicum maximum*, *Bidens alba* and the native grass *Cynodon dactylon*. Other common to very common herbaceous species such as the exotic herb *Pennisetum purpureum*, the native herb *Vernonia cinerea*, and the exotic subshrub *Sesbania cannabina* were also commonly recorded. Fruit trees such as *Artocarpus heterophyllus* and the perennial herb *Musa x paradisiaca* have been planted around the ponds. The native trees *Macaranga tanarius* var. *tomentosa*, *Microcos nervosa*, *Hibiscus tiliaceus* and *Trema tomentosa*, the shrub *Rhodomyrtus tomentosa* and the exotic tree *Melia azedarach* and shrub *Lantana camara* are scattered in patches or as isolated individuals along the pond banks.
- 3.2.3 Abandoned and overgrown ponds are mainly covered by weedy grasses such as *Panicum maximum*, *Brachiaria mutica* and *Mikania micrantha* and herbaceous creepers such as *Ipomoea cairica*. Some ponds have been colonized by reed *Phragmites australis* and invaded by exotic herbs *Eichhornia crassipes* to varying extents.

3.3 Freshwater marsh and reed marsh

- 3.3.1 Extensive areas of freshwater marsh exist at HHW, totalling 51.48 ha, together with 15.56 ha of reed marsh. Botanical diversity of these areas is limited, however, and a total of only 49 species of flora were recorded in marsh at HHW by Ove Arup (2009); although the field work for this study recorded a moderate plant diversity of 114 species, all were common and widespread species. These marsh areas were largely covered by the exotic grass *Brachiaria mutica* and the native wetland fern *Cyclosorus interruptus*, and colonised by isolated patches of wetland species such as the herbs *Cyperus malaccensis*, *Paspalum scrobiculatum* var. *orbiculare*, *Ludwigia octovalvis* and *Commelina diffusa*, and *Phragmites australis* at varying densities. In particular, the marshy area closest to Ngau Kok Shan was colonized by common herbaceous vegetation including *Alocasia odora*, *Colocasia esculenta* and *Hedychium coronarium*.
- 3.3.2 The large marsh areas (M1 and M2) in the western part of Hoo Hok Wai contain patches of reed *Phragmites australis*. In addition, also present were extensive areas of the weedy grass species *Brachiaria mutica*, the herb *Commelina diffusa* and the wetland fern *Cyclosorus interruptus*. Marsh areas M3 and M4 are present in the eastern part. These two areas are less wet than M1 or M2, and are mainly dominated by the weedy grass species *Brachiaria muticum* and the herb *Commelina diffusa*.

3.4 Stream

⁴ Agreement No. CE53/2008(CE). Planning and Engineering Study on Development of Lok Ma Chau Loop - Investigation

3.4.1 Several water channels are located near marsh and pond areas within the Study Area and one of these has been channelized with a vertical gabion embankment. Ove Arup (2009) found that these channels were largely dominated by grasses such as *Bracharia mutica*, *Panicum maximum* and *Digitaria ciliaris*, the fern *Cyclosorus interruptus*, and herbs such as *Alternanthera philoxeroides*, *Bidens alba*, *Colocasia esculenta*, *Commelina diffusa*, *Ludwigia perennis*, *Ludwigia octovalvis*, *Manihot esculenta* and *Polygonum chinense*. More woody species such as the native trees *Aporosa dioica*, *Cinnamomum burmannii*, *Ficus subpisocarpa*, *Macaranga tanarius* var. *tomentosa*, *Sapium sebiferum*, the exotic trees *Melia azedarach*, *Mangifera indica* and the shrub *Lantana camara* were recorded along the channels. All species are common to very common in HK. Surveys for this study found 37 plant species in the water channels and the vegetation composition was very similar to the findings of Ove Arup (2009).

3.4.2 Ecologically the most significant stream in the area is LMC Bend (LMC Meander), which borders the western part of the fish pond area, alongside LMC Loop. Ove Arup (2009) found this channel was composed of herbaceous vegetation such as the grasses *Bracharia mutica*, *Echinochloa crusgalli*, *Panicum maximum* and *Pennisetum purpureum*, the herbs *Fimbristylis nutans*, *Bidens alba*, *Manihot esculenta* and *Phytolacca acinosa*, the creeping herbs *Mikania micrantha* and *Wedelia trilobata*, and isolated trees *Macaranga tanarius*, *Leucaena leucocephala* and *Trema tomentosa*.

3.5 Secondary woodland and plantation

3.5.1 Two small woodland areas totalling 0.94 ha are located along the boundary fence road, near Ngau Kok Shan. In addition, an 11.49 ha area of plantation lies alongside the Shenzhen River in the northeast of the Study Area; this comprises a mitigation area for the training of the Shenzhen River. The overstory of the secondary woodland is dominated by the semi-closed canopy of the native tree species such as *Aporosa dioica* and *Cinnamomum camphora*. While the plantation woodland mainly consists of a closed canopy of common exotic plantation tree species (such as *Eucalyptus* spp. and *Casuarina equisetifolia*) and other planted native tree species (such as *Hibiscus tiliaceus* and *Ficus microcarpa*). Moderate plant diversity (87 and 75 species in the plantation and secondary woodland respectively) was recorded in this Study but no species of conservation concern were recorded.

3.6 Other habitats

3.6.1 Very small areas of the following habitats are also present: ruderal area (1.02 ha) and urban/residential area (2.03 ha). Surveys for this Study found 62 and 22 plant species respectively with no species of concern recorded.

4 FAUNA

4.1 Avifauna

4.1.1 The suite of species that utilises HHW is typical of the DBA and the northwest NT. What currently marks the area as different is that it is relatively large and unfragmented, and there is very little public access due to its lying within the Closed Area. Pond size is relatively large in some areas compared to other parts of the DBA, and there are large areas of largely inaccessible seasonal or permanently wet freshwater marsh. For these reasons, it remains rather undisturbed, which is reflected in the relatively greater numbers of daytime roosting large waterbirds, especially in areas close to Shenzhen River.

4.1.2 Wetland-dependent species are the primary constituent of the ecological significance of avifauna in wetland areas in the northwest New Territories (NT), and the Study Area is no

different. The mixture of ponds, freshwater marsh, reed marsh and natural and channelised watercourse is used by breeding, passage and wintering populations of large waterbirds, including egrets, herons, duck and spoonbills. Although ardeids occur throughout the year in the whole area, concentrations of large numbers (in the low hundreds) take place at draining and drained ponds, a phenomenon that usually takes place in the dry season. Significant numbers of the globally-threatened Black-faced Spoonbill occur at HHW in the winter months, although their foraging activity is largely confined to draining and drained ponds. Strong linkages exist between HHW and the wetland area to the west of the Lok Ma Chau Boundary Crossing Point (LMC BCP), extending to the intertidal areas of Inner Deep Bay, as confirmed by radio-telemetry studies of Black-faced Spoonbills (Anon. 2002) and flight line counts of cormorants (Anon. 2005, Anon. 2011). These waterbirds utilise the area for foraging and roosting. Many of these are listed as of Local Concern by Fellowes *et al.* (2002), as wetland species are restricted in range in HK due to the lack of suitable habitat in many areas away from the northern NT. Species listed as of Regional or Global Concern by Fellowes *et al.* (2002) or by BirdLife International that have been recorded at HHW are provided in Table 3. A complete list of species recorded in the Hoo Hok Wai area is provided in Appendix B.

Table 3. Species of birds recorded at Hoo Hok Wai (HHW) listed by BirdLife International or listed as of Global or (Potential) Regional Concern by Fellowes *et al.* (2002), together with Appendix listing in Convention on Migratory Species (CMS)⁵, status at HHW and status in HK. Species recorded in this Study are highlighted in grey.

Species	BirdLife	Fellowes <i>et al.</i>	CMS	HHW Status (HK status)
Falcated Duck <i>Anas falcata</i>	NT	RC	2	Rare (4)
Eurasian Wigeon <i>Anas penelope</i>		RC	2	Common in winter (2)
Mallard <i>Anas platyrhynchos</i>		RC	2	Very rare (4)
Chinese Spot-billed Duck <i>Anas zonorhyncha</i>		RC	2	Rare (4)
Northern Shoveler <i>Anas chapeau</i>		RC	2	Scarce (2)
Northern Pintail <i>Anas acuta</i>		RC	2	Scarce (2)
Eurasian Teal <i>Anas crecca</i>		RC	2	Occasional winter records (2)
Great Crested Grebe <i>Podiceps cristatus</i>		RC		Very rare (2)
Black-faced Spoonbill <i>Platylea minor</i>	EN	PGC	1	Regular in winter (2)
Von Schrenck's Bittern <i>Ixobrychus eurhythmus</i>		RC		Rare (5)
Chinese Pond Heron <i>Ardeola bacchus</i>		PRC(RC)		Common all year (1)
Grey Heron <i>Ardea cinerea</i>		PRC		Common in winter (2)
Purple Heron <i>Ardea purpurea</i>		RC		Rare (4)
Great Egret <i>Ardea alba</i>		PRC(RC)		Common all year (1)
Intermediate Egret <i>Egretta intermedia</i>		RC		Scarce(3)
Little Egret <i>Egretta garzetta</i>		PRC(RC)		Common all year (1)
Great Cormorant <i>Phalacrocorax carbo</i>		PRC		Common in winter (2)
Western Osprey <i>Pandion haliaetus</i>		RC	2	Scarce (2)
Black Kite <i>Milvus migrans</i>		(RC)	2	Common all year (6)
White-bellied Sea Eagle <i>Haliaeetus leucogaster</i>		(RC)	2	Rare (7)
Greater Spotted Eagle <i>Aquila clanga</i> #	VU	GC	1	Previously regular, now rare (4)
Eastern Imperial Eagle <i>Aquila heliaca</i> #	VU	GC	1	Previously regular, now rare (4)
Bonelli's Eagle <i>Aquila fasciata</i>		(RC)	2	Scarce (7)
Slaty-breasted Rail <i>Gallirallus striatus</i>		RC		Rare (7)
Watercock <i>Gallicrex cinerea</i>		RC		Rare (5)
Eurasian Coot <i>Fulica atra</i>		RC		Small numbers in winter (4)

⁵ http://www.cms.int/documents/appendix/appendices_e.pdf (version effective 23 February 2012)

Species	BirdLife	Fellowes et al.	CMS	HHW Status (HK status)
Black-winged Stilt <i>Himantopus himantopus</i>		RC	2	Regular in winter and on passage (3)
Pied Avocet <i>Recurvirostra avosetta</i>		RC	2	Rare in winter (2)
Kentish Plover <i>Charadrius alexandrinus</i>		RC	2	Rare on passage (2)
Greater Sand Plover <i>Charadrius leschenaultii</i>		RC	2	Rare on passage (3)
Eurasian Curlew <i>Numenius arquata</i>	NT	RC	2	Very rare (2)
Spotted Redshank <i>Tringa erythropus</i>		RC	2	Rare (2)
Marsh Sandpiper <i>Tringa stagnatilis</i>		RC	2	Rare on passage (3)
Common Greenshank <i>Tringa nebularia</i>		RC	2	Scarce on passage/in winter(3)
Dunlin <i>Calidris alpina</i>		RC	2	Rare on passage (2)
Black-headed Gull <i>Larus ridibundus</i>		PRC		Scarce in winter(3)
Eurasian Eagle Owl <i>Bubo bubo</i>		RC		Scarce but probably regular (7)
Collared Crow <i>Corvus torquatus</i> #	NT			Common all year (1)
Chinese Penduline Tit <i>Remiz consobrinus</i> #		RC		Regular in winter (2)
Styan's Grasshopper Warbler <i>Locustella pleskei</i> #	VU	GC		One record (Aspinwall 1997) (4)
Red-billed Starling <i>Sturnus striatus</i> #		GC		Common in winter (2)
White-cheeked Starling <i>Sturnus cineraceus</i> #		PRC		Common in winter (2)
Yellow-breasted Bunting <i>Emberiza aureola</i> #	VU	RC	1	Regular in winter and on passage (3)
Japanese Yellow Bunting <i>Emberiza sulphurata</i>	VU	GC		Scarce (4)

RC = Regional Concern, GC = Global Concern, PGC = Potential Global Concern. WMP = Mai Po Inner Deep Bay Ramsar Site Waterbird Monitoring Programme. EN = Endangered; VU = Vulnerable; NT = Near-threatened.

Key to Hong Kong status: 1: common wetland species present all year; 2: common winter visitor to Deep Bay area (DBA); 3: common winter visitor and passage migrant; 4: scarce winter visitor to DBA; 5: scarce passage migrant; 6: common all year throughout SAR; 7: present all year, but localised.

indicates wetland-associated species of landbird, remainder are waterbirds.

* Previous records of 'Spot-billed Duck A. *poecilorhynchos*' at HHW are treated as Chinese Spot-billed Duck A. *zonorhynchos*, which is more common in Hong Kong.

- 4.1.3 The WMP includes surveys of fish ponds that lie in the area from Lok Ma Chau BCP to Hoo Hok Wai ('Shenzhen River B'). In terms of overall numbers, the highest WMP counts of waterbirds are made in the winter months. As a percentage of the total number of waterbirds counted in fish pond areas covered by the WMP, the five highest counts of birds at Shenzhen River B constituted 21.8% to 48.7% of the total number of waterbirds recorded in the same months (see Table 4). Since the commencement of the WMP, the number of waterbirds recorded at HHW has averaged around 15% of the total for all fish ponds surveyed in the Deep Bay area.

Table 4. The five highest counts of waterbirds at Hoo Hok Wai (Shenzhen River B) in the HKBWS/AFCD Ramsar Site Waterbird Monitoring Programme since December 1998, and the percentage of the Deep Bay fishpond count of waterbirds in the same month.

Date	Deep Bay fish pond area count	HHW count	Percentage of Deep Bay fish pond count
March 2001	2183	1063	48.7%
January 2002	2889	879	30.4%
February 2004	3523	960	27.2%
April 2004	1199	325	27.1%
February 1999	4430	966	21.8%

- 4.1.4 From the commencement of the WMP to March 2012 (the period for which data is currently publicly available), Shenzhen River B supported a mean of 12.8% of the total number of

waterbirds recorded in fish pond areas in summer (April to October) and a mean of 14.8% in winter (November to March). The mean percentage, irrespective of season, for April 2002 to March 2007 was 14.6%, while the equivalent figure for April 2007 to March 2012 was 11.2%.

- 4.1.5 The HHW area is an important foraging ground for the HK wintering population of Great Cormorant, which forage in ponds throughout the Study Area. Based on the findings of Anon. (2001), numbers of foraging cormorants are greater in ponds that are square-shaped (rather than linear) and large in size, especially where they are relatively distant from the nearest night roost or a surfaced road. The HHW area is, thus, well-suited to this species.
- 4.1.6 In winter 2009-10, during fieldwork for the LMC Loop Study, up to 1647 birds or 16.4% of the wintering population was recorded flying towards Hoo Hok Wai. In winter 2010-11 up to 1860 birds were seen flying towards HHW. During fieldwork for this Study, the number of cormorants flying toward HHW ranged from 442 to 987 in the midwinter months of December to February, and given that the peak count of birds flying beyond Crest Hill was 66 in these months, one can conclude that the vast majority of these birds landed at HHW. However, in a flight line study conducted in 2010-2011, on average 213 and 136 Cormorants landed at HHW during days with and without fish-stocking at Mai Po Nature Reserve respectively. Although the number of Great Cormorants using the area appears to have fallen since the work in 2009-10, it still supported nearly one-quarter of cormorants flying towards this area from Mai Po Nature Reserve and Nam Sang Wai (Anon 2011).
- 4.1.7 Relatively few ducks occur at HHW, as managed fish ponds appear to be unsuitable either because they do not provide the required food items or are too disturbed. The same is true of other fish pond areas in Deep Bay. Undisturbed, inactive or abandoned ponds attract small numbers of ducks, most regularly represented at HHW by Eurasian Teal and Tufted Duck. The former is a dabbling duck, which means it can forage in the emergent vegetation that often grows at the edge of abandoned ponds, while Tufted Duck is a diving duck and occurs in small numbers on managed and inactive ponds throughout the Deep Bay Area.
- 4.1.8 Imperial and Greater Spotted Eagles, both listed as globally threatened species by BirdLife International, occur regularly in Hong Kong only in the Deep Bay wetlands, where they forage in a wide variety of natural and semi-natural habitats. Previously, these birds frequently occurred as far east as Hoo Hok Wai; however, apparently as a result of a decline in duck farming in the area, they are now relatively scarce in this part of the ecological study area (Carey *et al.* 2001). Both, however, were recorded by ENSR (2009) in LMC Loop itself, and they still occur in adjacent HHW.
- 4.1.9 The globally-threatened Yellow-breasted Bunting (Vulnerable) is regularly recorded at HHW on passage and in the winter months, while Styan's Grasshopper Warbler (in winter 1995-96) and Japanese Yellow Bunting (in 2005), both listed as Vulnerable, have each been recorded on one occasion. The first and last of these occur in both wet and dry open-country habitats other than woodland or shrubland, while the warbler occurs in closed wetland habitat such as marshes and mangrove areas. The Near-threatened Collared Crow, which occurs in coastal and wetland areas in HK, mainly in the New Territories, is present throughout the year at HHW. In addition, a number of scarce reed or freshwater marsh-associated species occur at HHW, of which the most notable is Chinese Penduline Tit, which is listed as of Regional Concern by Fellowes *et al.* (2002). Other species of note that regularly occur in pond, marsh or pond-edge grassy habitats at HHW are Red-throated and Buff-bellied Pipits, Bluethroat and Pallas's Grasshopper Warbler, Zitting and Bright-capped Cisticola, Chestnut-eared Bunting and Purple-backed Starling (all LC in Fellowes *et al.* (2002)).

Transect Surveys

4.1.10 **Table 5** lists ponds and months in which conditions varied from the typical condition of a commercially-managed fish pond. If the water level was below the long-term level, this is indicated as a measure of the revealed pond edge in metres (e.g. e4m). If the pond was drained to reveal some of or the entire pond bottom, this is indicated as a measure of the percentage exposed (25%, 50%, 75% or 100%), while whether the exposed portion was wet (w) or dry (d) is also stated. Thus, a pond that has 50% of wet mud exposed at the bottom would receive the 'b50w'. The percentage (25%, 50%, 75% or 100%) of the pond water surface occupied by emergent vegetation is indicated also using 'e'. Ponds not listed were typical of commercially-managed fish ponds (i.e. full of water with no emergent vegetation).

Table 5. Ponds that varied from the typical condition of a commercially-managed fish pond (b = bottom, w = wet, d = dry, e = 'edge' or 'emergent' as appropriate).

Pond	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50
3	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50
4	e25	e25	e25	e25	e25	e25	e25	e25	e25	e25	e25	e25
8										b100w		
10											b100w	b100w
12	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50	e50
18								e4m	e4m			
24	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100
27	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100
34	b100d	b100d										
35	b100d	b50d										
38	b100w	b100w	b100d									
46									b25w	b100d		
47									b25w	b100d	b50w	
48		b100w										e3m
51								b100w	b100d			
57		b50w										
58	b100w											
61	b100d											
62		b100w	b100d									
64				e4m	b50w	b100w						
68										b50w	b50w	
72										b25w		b50w
100										b100d		
105	e50											
109A								e25				
109B	b100d	b100d	b100d	b100d	b100w	b100w	b100w	e25	e25	e25	e25	
110												b100w
118	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100	e100
124	filled	filled	filled	filled	filled	filled	filled	filled	filled	filled	filled	filled
125	e100	e100	e100	e100	e100	e100	e100	e100	e75	e75	e75	e100
131		b100w										
132			b25w						e100	b100d	b100d	
133	e100	e100	b100d									

4.1.11 Surveys for this Study confirmed the above, that HHW remains a wetland of considerable importance to wetland-dependent species (see **Appendix F** for survey data; both **Table 3** and **Appendix B** indicate species of conservation significance recorded in this Study). **Figures 4 and 5** illustrate the wet and dry season abundance of ardeids at ponds and marshes in the area, and both indicate a broad spread across the area, with birds recorded at the majority of ponds. Those at which no birds were recorded in either season tend to be small, and therefore more prone to disturbance (e.g. ponds 131 and 132), or occupied by a large amount of emergent vegetation (e.g. pond 125) or filled (pond 124), both of which severely restrict foraging opportunities for ardeids.

- 4.1.12 In the dry season, numbers of ardeids and Black-faced Spoonbills were highest at ponds that were either being drained or close to ponds that were being drained. This is not surprising, as short-term roosts develop in response to disturbance at the pond at which foraging is occurring, or due to the need to spend time digesting prey.
- 4.1.13 In the wet season there was no clear-cut association between ponds with the highest numbers of ardeids and draindown. Pond draindown is less common at this time of year and waterbirds are thus less likely to concentrate at food sources. The presence of shallow water with emergent vegetation at low density across much of the pond seemed to attract relatively high numbers of Chinese Pond Heron to pond 109B, with 20 present in August.
- 4.1.14 **Figure 6** illustrates the distribution and relative abundance of roosting Great Cormorants across the Assessment Area in the dry season (none were present in the wet season). It can be seen that diurnal roosting Great Cormorants were concentrated in the less-disturbed areas alongside Shenzhen River, east from pond 85. Larger roost counts elsewhere occurred at pond 17, which lies adjacent to M1 and so is less disturbed, and pond 28, which is also located in a less disturbed part of the area.
- 4.1.15 In terms of ardeids, **Figure 7** presents the distribution of roosting birds during the whole year. As with Great Cormorants, there was a concentration of roost sites along the Shenzhen River from pond 75 to pond 113; in general, these comprised the larger species Grey Heron and Great Egret, which are more sensitive to disturbance and thus require larger undisturbed areas in the vicinity of their roost site. Other roost concentrations were largely related to the presence of drained ponds in the vicinity, with birds roosting (presumably between foraging events) or taking refuge (as a result of disturbance) nearby. Exceptions to this were pond 25, where Chinese Pond Heron was one of the dominant roosting species, and pond 1, where a regular winter roost of ardeids largely comprised Black-crowned Night Heron. This unmanaged pond with dense shrubs along the banks, overhanging the water, appears highly suitable for this largely nocturnal species.
- 4.1.16 **Figures 8 and 9** illustrate the wet and dry season abundance of non-ardeid waterbirds. In the wet season absolute numbers were low, with no more than 20 individuals at any pond over the course of the six month period. In the dry season, pond 95 recorded the highest numbers, mainly due to a single foraging flock of 134 Pied Avocets in February. Ponds 109A and 109B are notably undisturbed, and water levels and emergent vegetation in the final three months of 2012 were conducive to the presence of foraging and roosting Little Grebe, Eurasian Teal, Garganey and Northern Shoveler.
- 4.1.17 The higher numbers recorded at Ponds 57, 68 and 72 (see **Figure 9**) were all due to concentrations of birds during draindown: a February flock of 61 Black-faced Spoonbills in Pond 57, and concentrations of shorebirds in Ponds 68 and 72 in October and December. Pond 84, which also recorded higher numbers, supported a flock of up to 51 roosting and foraging Eurasian Teal in the first two months of the year. The higher number recorded in M2 in **Figure 9** compared to other marsh areas is somewhat unrepresentative, as the actual abundance of non-ardeid waterbirds recorded in closed habitats such as reed marsh and marsh was low. A more accurate picture was obtained during the point counts (see below).
- 4.1.18 As with ardeids, it can be seen that in both periods other waterbirds were distributed across the whole of the area, albeit with a number of ponds not supporting any in the wet season due to the low numbers of such birds present in HK at the time.
- 4.1.19 LMC Meander is not a significant foraging area for most waterbird species, as water depth is too great and the banks are densely vegetated. Little Grebe and Great Cormorant are the primary foraging species. The trees alongside the Meander are, however, used by large

waterbirds for daytime roosting, in particular by Great Cormorant, Grey Heron and Night Heron. A Purple Heron was recorded foraging in the Meander during the LMC Loop Study, while an Imperial Eagle was seen over the Meander in midwinter. Water quality is not poor, as is the case with the Shenzhen River.

- 4.1.20 Evening surveys for non-avian fauna recorded two species of birds not recorded during daytime surveys. Eurasian Eagle Owl was seen on 31st July 2012 in flight over the area between ponds 54/55 and 90/91; in addition, a juvenile was heard calling from the hillside near pond 106, following which it flew away. The occurrence of this species at HHW is not surprising given that it has been recorded in the grassy hills at nearby Chau Tau for many years, albeit infrequently (Carey *et al.* 2001).
- 4.1.21 In addition, up to ten Savanna Nightjars were recorded foraging over the HHW area during night-time surveys in the wet season months. Although this species breeds in grassland areas, it forages at night over a diverse range of habitats from low-density residential and village areas (such as Palm Springs and Mai Po village) to wetland (such as Mai Po Nature Reserve) and secondary woodland.

Point Counts

- 4.1.22 To better gauge the passerine bird community utilising the closed habitats of freshwater and reed marsh present in M1, M2, M3 and M4, point counts were carried out at five locations (see Figure 2); data are presented in Appendix D. A total of 73.14% of birds recorded referred to species common and widespread in the Deep Bay area for all or most of the year, while 21.85% referred to migrants and winter visitors. The highest totals referred to Stejneger's Stonechat, Dusky Warbler, Zitting Cisticola and Black-browed Reed Warbler, the latter of which is reed marsh-dependent, while the cisticola is a wetland-associated species.
- 4.1.23 With respect to overall numbers of birds, irregardless of species, it can be seen from Appendix D that these were highest at Location A, decreasing through to Location E in alphabetical order. This appears to be related to the degree to which each site is near permanently wet marsh, as indicated by the fact there are more reeds near Location A and fewest near Locations D and E. Although Locations A and C relate to the same marsh, the former area is wetter and supports reeds, while the latter area is drier and other grass species. Marsh 2, adjacent to Location B, also contains a significant area of reeds, and this appears to be why higher numbers were recorded at that site. Locations D and E are closest to the boundary fence road, and are therefore presumed to be at a level higher, and drier, than Locations A-C.
- 4.1.24 A similar relationship between bird numbers and the wetness of reed marsh is apparent from ringing data collected at Mai Po Nature Reserve by members of the Study Team under a project in collaboration with WWF-HK. In particular, species such as Black-browed Reed Warbler, Oriental Reed Warbler and Pallas's Grasshopper Warbler all appear to benefit. As can be seen from Appendix D, these three species all occurred in higher numbers at Locations A and B, near both of which wet reed marsh is present.

Flight Lines

- 4.1.25 LMC Meander is the focal point of an important flight line corridor that links wetlands to the south of LMC BCP with those at HHW. The core area of this corridor was defined by field survey during the LMC Loop Study as extending from the (old) boundary fence road to a line approximately 150m from LMC Meander inside LMC Loop. The geographical extent of the flight line was not surveyed as part of this study, though the number of birds using it was. Results of this work are summarised in Table 6.

Table 6. Numbers of large waterbirds recorded flying toward or beyond HHW at watch points in 3-hour periods beginning 15 minutes before sunrise (no birds of the relevant species recorded in months not listed).

Month/Species	Species/Month	LMC	Crest Hill	Species/Month	LMC	Crest Hill
January	Great Cormorant	442	13	Grey Heron	12	2
February		987	0		9	0
March		106	0		9	0
October		543	0		10	0
November		315	22		0	6
December		805	66		4	4
January	Great Egret	230	1	Little Egret	143	0
February		59	0		64	0
March		83	0		84	2
April		31	0		40	1
May		8	0		15	7
June		3	0		12	0
July		38	1		118	2
August		8	0		23	0
September		15	0		40	5
October		256	0		137	8
November		74	0		90	16
December		236	15		313	14
January	Cattle Egret	0	0	Black-faced Spoonbill	4	1
February		0	0		0	0
March		15	0		24	0
October		0	0		31	0
November		0	0		7	0
December		0	0		0	0
Chinese Pond Heron	January	2	0	July	14	1
	February	0	0	August	7	0
	March	4	0	September	19	5
	April	2	0	October	0	0
	May	2	2	November	0	0
	June	0	0	December	0	0

- 4.1.26 One of the aims of these surveys was to determine the extent to which birds flying beyond LMC Lookout forage at HHW. It can be clearly seen that in all months of the year, the vast majority of birds flying past LMC Lookout landed at HHW, and that very few continued beyond, either along Shenzhen River or down Ng Tung River. More detailed observations from September regarding the direction of birds flying beyond Crest Hill noted that all Chinese Pond Herons and Little Egrets flew up Ng Tung River, while with regard to Great Cormorants, 16 flew in that direction in November and 13 in December; the remaining cormorants flew up the Shenzhen River (six in November and 53 in December). This suggests that early dry season linkages of HHW with the Long Valley / Ng Tung River and northeast NT for these species are relatively weak. However, it should be noted that occasional observations of flocks of cormorants flying over the Ping Che area have previously been made, including 550 birds flying west at 1540h on 16th February 2005 (JA Allcock pers. comm.). The birds recorded at Crest Hill are presumed to be flying to the Mirs Bay or Starling Inlet areas to forage. In addition, as noted above, Black-faced Spoonbills have been recorded at Long Valley, and it is possible these birds fly over or around Crest Hill after having first passed over (or even stopped at) HHW.

- 4.1.27 In terms of the large waterbird species recorded, the main aim of the flight line counts was to provide better estimations of the number of birds foraging at HHW, and thus the importance of the area to these species. It can be seen from **Table 6** that peak numbers of Great Cormorant recorded flying to HHW were 987 in the first winter period and 805 in the second winter period; in the relevant months the number of birds recorded flying beyond Crest Hill to other foraging areas was zero in February and 66 in December. Peak counts of the Deep Bay wintering cormorant population in the relevant months were 9,636 in February and 8,178 in December. Thus, the HHW area supported 10.24% and 9.04% of the wintering cormorant population in the two months in which the highest counts were made, indicating the area remains of importance to this internationally important wintering population (Wetlands International 2012).
- 4.1.28 Excluding counts of Great Egret flying beyond Crest Hill, the number going to HHW peaked at 256 in October, while 229 and 221 were recorded flying there in January and December respectively. The counts of Great Egrets in the WMP were 620 in January, 668 in October and 701 in December and, although these figures are not the total Deep Bay count as not all ponds in the Deep Bay area are surveyed, it is sufficiently representative to conclude that HHW supports a substantial portion of the Deep Bay population in some months (from 31.5% to 38.3% during the three months).
- 4.1.29 Excluding birds flying beyond Crest Hill to other foraging areas, the highest counts of Little Egrets flying to HHW during the year were 299 in December and 143 in January. The Deep Bay WMP counts of Little Egret in January were 830 and 724 in December, also indicating that HHW supports a substantial proportion of the population (17.2% and 41.2% respectively). The variation in the number of birds of both species flying to HHW is probably due to availability of preferred foraging areas.
- 4.1.30 Counts of Black-faced Spoonbill were made totalling 24 in March, 31 in October and seven in November, while 61 were recorded at Pond 57 in February. Together these indicate that the HHW area is of significance to the Deep Bay area wintering population of Black-faced Spoonbill, which comprised 442 individuals, or 16% of the global population in January 2012 (Anon. 2012).
- 4.1.31 Although no Black-crowned Night Herons were recorded during flight line surveys, that the species occurs at HHW was confirmed by the transect surveys, which recorded a winter roost of up to 35 birds in Pond 1, and up to 11 roosting birds at other ponds in the area. As a nocturnally-foraging species, flight line counts are unlikely to acquire an accurate picture of the occurrence of this species.
- 4.1.32 **Table 7** lists the numbers of selected species recorded either in flight to HHW or during transect surveys, and the proportion of the Deep Bay population for that month as obtained during the WMP on the nearest date (where available).

Table 7 Selected maximum monthly counts for some species, and proportion of Deep Bay area count made as part of the WMP.

Species	Month	HHW count	Deep Bay area count in WMP	Percentage of Deep Bay count
Great Cormorant	Feb	987	9,636	10.2%
	Dec	739	8,178	9.0%
Great Egret	Jan	229	620	36.9%
	Oct	256	668	38.3%
	Dec	221	701	31.5%
Little Egret	Jan	143	830	17.2%
	Dec	299	724	41.2%

Ho Sheung Heung Egretty

- 4.1.33 Previously, the HHW area was known to be an important foraging area for Chinese Pond Herons breeding at the Ho Sheung Heung egretty (Aspinwall 1997), although its significance in this respect appears to have declined in recent years, with approximately 25% (compared with 48% in 1995) recorded flying to this area in the 2009 breeding season in the NENT NDA study. A higher preference by ardeids for ponds in the HHW area than those in other parts of the Deep Bay area was observed in spring and summer (Aspinwall 1997), which indicates that the area could be an important habitat for these resident species.
- 4.1.34 A summary of the results of surveys of birds flying from HSH Egretty toward HHW is illustrated in **Figure 10**. It can be seen that 56.6% of flights from the egretty were to the south (mostly to Long Valley), 7.5% were to a wetland area at Sha Ling, on the opposite side of the Ng Tung River, and 35.9% flew north toward HHW. Based on the paucity of suitable wetland habitat to the north of Ng Tung River and the very low numbers of large waterbirds recorded flying beyond Crest Hill, the great majority of birds flying north are presumed to have flown to foraging areas at HHW, indicating the current importance of this area to the egretty.

4.2 Mammals

- 4.2.1 Based on ENSR (2009), Mott MacDonald (2009) and field work carried out by the Study Team for the Closed Area Planning, Northeast New Territories Development Area and LMC Loop studies, the following mammal species currently occur in or near the Study Area.
- 4.2.2 Eurasian Otter *Lutra lutra* is Near-threatened in the IUCN Red List (Ruiz-Olmo *et al.* 2012) and is an endangered species in the China Red Data Book (CSIS 2010). The HK distribution of this protected species appears to be confined to the northwest NT (Shek 2006). There are a number of records from LMC Spur Line WMA, LMC Loop, LMC Bend and HHW, as well as Sha Ling on the north side of Ng Tung River (Study Team pers. obs.). During biodiversity survey at HHW from 2002 to July 2012, Eurasian Otter was recorded in ponds 105, 109A and 112 (AFCD *in litt.*). The distribution of otter records in or close to the Assessment Area is illustrated in **Figure 11**.
- 4.2.3 Otter numbers are usually positively correlated with fish biomass (Kruuk 1995) i.e. the more fish available as prey items, the more otters are likely to occur. In view of the abundance of fish in the LMC Meander and the fish ponds at HHW, it is likely that these two areas constitute an integral part of the species' foraging area.
- 4.2.4 The strength of linkage between the population of Eurasian Otter in the HHW area and other parts of the Deep Bay area is unclear. Although a wildlife underpass was put in place during construction of the Passenger Transport Interchange for LMC Station, the degree to which it is used by otters or other mammals is unknown. In theory, otters could use the Shenzhen River to move between HHW and areas such as Lok Ma Chau, it is unknown if this occurs. It does not appear possible to enter LMC Meander from Shenzhen River; it may be possible to enter the HHW area via natural watercourses that link the two further upstream. The sole record of Eurasian Otter on the northern side of Ng Tung River occurred in an area of abandoned fish ponds, which appears to be accessible (for otters) only via a channel between the area and the Shenzhen River, on the north side of Ng Tung River. This suggests that movement along Shenzhen River can occur.
- 4.2.5 In the Pearl River Delta region away from the Deep Bay area, it has been reported at sites such as Nei Ling Ding Island and San Zhou Tian Forest Park, near Yantian, Shenzhen. However, these populations were considered small, and likely to disappear if management measures were not carried out promptly (Wang *et al.* 1999, 2009). In view of current development pressure in the

Pearl River Delta and existing small population sizes, it appears likely that the population of Eurasian Otter in the Deep Bay area, including HHW, is of regional significance.

- 4.2.6 The second species of conservation significance, Leopard Cat *Prionailurus bengalensis*, is widely distributed in HK, though is only locally common. Other mammals recorded at HHW or nearby are Small Indian Civet *Viverricula indica*, Small Asian Mongoose *Herpestes javanicus* (though this species is generally regarded as being introduced by man), East Asian Porcupine *Hystrix brachyura* and Ryukyu Mouse *Mus caroli*. Except for the mouse, all are protected under the Wild Animal Protection Ordinance (Cap. 170), while the porcupine is regarded as of Potential Global Concern by Fellowes *et al.* (2002) due to a marked decline in its global population. Although East Asian Porcupine is also widely distributed in Hong Kong and has been recorded in the Study Area, it does not generally occur in the wetland habitats that predominate. Eurasian Wild Pig *Sus scrofa* is very common in Hong Kong (Shek 2006), although restricted in the Deep Bay area to HHW.
- 4.2.7 The remaining mammal species reported comprise bats. Short-nosed Fruit Bat *Cynopterus sphinx*, Leschenault's Rousette Bat *Rousettus leschenaulti*, Rickett's Big-footed Bat *Myotis pilosus* and Lesser Yellow Bat *Scotophilus kuhlii* are regarded as of Potential Local Concern by Fellowes *et al.* (2002), although Rickett's Big-footed Bat is also listed as Near-threatened by IUCN. All are widely distributed in Hong Kong. Japanese Pipistrelle, which is widely distributed throughout Hong Kong, is abundant at HHW, while Brown Noctule was the only other bat species recorded in the LMC Loop study.

Field Surveys

- 4.2.8 Small Asian Mongoose *Herpestes javanicus* and Eurasian Wild Pig *Sus scrofa* were the only two terrestrial mammal species recorded; neither is of conservation significance. The five sightings of Eurasian Wild Pig in the current study probably indicate that low levels of disturbance at HHW and the proximity of woodland and shrubland habitat that can act as a refuge are conducive to its utilization of the area. Records are listed in **Appendix G**.
- 4.2.9 Given the difficulty of surveying mammals, the paucity of records during field surveys is not surprising, and there is no reason to suppose that the status of the remaining species, in particular Eurasian Otter, has changed.
- 4.2.10 Two bat species were recorded. By far the dominant was Japanese Pipistrelle, which was abundant over the fish pond area. The second species recorded was Brown Noctule *Nyctalus noctula*, which is listed as of Potential Regional Concern in Fellowes *et al.* (2002), although this species is common and widespread in forested areas in Hong Kong (Shek 2006). Several Brown Noctules were seen foraging high above the fish ponds at HHW at sunset in the wet season bat survey conducted in July.

4.3 Herpetofauna

- 4.3.1 Based on ENSR (2009), AFCD (2010), Mott MacDonald (2009) and field work carried out by the Study Team for the Closed Area Planning, Northeast New Territories Development Area and LMC Loop studies, herpetofauna species of conservation concern occurring in the Study Area are listed in **Table 8**.
- 4.3.2 Chinese Bull Frog inhabits a wide range of wetland habitats (Chan *et al.* 2005), including at LMC Village and nearby fish ponds. Individuals of Two-striped Grass Frog were also recorded in ponds and Marsh at HHW in the LMC Loop study.

- 4.3.3 Deep Bay area fish ponds are believed to support the last natural population of Chinese Soft-shelled Turtle in HK (Karsen *et al.* 1998). This species has been regularly seen at the LMC Spur Line and Station Wetland Mitigation Area (Study Team unpub.). Chinese Soft-shelled turtle was also recorded in a pond near Ma Tso Lung in the FCA study.
- 4.3.4 Burmese Python *Python bivittatus* and Chinese Cobra *Naja atra* were not recorded in previous studies but, according to local villagers, are likely to occur in the study area. Common Rat Snake *Ptyas mucosis* was recorded very near to the study area during the LMC Loop study.

Field Surveys

- 4.3.5 A total of ten amphibian species were recorded, two of which, Chinese Bullfrog *Haplobatrachus chinensis* and Two-striped Grass Frog *Rana taipeiensis*, are of conservation concern. Despite the fact that Chinese Bullfrog *Haplobatrachus chinensis* is relatively common throughout the New Territories (Chan *et al.* 2005), it is listed as of Potential Regional Concern in Fellowes *et al.* 2002 and is a Class II Protected Animal (Ministry of Environmental Protection of the PRC 2002). It was recorded in Ponds 93, 99, 104 and 108, and in Marshes 1 and 3. Field survey data are provided in **Appendix G**, while the location of herpetofauna species of conservation significance are presented in **Figure 14**.
- 4.3.6 Although listed as of Least Concern in AFCD (2009) and of Local Concern in Fellowes *et al.* (2002), Two-striped Grass Frog *Rana taipehensis* is restricted to a few localities in Sai Kung, and the north and central New Territories (Chan *et al.* 2005). All records in field surveys for this study were from Pond 106, 107 and 108, and Marsh M3 nearby.
- 4.3.7 Highest numbers of amphibians were recorded in Pond 106 and Pond 108, with a total of over 350 individuals in each pond respectively throughout the survey period. In terms of number of species, eight out of the nine amphibians species recorded in the whole study area were found in Ponds 106 and 108. Although the total number of amphibians recorded was not as high as Pond 106 and 108, Pond 107 also supported a higher number of amphibian species (seven) when compared with the rest of the study area. These three ponds are inactive fish ponds with a large amount of emergent vegetation. This and the low levels of disturbance mean these ponds are suitable for a variety of amphibian species.

Table 8. Herpetofauna species of conservation concern recorded in or near the Study Area during field surveys

Common Name	Scientific Name	Level of Concern*	Conservation Status In IUCN Red List (IUCN 2012)	List of State Key Protected Wildlife (MEP 2002)
Chinese Bullfrog	<i>Haplobatrachus chinensis</i>	PRC	Potential Concern	Class II
Two-striped Grass Frog	<i>Rana taipehensis</i>	LC	Least Concern	-
Chinese Soft-shelled Turtle	<i>Pelodiscus sinensis</i>	GC	Vulnerable	-
Burmese Python	<i>Python bivittatus</i>	PRC	Near-threatened	Class I
Common Rat Snake	<i>Ptyas mucosus</i>	PRC	-	-
Banded Krait	<i>Bungarus fasciatus</i>	RC	-	-
Many-banded Krait	<i>Bungarus multicinctus</i>	PRC	-	-
Chinese Cobra	<i>Naja atra</i>	PRC	-	-

* follows Fellowes *et al.* (2002): LC: Local Concern; RC: Regional Concern; GC: Global Concern; P: Potential.

- 4.3.8 Ten reptile species were recorded, of which six are of conservation interest (see **Table 8**).
- 4.3.9 Chinese Soft-shelled Turtle was seen near Pond 95 during daytime survey conducted in March 2012. Listed as Vulnerable in Red List (Asian Turtle Trade Working Group 2000) and of Global Concern by Fellowes *et al.* (2002), this species is relatively widespread in fish pond areas in the Deep Bay area (Karsen *et al.* 1998).
- 4.3.10 In the current study a dead Burmese Python was found in an abandoned fish net near Pond 107 and 108 in August. Burmese Python is considered to be of Potential Regional Concern by Fellowes *et al.* (2002), is Near-threatened in the IUCN Red List (Stuart *et al.* 2012) and is has Class I China State Major Protection Status (Ministry of Environmental Protection of the People's Republic of China 2002).
- 4.3.11 Common Rat Snake *Ptyas mucosis* was recorded very near to the study area during the LMC Loop study. In the current study, Common Rat Snake was recorded three times in the study area. They were found on the bunds near Pond 3, 34 and 74 respectively. One of the snakes recorded was a juvenile snake of around 20cm long, suggesting that HHW is a breeding area for the species. This species is listed as Potential Regional concern in Fellowes *et al.* (2002) although it is common in Hong Kong (Karsen *et al.* 1998).
- 4.3.12 Banded Krait *Bungarus fasciatus* and Many-banded Krait *Bungarus multicinctus* were new reptile records to HHW. A Banded Krait was found killed in a ghost net near Pond 108 in the night-time herpetofauna survey in May. A Many-banded Krait was seen on the (old) boundary fence road near Pond 107 in July. Banded Krait is a species of Regional Concern and Many-banded Krait is a species of Potential Regional Concern (Fellowes *et al.* 2002).
- 4.3.13 A Chinese Cobra roadkill was found in the day-time herpetofauna survey on the road near the secondary woodland next to Pond 39. Chinese Cobra is a species of Potential Regional Concern (Fellowes *et al.* 2002) despite it being common and widespread in Hong Kong (Karsen *et al.* 1998).
- 4.3.14 Most snakes are highly mobile, and the species listed in **Table 8**, with the exception of Chinese Water Snake, can inhabit a wide range of habitats (including forest, shrubland, grassy fish pond bunds, marshes) (Karsen *et al.* 1998). It is hard to say which habitat in the Study Area is most important to snakes, partly related to their mobility; however, a large, level area of contiguous semi-natural and varied habitats is generally beneficial to most species. No clear pattern of distributions of the reptile species of conservation interest recorded in Hoo Hok Wai was found in the study.

4.4 Dragonflies

- 4.4.1 Based on ENSR (2009), Mott MacDonald (2009) and field work carried out by the Study Team for the Closed Area Planning, Northeast New Territories Development Area and LMC Loop studies, four dragonfly species of conservation concern have occurred in the Study Area: Coastal Glider, Ruby Darter, Sapphire Flutterer and Scarlet Basker.
- 4.4.2 Coastal Glider, Scarlet Basker and Sapphire Flutterer were observed in abandoned ponds within or adjacent to the Study Area by ENSR (2009) or in fieldwork carried out for the LMC Loop study. The latter two species are now considered to be common in Hong Kong, while the first is believed to be one of the most widespread and abundant species in the world (Wilson 2004). Common Evening Hawker is considered to be uncommon in Hong Kong and its preferred habitats include marshes and wet agricultural land (Wilson 2004).

- 4.4.3 Wilson (1995) pointed out that fish pond areas in HK support a diverse odonate community (up to 30 species) and abandoned ponds with rich vegetation are of particular importance. However, species common in such habitats tend to be widespread and have little or no conservation significance. A total of 28 species have been recorded at the LMC Spur Line WMA (AEC 2003-10), but only *Anaciaeschna jaspidea*, *Sinictinogomphus clavatus* and *Macrodiplax cora* are regarded by Wilson (2004) as 'uncommon' in Hong Kong.

Field Surveys

- 4.4.4 A total of 30 odonate species were recorded, four of which are of conservation interest (Table 9). Field survey data are provided in Appendix G, while the location of dragonfly species of conservation significance are presented in Figure 13.

Table 9. Odonate species of Conservation Concern recorded at Hoo Hok Wai, March to September 2012.

Common Name	Scientific Name	Level of Concern*	Status in HK (Tam et al. 2011)
Eastern Lilysquatter	<i>Paracercion melanotum</i>	-	Uncommon
Coastal Glider	<i>Macrodiplax cora</i>	LC	Common
Ruby Darter	<i>Rhodothermis rufa</i>	LC	Common
Scarlet Basker	<i>Urothemis signata</i>	LC	Common

* follows Fellowes et al. (2002): LC: Local Concern.

- 4.4.5 An Eastern Lilysquatter *Paracercion melanotum* was recorded once in March in Pond 47 in the study period. This is an uncommon species in Hong Kong that can be found in ponds with floating vegetation (Tam et al. 2011).
- 4.4.6 The other three dragonfly species of conservation interest (Coastal Glider *Macrodiplax cora*, Ruby Darter *Rhodothermis rufa* and Scarlet Basker *Urothemis signata*) are listed as of Local Concern in Fellowes et al. (2002). However, according to Tam et al. (2011), all three species are common in HK.
- 4.4.7 Sapphire Flutterer *Rhyothemis triangularis*, listed as of Local Concern in Fellowes et al. (2002) and recorded at HHW in the LMC Loop study, was not recorded in the current survey. This species is common and widespread in Hong Kong (Tam et al. 2011).
- 4.4.8 Ruby Darter and Scarlet Basker were found in weedy ponds and marshes at HHW, their preferred habitat (Tam et al. 2011). Coastal Gliders were recorded in fish ponds in the east of the study area.
- 4.4.9 Higher abundances of odonates were recorded in Ponds 4, 5 and 9, and Marsh M3, with over 100 individuals recorded in each of these habitats. In terms of species diversity, the highest number of odonate species was recorded at Pond 106, followed by Pond 107 and Pond 4. All three ponds have rich emergent vegetation, which is beneficial to odonates. In general, habitats in the study area with a good aquatic macrophyte community support a larger and more diverse odonate community.
- 4.4.10 Species recorded comprise most of the odonate species generally found in fish pond areas in Hong Kong (Wilson 1995). This indicates that the area supports a diverse wetland odonate community and affords the area conservation importance, even though most of these dragonfly species are common and widespread in Hong Kong (Tam et al. 2011) or in very low numbers.

4.5 Butterflies

- 4.5.1 Based on ENSR (2009), Mott MacDonald (2009) and field work carried out by the Study Team for the Closed Area Planning, Northeast New Territories Development Area and LMC Loop studies, no butterfly species of conservation concern are present in the Study Area. These surveys recorded a total of 84 species. The fish pond and marsh habitats at HHW, in general, do not support a diverse or significant butterfly community, especially as areas of shrubland and secondary woodland are very small.

Field Surveys

- 4.5.2 A total of 55 butterfly species were recorded at Hoo Hok Wai during the study period, of which 15 are of conservation interest. Three are listed as very rare, six are listed as rare and another six are listed as uncommon in Hong Kong (Chan *et al.* 2011). Two species are listed as of Local Concern according to Fellowes *et al.* (2002). The conservation status of these species is listed in Table 10. Field survey data are provided in Appendix G, while the location of species of conservation significance is presented in Figure 12.

Table 10. Butterfly species of Conservation Concern recorded at Hoo Hok Wai, March to September 2012.

Common Name	Scientific Name	Level of Concern (Fellowes <i>et al.</i> 2002)	Status in Hong Kong (Chan <i>et al.</i> 2011)
Jhora Scrub Hopper	<i>Aeromachus jhora</i>	-	Rare
Bush Hopper	<i>Ampittia dioscorides</i>	-	Uncommon
Rare Swift	<i>Parnara ganga</i>	-	Uncommon
Great Swift	<i>Pelopidas assamensis</i>	Local Concern	Rare
Small Branded Swift	<i>Pelopidas mathias</i>	-	Uncommon
Chinese Dart	<i>Potanthus confucius</i>	-	Uncommon
Yellow Band Dart	<i>Potanthus pava</i>	-	Very Rare
Lesser Band Dart	<i>Potanthus trachala</i>	-	Rare
Pale Palm Dart	<i>Telicota colon</i>	Local Concern	Rare
Grass Demon	<i>Udaspes folus</i>	-	Rare
Forget-me-not	<i>Catochrysops strabo</i>	-	Very Rare
Plain Tiger	<i>Danaus chrysippus</i>	-	Uncommon
Comma	<i>Polygonia c-aureum</i>	-	Very Rare
Dark Evening Brown	<i>Melanitis phedima</i>	-	Uncommon
Swallowtail	<i>Papilio xuthus</i>	-	Rare

- 4.5.3 Jhora Scrub Hopper *Aeromachus jhora* was recorded near Pond 107. This species was first recorded in 2009 (Chan *et al.* 2011), and is found in several marshy habitats in the territory such as Kuk Po, Wu Kau Tang, Sha Lo Tung, Yung Shue O and Pak Sha O (Young *et al.* 2011). The larva mainly feeds on the host plant *Leersia hexandra* (Young *et al.* 2011), which is a wetland-associated species.
- 4.5.4 Bush Hopper *Ampittia dioscorides* was recorded in all the surveys in the survey period in Ponds 27, 105, 106, 107, 108 and 127, Marsh 3 and the secondary woodland next to Pond 10. It is an uncommon species in Hong Kong (Chan *et al.* 2011) despite it being widespread in the Country Parks (Lo 2005). This species can be found in freshwater wetland habitats (Lo 2005).
- 4.5.5 Rare Swift *Parnara ganga* and Small Branded Swift *Pelopidas mathias* are listed as uncommon in Chan *et al.* (2011) although both species are widely distributed in Hong Kong country parks (Lo 2005). Rare Swift was found in the secondary woodland near Pond 10 and Small Branded Swift was found around Pond 106 and 128.
- 4.5.6 Three species of conservation concern within the Genus *Potanthus* were recorded. Chinese Dart *Potanthus confucius*, an uncommon species in HK (Chan *et al.* 2011), was recorded at

Pond 106. The rarer Lesser Band Dart *Potanthus trachala* (Chat *et al.* 2011) was recorded in the secondary woodland next to Pond 10. One Yellow Band Dart *Potanthus pava* was recorded at the shrubland border of Pond 106. This species is listed as a very rare by Chan *et al.* (2011). However, according to Chan *et al.* (2011), the population of Yellow Band Dart is spreading in the New Territories and islands of Hong Kong.

- 4.5.7 Grass Demon *Udaspes folus* was found around Pond 4 and Pond 102. This species can be found in most country parks and also urban parks in Hong Kong (Lo 2005), despite it being listed as rare in Chan *et al.* 2011.
- 4.5.8 A Comma *Polygonia c- aureum* was found on the bund near Pond 14 in May 2012. This species is a migrant from temperate regions (Lo 2005) of which there are a few local records in the northeast and northwest New Territories, Lantau and Hong Kong Island (Young *et al.* 2011; AEC unpublished data). Though the species is listed as very rare by AFCD (Chan *et al.* 2011), its exotic host plant, *Humulus scandens*, was not recorded during the vegetation survey within the Study Area. Hence, it is likely this species was a stray and had not bred within the HHW Study Area.
- 4.5.9 The very rare Forget-me-not *Catochrysops strabo* (Chan *et al.* 2011) was found perching on vegetation near Ponds 2 and 106 during the survey in September. This species was once documented as widespread and common in the territory, but numbers have decreased dramatically in recent years (Lo 2005; Chan *et al.* 2012). The larva of this butterfly depends on *Pueraria* species, which is a native climber found in the HHW Study Area.
- 4.5.10 A single record of Plain Tiger *Danaus chrysippus* was made at Pond 33 in the November survey. This species is uncommon in Hong Kong (Chan *et al.* 2011), and has been recorded in south Lantau, east Sai Kung, Tai Lam, Tai Po Kau and Tsiu Hang (Lo 2005).
- 4.5.11 Pale Palm Dart *Telicota colon* and Great Swift *Pelopidas assamensis* are listed as of Local Concern by Fellowes *et al.* (2002). Pale Palm Dart was found perching on *Miscanthus sinensis* near marsh M2, and the Great Swift was found within the dense vegetation adjacent to Pond 108. However, according to Lo (2005), both species are widespread within the country parks and their host plants are present in the countryside area.
- 4.5.12 Dark Evening Brown *Melanitis phedima* was recorded in March at Hoo Hok Wai. It is uncommon in Hong Kong according to Chan *et al.* (2011), although it can be found in most country parks in Hong Kong (Lo 2005).
- 4.5.13 One Swallowtail *Papilio xuthus* was recorded in the woodland near Pond 10 in May. This species is rare in Hong Kong (Chan *et al.* 2011) and is found at Ma On Shan, Plover Cove, Tai Tam, Tai Lam and Pat Sin Leng Country Park only (Lo 2005).
- 4.5.14 Highest butterfly diversity was recorded at Pond 10 and the woodland nearby, followed by Pond 106. In terms of abundance, highest total number of butterflies was recorded at Pond 106. Most of the species of conservation interest were also recorded at or near pond 10 and pond 106. In general, ponds or habitats with dense vegetation within or around the ponds support a larger and more diverse butterfly community.
- 4.5.15 Although most of the butterfly species recorded are common or widespread in Hong Kong, or occur in very low numbers, the presence of wetland indicator species such as Jhora Scrub Hopper and Bush Hopper (Lo 2005; Young *et al.* 2011) show that the study area is of ecological importance.

4.6 Aquatic Fauna

- 4.6.1 The following freshwater species were recorded in LMC Meander by ENSR (2009): *Brotia hainanensis*, *Caridina contonensis*, *Oreochromis niloticus*, *Clarias fuscus* and *Carassius auratus*. These are all widespread and common species in Hong Kong.
- 4.6.2 Mott MacDonald (2009) recorded seven freshwater fish species from fish ponds, streams and water courses close to HHW, and all are either exotic or common food fish. A total of 12 fish species were recorded in areas near HHW during the Closed Area and Northeast New Territories Planning Studies, but no species of conservation concern were recorded.
- 4.6.3 A group of Paradise Fish *Macropodus opercularis* was recorded in the stream flowing from Ping Hang to LMC Meander. Since it can also inhabit marshy areas, the marshes alongside streams may also provide suitable habitat for this species.
- 4.6.4 An endemic freshwater crab species, *Somanniathelphusa zanklon*, was observed in streams at Chau Tau and to the southeast of LMC Loop. Although this species seems to be widespread in HK, it is regarded as endangered by IUCN (2010). In addition, *Nicholsicypris normalis*, a species that mainly occurs in the eastern part of HK, was found in the stream at Tse Koo Hang.

Field Surveys

- 4.6.5 Surveys of aquatic invertebrates recorded nine taxa in the Study Area, of which none are of conservation concern. Three of the taxa recorded (Mosquito Fish *Gambusia affinis*, Redbelly Tilapia *Tilapia zillii* and Apple Snail *Pomacea* sp.) are introduced species of low ecological value, and the other taxa recorded were in low numbers. The low species diversity and presence of introduced species indicates that the streams surveyed are highly impacted by anthropogenic activity. Field survey data are provided in **Appendix G**.
- 4.6.6 Three species of aquatic fauna of conservation interest, Paradise Fish, the endemic freshwater crab *Somanniathelphusa zanklon* and *Nicholsicypris normalis*, which were recorded near the study area previously, were not recorded within the study area in this study.
- #### 4.7 Fireflies
- 4.7.1 Two species of firefly are currently known to occur in HK: *Pteroptyx maipo* and *Aquatica leii*. Firefly surveys were conducted in parallel with the night-time bat and herpetofauna surveys. *P. maipo* is a mangrove-associated species (Ballantyne *et al.* 2011) and there are no suitable habitats for the species in the Study Area; consequently, it was not recorded.
- 4.7.2 The only firefly record was of a female *Aquatica leii* perching and flashing on *Brachiaria mutica* in Marsh M4 in August. In Hong Kong, *A. leii* has been recorded at Tai Po Kau, northeast New Territories, northwest New Territories, Tsiu Hang and Shui Tsan Tin (Yiu 2012; AEC unpublished data). Although *A. leii* is considered widespread in Hong Kong and of relatively low conservation concern, its life cycle relies on the unpolluted freshwater stream and marsh habitat (Fu *et al.* 2006) and is a good indicator of wetland habitat quality.

5 EVALUATION OF HABITATS

5.1 Pond

- 5.1.1 Based on the overall importance of this habitat to wildlife, in particular Eurasian Otter and large waterbirds, ecological value is rated as High. Substantial numbers of large waterbirds (including the globally-threatened Black-faced Spoonbill) and wetland-dependent species utilise this habitat in the non-breeding season, with smaller numbers in the breeding season. However, at the latter time this habitat is important to Ho Sheung Heung egret, from which 35.9% of birds were recorded flying toward HHW in 2012 during the periods adults were feeding dependent young. In addition, that HHW constitutes an important element of the Deep Bay wetland ecosystem is indicated by the results of flight line surveys during this and previous studies.
- 5.1.2 Pond habitat is utilised by raptors such as Greater Spotted, Imperial and Bonelli's Eagles, Eurasian Eagle Owl, Collared Crow and wetland-associated passerines such as Styan's Grasshopper Warbler and Yellow-breasted Bunting. Although individually the numbers of this group of species are relatively low, together they constitute a suite of scarce bird species closely associated with this and connected wetland habitats.
- 5.1.3 The suite of wetland habitats, of which pond is the dominant constituent, also supports a community of wetland-associated herpetofauna and odonata, some of which are of conservation significance in a HK context. Finally, this habitat is of importance to the globally-threatened Eurasian Otter, for which HHW and the Deep Bay Area is a very important part of the Pearl River Delta population.

Table 11. Habitat Evaluation of Pond

Criteria	Assessment
Naturalness	Man-made.
Size	Large, an integral part of the Deep Bay wetland ecosystem. Total area 160.73ha.
Diversity	Low floristic diversity restricted to common species, and moderate to high faunal diversity.
Rarity	Common habitat in the northern NT, part of a larger area that supports a number of rare faunal species.
Re-creatability	Readily recreated if suitable hydrological conditions present.
Fragmentation	Some fragmentation by areas of marsh.
Ecological Linkage	Strong ecological and hydrological linkages with adjacent wetland habitat, especially marsh and reed marsh. Strong linkages also with wetland areas elsewhere in the Deep Bay area, particularly for large waterbirds and, possibly, Eurasian Otter.
Potential Value	Value could be improved with dedicated management regime for wildlife. Such a regime is proposed for ponds 22-28 in the northwest of the area as an element of mitigation for impacts of the development of LMC Loop and associated infrastructure.
Nursery/Breeding Ground	Some ponds support breeding dragonfly and herpetofauna species of conservation concern. Breeding ardeids, especially from Ho Sheung Heung egret, forage in these ponds. Possibly a nursery area for Eurasian Otter.
Age	Unknown.
Abundance/ Richness of Wildlife	Moderate abundance and richness of wetland-dependent birds, herpetofauna and dragonflies.
Ecological Value	High overall due to importance to fauna of conservation significance.

5.2 Marsh and Reed Marsh

- 5.2.1 These related habitats are treated together given they occur alongside each other and, inevitably, the boundary between the two is blurred. M1, M2 and M3 appear to lie within the core range of Eurasian Otter, based on the distribution of records; given this and the lack of faunal records of significance in M4, the former are rated as of High ecological value, and the latter as Moderate.
- 5.2.2 Large waterbirds use M1 and M2 largely for roosting, as these areas are relatively large and undisturbed. As with Pond habitat (see above), this habitat also supports a fairly diverse suite of herpetofauna and odonata, some species of which are of conservation significance.

Table 12. Habitat Evaluation of Marsh and Reed Marsh

Criteria	Assessment
Naturalness	Semi-natural.
Size	Freshwater marsh estimated at 67.04ha and reed marsh at 15.56ha. Reed marsh primarily located in M1 and M2 (13.29ha).
Diversity	Low to Moderate faunal diversity and moderate floral diversity. Marsh has limited microhabitat diversity. Faunal diversity of M3 and M4 less than M1 and M2.
Rarity	Habitats largely in Deep Bay area in HK, particularly reed marsh, which supports scarce to rare reedbed-associated passerines and Eurasian Otter. Lowland freshwater marsh is a relatively scarce and declining habitat in HK. Provides suitable habitat for odonates and amphibians, though none particularly rare.
Re-creatability	Readily recreated if suitable hydrological conditions present.
Fragmentation	Total area divided into four discrete areas, within each of which fragmentation is limited.
Ecological Linkage	Strong linkages with adjacent wetland habitats (mainly pond), with exception of M4 for which moderate. M1 and M2 have linkages with reed marsh in LMC Loop, and probably with reed marsh elsewhere in the Deep Bay area, such as Mai Po Nature Reserve.
Potential Value	Value could be substantially improved with dedicated management regime for wildlife.
Nursery/Breeding Ground	Potential nursery/breeding ground for reed-associated species and Eurasian Otter, though M4 appears to be less suitable, partly due to proximity to Liu Pok village and fragmentation from other wetland areas.
Age	At least 30 years.
Abundance/ Richness of Wildlife	M1 and M2 support small numbers of Phragmites-associated passerine bird species; larger species such as Great Bittern not present due to disturbance and larger seasonally wet element of reed marsh. Fewer faunal species in M3, lowest in M4.
Ecological Value	M1, M2 & M3: High; M4: Moderate.

5.3 Natural Watercourse

- 5.3.1 Several natural watercourses lie within the Assessment Area, in addition to LMC Bend, which lies immediately adjacent. Ecological values vary, with LMC Bend rated as High due to its importance for the flight line corridor and Eurasian Otter. The actual number of waterbirds and wetland-dependent species using LMC Bend as a foraging or roosting habitat is relatively low. Ping Hang Stream is rated as Low to Moderate due to the aquatic faunal community it supports, while other streams are rated as Low, largely due to a combination of anthropogenic factors and a lack of microhabitat diversity. Of note is the presence of Paradise Fish in Ping Hang Stream. Although *Somanniathelphusa zanklon* was recorded in a stream at Chau Tau previously, it has not been recorded in streams in the Study Area despite surveys.

Table 13. Habitat Evaluation of Ping Hang Stream

Criteria	Assessment
Naturalness	Largely natural.
Size	Small (length 1,180m, area 0.28 ha).
Diversity	Low floral and faunal diversity.
Rarity	Lowland streams of this quality are uncommon in HK.
Re-creatability	Difficult to re-create.
Fragmentation	Not fragmented.
Ecological Linkage	Linkages with riparian vegetation, nearby marsh and LMC Meander (one of the clean water sources for latter).
Potential Value	Value could be increased if protected and managed for wildlife.
Nursery/Breeding Ground	Nursery/ breeding grounds for Paradise Fish and other native species.
Age	Unknown.
Abundance/ Richness of Wildlife	Low faunal diversity.
Ecological Value	Low to Moderate

Table 14. Habitat Evaluation of Lok Ma Chau Bend

Criteria	Assessment
Naturalness	Semi-natural.
Size	Large (total length 2,670m, area 15.77 ha).
Diversity	Low to moderate faunal and floral diversity.
Rarity	Large, undisturbed, natural lowland rivers are very rare in HK. Eurasian Otter is very rare in HK and regionally.
Re-creatability	Not readily re-created.
Fragmentation	None.
Ecological Linkage	Linkage to fish ponds and other wetland habitats at HHW, to Shenzhen River and riparian vegetation.
Potential Value	Value could be increased if managed for wildlife.
Nursery/Breeding Ground	Nursery/ breeding grounds for native aquatic and odonate species.
Age	Unknown.
Abundance/ Richness of Wildlife	Low to moderate faunal diversity and richness.
Ecological Value	High , in view of use by Eurasian Otter and its forming a important element of flight line corridor.

Table 15. Habitat Evaluation of other natural watercourses

Criteria	Assessment
Naturalness	Semi-natural, those next to ponds 14 and 121 rather polluted.
Size	Small (total length 1140m)

Criteria	Assessment
Diversity	Low faunal and floral diversity.
Rarity	Compromised lowland streams such as these are relatively common in HK
Re-creatability	Readily re-created
Fragmentation	None individually.
Ecological Linkage	Linkage to adjacent marsh habitat, LMC Bend or Shenzhen River, according to stream.
Potential Value	Value could be increased if managed.
Nursery/Breeding Ground	Possibly nursery/breeding ground for common and widespread species.
Age	Unknown
Abundance/ Richness of Wildlife	Low
Ecological Value	Low

5.4 Channelised Watercourse

- 5.4.1 The channelised watercourse that drains the Ma Tso Lung valley was completed in 2011. The design is not wildlife unfriendly, and thus it retains some ecological value; however, it is narrow and short, and is rated as Low to Moderate.

Table 16. Habitat Evaluation of Channelised Watercourse

Criteria	Assessment
Naturalness	Man-made, partly influenced by tidal action, supports semi-natural vegetation inside channel.
Size	Small, length 388 m.
Diversity	Low faunal and floral diversity.
Rarity	A common habitat in HK.
Re-creatability	Readily re-created.
Fragmentation	Not fragmented.
Ecological Linkage	Some linkages with upstream, natural sections and nearby wetland habitat.
Potential Value	Limited scope for enhancement, though may increase somewhat in near future as plants and animals colonise.
Nursery/Breeding Ground	Unlikely to be of significance.
Age	2 years, maximum.
Abundance/ Richness of Wildlife	Low.
Ecological Value	Low to Moderate.

5.5

5.6 Secondary Woodland and Plantation

- 5.6.1 Given the distance from larger areas of mature forest in the central and northeast NT, the value of woodland in this area is limited. However, it supports a reasonably diverse butterfly community, including a number of species of conservation significance, and for this reason ecological value is rated as Moderate.

Table 17. Habitat Evaluation of Secondary Woodland and Plantation

Criteria	Assessment
Naturalness	The larger, mitigation area along Shenzhen River is planted; remainder is self-sown.
Size	Relatively small, the larger, planted area being 11.49ha, the remaining self-sown areas totaling 0.94ha.
Diversity	Moderate floral and faunal diversity.
Rarity	Not a rare habitat in HK, though rather less at sea level. Some species of butterfly of conservation significance noted.
Re-creatability	Readily re-created, but takes time to mature.
Fragmentation	Larger area retains integrity, but is fragmented from other woodland areas of significance in New Territories (NT). Smaller areas are joined to woodland outside the Study Area, but also fragmented from mature woodland of central NT.
Ecological Linkage	Some linkages with nearby shrubland habitat.
Potential Value	Limited scope for further enhancement.
Nursery/Breeding Ground	Butterfly species of conservation significance.
Age	Mitigation woodland is approximately 20 years old; remainder unknown.
Abundance/ Richness of Wildlife	Moderate abundance, low to moderate diversity.
Ecological Value	Moderate

5.7 Ruderal

- 5.7.1 Ruderal vegetation provides low diversity of flora and fauna, and is of Low ecological value.

Table 18. Habitat Evaluation of Ruderal Vegetation

Criteria	Assessment
Naturalness	Semi-natural arising from previous human activity.
Size	1.02ha
Diversity	Low diversity of flora and fauna.
Rarity	No rare species known.
Re-creatability	Readily re-created.
Fragmentation	Largely unfragmented.
Ecological Linkage	Limited linkage with adjacent habitats, and none of significance.

Criteria	Assessment
Potential Value	Limited potential value due to size, but closer linkages with adjacent wetland habitats could be effected.
Nursery/Breeding Ground	None of significance.
Age	Unknown
Abundance/ Richness of Wildlife	Low.
Ecological Value	Low

5.8 Urban / Residential Area

5.8.1 This habitat is formed by sections of road that fall within the Study Area, and is necessarily of Low ecological value.

Table 19. Habitat Evaluation of Urban / Residential Area

Criteria	Assessment
Naturalness	Man-made.
Size	Small (2.03ha).
Diversity	Low.
Rarity	Low.
Re-creatability	Readily re-created.
Fragmentation	Some.
Ecological Linkage	Little with adjacent habitats
Potential Value	Limited potential for enhancement.
Nursery/Breeding Ground	None.
Age	Unknown.
Abundance/ Richness of Wildlife	Low.
Ecological Value	Low

6 SPECIES EVALUATIONS

6.1 Avifauna

6.1.1 A total of 113 species of conservation concern have been recorded in the Assessment Area, a figure that includes 97 wetland-dependent or wetland-associated species. A full list is provided in **Appendix B**, which includes their distribution and abundance in Hong Kong and their conservation status based on assessments by BirdLife International and Fellowes *et al.* (2002).

6.1.2 Due to their wetland-dependence and the threats to wetlands regionally, a large number of waterbirds are assessed as of conservation significance. These include large waterbird species such as cormorants, egrets, herons and spoonbills, for all of which the HHW area in particular is of significance in maintaining Deep Bay area populations.

6.1.3 Among those occurring regularly in the Assessment Area, of most significance from a conservation perspective (in that the area is likely to be of importance to their HK populations) are the following:

Black-faced Spoonbill: Listed as Endangered by BirdLife International, this species regularly forages in fish ponds at HHW.

Greater Spotted and Imperial Eagles: Listed as Vulnerable by BirdLife International, both these species occur in small numbers throughout the Deep Bay area, including HHW. Both, however, appear to be somewhat rarer at HHW than was previously the case (Carey *et al.* 2001).

Yellow-breasted Bunting: Listed as Vulnerable by BirdLife International, this species occurs at HHW in small numbers in both winter and on passage.

Collared Crow: Listed as Near Threatened by BirdLife International, this species is present all year in the Assessment Area, and utilises habitats in the LMC Loop, though probably not as frequently as the adjacent fish pond areas.

6.1.4 In terms of overall conservation value, this group of birds must in general be rated as High.

6.1.5 In addition, Falcated Duck, Styan's Grasshopper Warbler and Japanese Yellow Bunting have occurred, but the area is not considered important to their HK populations.

6.2 Other Fauna

6.2.1 Table 20 lists non-avian fauna of conservation significance known to occur in the study area.

Table 20. Non avian species of conservation concern recorded in the Study Area

Species	Protection Status	Conservation Status	HK Distribution & abundance	Habitat utilisation	Conservation Significance
<i>Lutra lutra</i> Eurasian Otter	Cap. 170, Class II in China ¹ , Appendix II of CITES ²	RC (HK) ³ , Near-threatened globally ⁴ and Endangered in China ⁵ .	Restricted to northwest NT, not abundant.	Wetlands and watercourses	High
<i>Prionailurus bengalensis</i> Leopard Cat	Cap. 170, Appendix II CITES ²	Vulnerable in China ⁵ .	Widely distributed, probably fairly abundant, though only locally common.	Wide variety of open and closed semi-natural habitats	Low to Moderate

Species	Protection Status	Conservation Status	HK Distribution & abundance	Habitat utilisation	Conservation Significance
<i>Hoplobatrachus chinensis</i> Chinese Bull Frog	Class II in China ¹	Vulnerable in China ⁵ .	Common and widespread in the NT and Lantau.	Variety of marshy wetlands and streams, also irrigation ponds	Low to Moderate
<i>Pelodiscus sinensis</i> Chinese Soft-shelled Turtle	Cap. 170	GC (HK) ³ , Vulnerable globally ⁴ and in China ⁵ .	Restricted in HK to northwest NT.	Wetlands and watercourses	Moderate
<i>Python molurus</i> Burmese Python	Cap. 170, Class I in China ¹ , Appendix II of CITES ²	Potential RC (HK) ³ , Lower Risk/Near Threatened ⁴ , Critically Endangered in China ⁵ .	Widely distributed.	Variety of semi-natural habitats	Low to Moderate
<i>Enhydryis chinensis</i> Chinese Water Snake	None	Near-threatened in China ⁵ .	Distributed in central and northern NT.	Diverse lowland aquatic habitats	Low to Moderate
<i>Ptyas korros</i> Indo-Chinese Rat Snake	None	Potential RC (HK) ² , Vulnerable in China ⁵ .	Widely distributed.	Diverse open habitats	Low to Moderate
<i>Ptyas mucosus</i> Common Rat Snake	Appendix II CITES ⁵	Potential RC (HK) ² , Vulnerable in China ⁵ .	Widely distributed.	Diverse semi-open habitats	Low to Moderate
<i>Naja atra</i> Chinese Cobra	Appendix II CITES ²	Potential RC (HK) ³ , Vulnerable in China ⁵ .	Widely distributed.	Diverse semi-open habitats	Low to Moderate
<i>Macrodiplax cora</i> Coastal Glider	None	LC (HK) ³ , common.	Common	Marshes & ponds with dense vegetation	Low
<i>Rhyothemis triangularis</i> Sapphire Flutterer	None	LC (HK) ³ .	Common	Vegetated lentic and lotic wetlands	Low
<i>Urothemis signata</i> Scarlet Basker	None	LC (HK) ³ .	Common	Vegetated lentic and lotic wetlands	Low
<i>Macropodus opercularis</i> Paradise Fish	None	'Conservation dependant' ⁶ .	Once widespread but populations in HK rapidly declining due to habitat loss.	Streams, ditches, ponds	Low to Moderate

Notes: 1. <http://www.sepa.gov.cn>; 2. CITES 2012; 3. Fellowes *et al.* (2002) (LC-Local Concern, RC-Regional Concern, GC-Global Concern); 4. IUCN (2010); 5. CSIS (2010); 6. Chan (2001).

7 CONCLUSION

7.1 Ecological Value of HHW

- 7.1.1 Hoo Hok Wai (HHW) is a large undeveloped area that comprises a mosaic of wetland habitats, primarily fish ponds, freshwater marsh and natural watercourse. While the significance of the flora community is low due to frequent management of vegetation, its importance to fauna of conservation significance is great. In particular, there are records of Eurasian Otter throughout the year from widespread parts of the area from the northeast near Shenzhen River to LMC Loop (see **Figure 11**), and HHW appears to be one of the last remaining strongholds of this threatened species in the whole of the Pearl River Delta region.
- 7.1.2 The fish ponds at HHW are relatively large compared to other areas of Deep Bay, and this, together with the long distance from roads and the Closed Area permit requirement for those wishing to access the area, mean that levels of disturbance are relatively low. The great majority of ponds are managed for commercial fish production, and the associated draindown for harvest attracts large numbers of waterbirds, including ardeids and spoonbills, while regular vegetation maintenance maintains the open aspect favoured by large waterbirds throughout the year.
- 7.1.3 As a result, the number of these birds using HHW for foraging or roosting is high, and ecological linkages with wetlands elsewhere in the Deep Bay area are strong. Such linkages are expressed in the form of flight lines linking HHW with breeding areas at Ho Sheung Heung and foraging and roosting areas elsewhere in the Deep Bay area. In addition, the area supports a broad suite of wetland-dependent species, reflecting the diversity of wetland habitats and the relative lack of human disturbance in the area. Highest numbers of large waterbirds occur in the winter, non-breeding season, with lower numbers at other times. With regard to migratory passerines, numbers are higher in the spring and autumn, and lowest in the summer. Large waterbirds tend to roost at less disturbed ponds such as those near the Shenzhen River or adjacent to the larger marsh areas (in particular Marsh 1).
- 7.1.4 In respect of Ho Sheung Heung egretty, approximately 36% of foraging flights of breeding adults from that egretty in 2012 were toward the HHW area, indicating that it is of substantial importance to that colony. These flight lines enter the HHW area north of Liu Pok village (see **Figure 15**).
- 7.1.5 In terms of other non-bird fauna, ponds 106-108 supported the most herpetofauna of conservation significance (**Section 4.3** and **Figure 14**). With regard to dragonflies of conservation significance, these occurred in all areas apart from many of the ponds along the Shenzhen River, with particular concentrations around the vegetated ponds 4 and 9 (see **Section 4.4** and **Figure 13**). Butterflies of conservation significance occurred in pond areas adjacent to secondary woodland or shrubland habitats (mainly ponds 10 and 11, and ponds 106-108) (see **Section 4.5** and **Figure 12**).
- 7.1.6 There are four freshwater marshes in the area, three of which (M2-M4) have sections along the (old) boundary fence road. These marshes comprise a mixture of permanently wet and seasonally wet areas related to the former land use as fish ponds; the higher, seasonally wet areas appear to be due to presence of former fish pond bunds. Alongside the boundary fence road are narrow ruderal areas that are permanently dry, and which are rated as of Low ecological value (see **Figure 3**).
- 7.1.7 Given the importance to waterbirds and wetland-dependent fauna, the dominant habitat of pond is rated overall as of High ecological value. Freshwater and reed marsh habitat in areas M1, M2 and M3 is rated as of High ecological value overall, as these areas appear to be used

by Eurasian Otter (based on known habitat preferences and its occurrence in the reed marsh in LMC Loop and in marsh habitat next to pond 54) and support a community of reed-associated fauna. M4 lacks reed marsh and fewer fauna of conservation significance were recorded therein, and as a result is rated as of Moderate ecological value.

- 7.1.8 The small streams in the area vary in ecological value, with Ping Hang Stream rated as of Low to Moderate significance, and others as Low. However, Lok Ma Chau Bend (also called Lok Ma Chau Meander) is a watercourse of high ecological value due its being used by Eurasian Otter and a focus for an important flight line corridor linking the wetlands of Hoo Hok Wai with those from San Tin through Mai Po to the Inner Deep Bay area. It is possible that the area of land, largely comprising fish ponds, lying between Lok Ma Chau Bend and the (old) boundary fence provides a corridor for terrestrial mammals moving between HHW and areas to the south of LMC BCP.
- 7.1.9 Woodland habitat in the Study Area supports a moderately abundant butterfly community, of which a number of species are of conservation significance. The planted mitigation woodland in the northeast of the area, adjacent to Shenzhen River, is the largest in the Study Area and supports a typical suite of woodland flora species common and widespread in HK; however, its isolation from woodland areas of the central New Territories and adjacent parts of Guangdong province means it is unlikely to develop a community of flora and fauna typical of mature forest. Woodland areas are thus rated as of Moderate ecological value.
- 7.1.10 Figure 16 illustrates these ecological values.

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Figure 1 Aerial view of Study Area and nearby area.

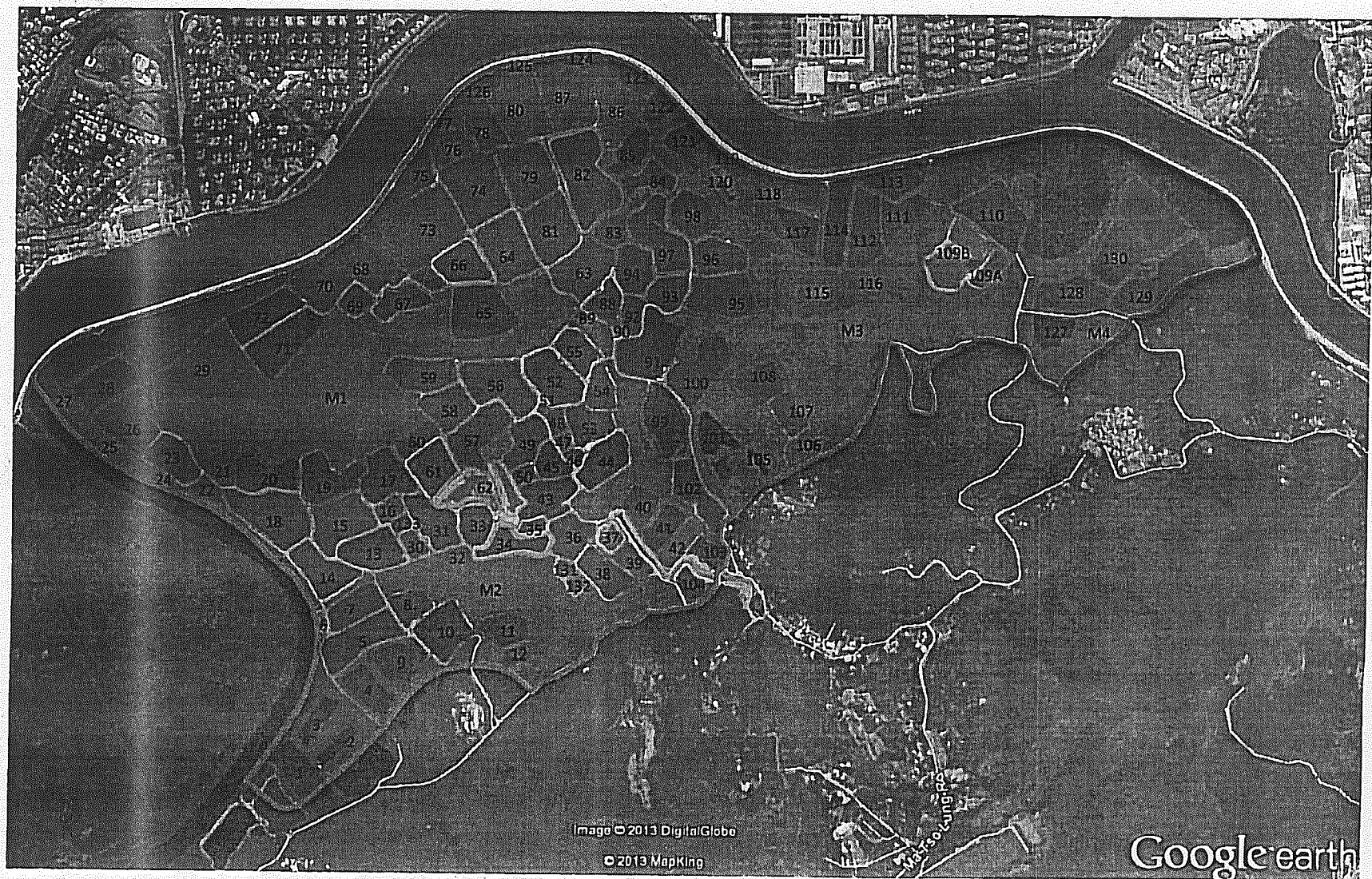


Figure 2 Transect survey route and location of point and flight-line counts of the Study Area

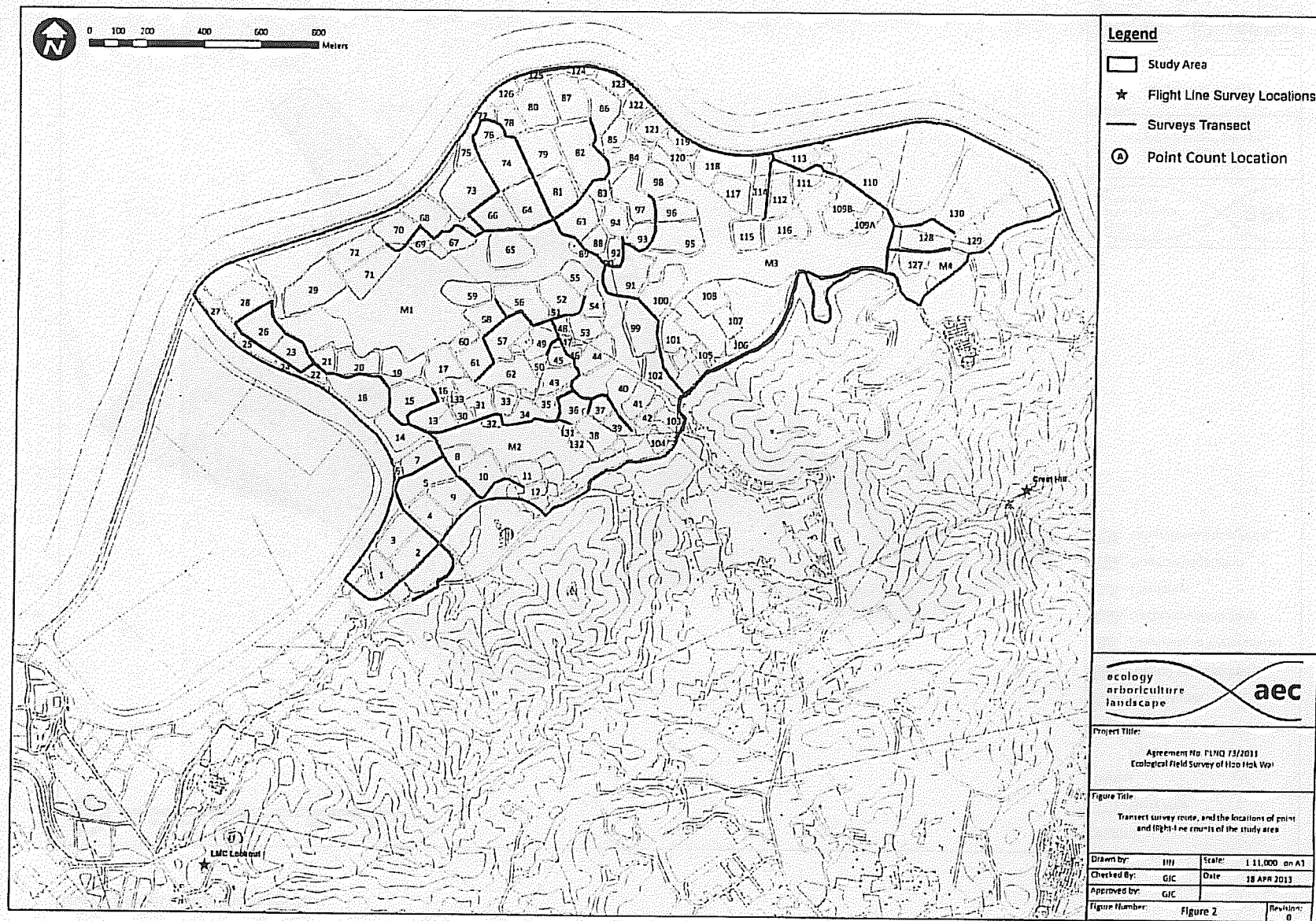


Figure 3 Habitat Map of the Study Area

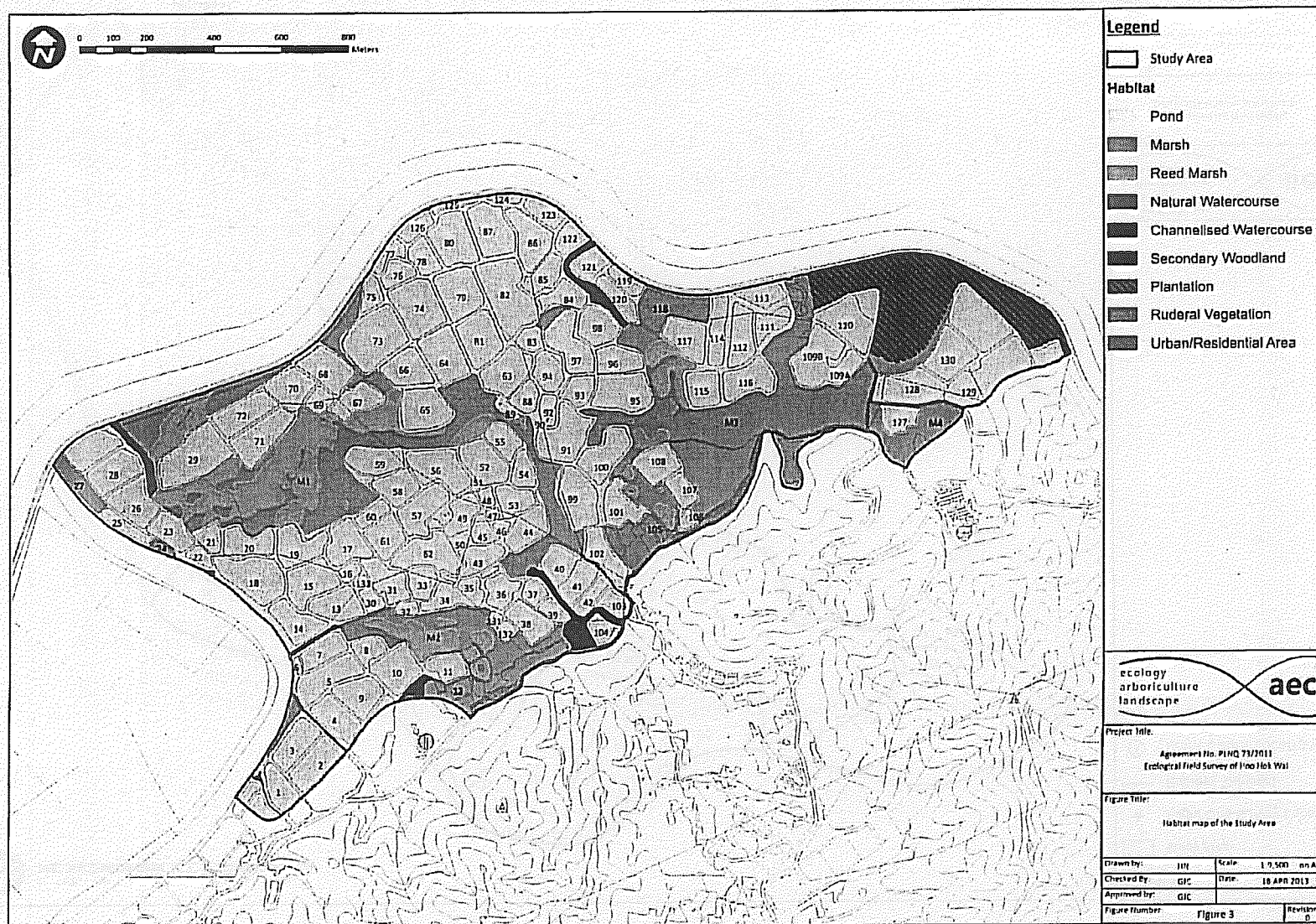


Figure 4 Wet season ardeids abundance in the Study Area, April to September 2012.

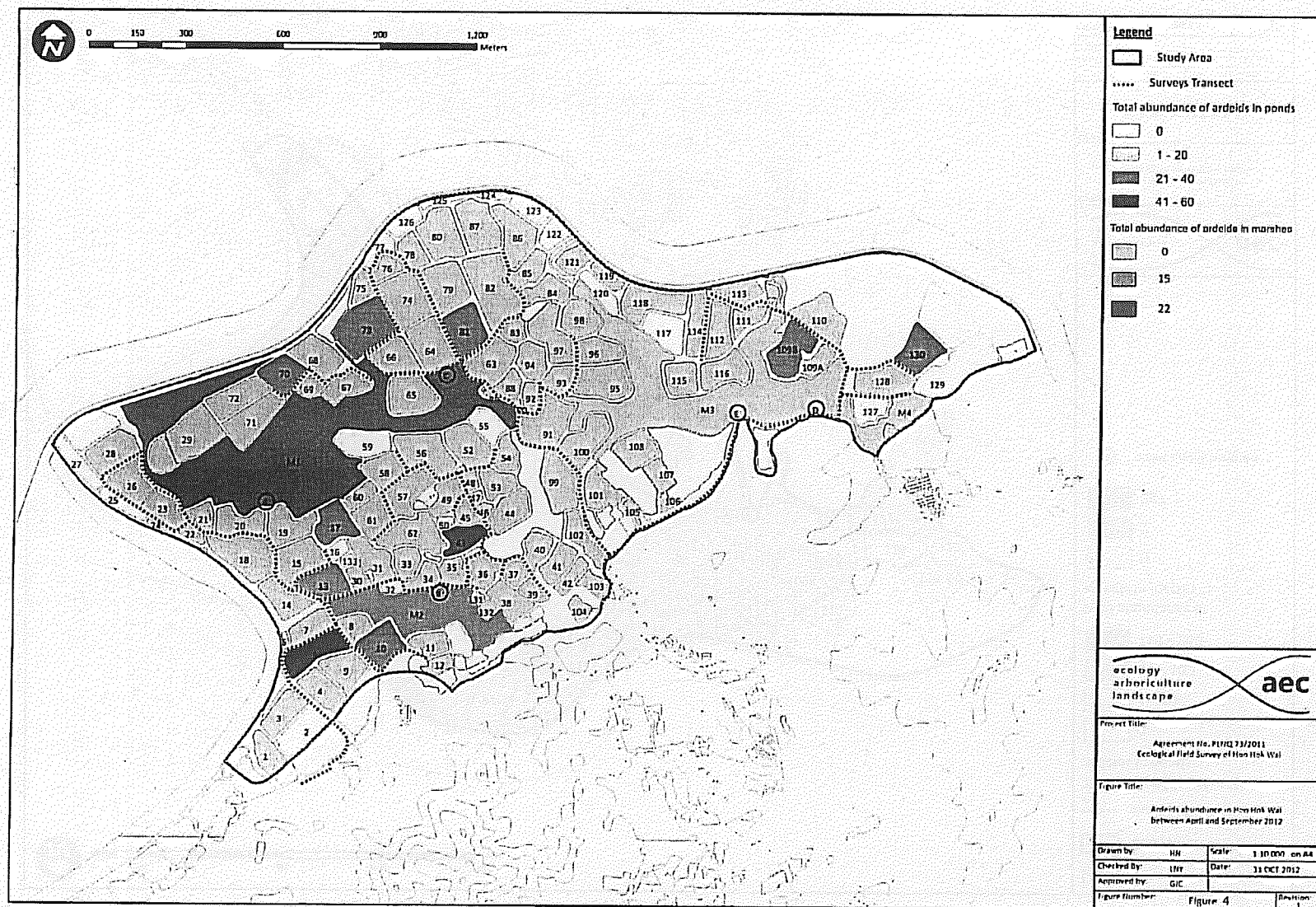


Figure 5 Dry season ardeids abundance in the Study Area, January to March and October to December 2012.

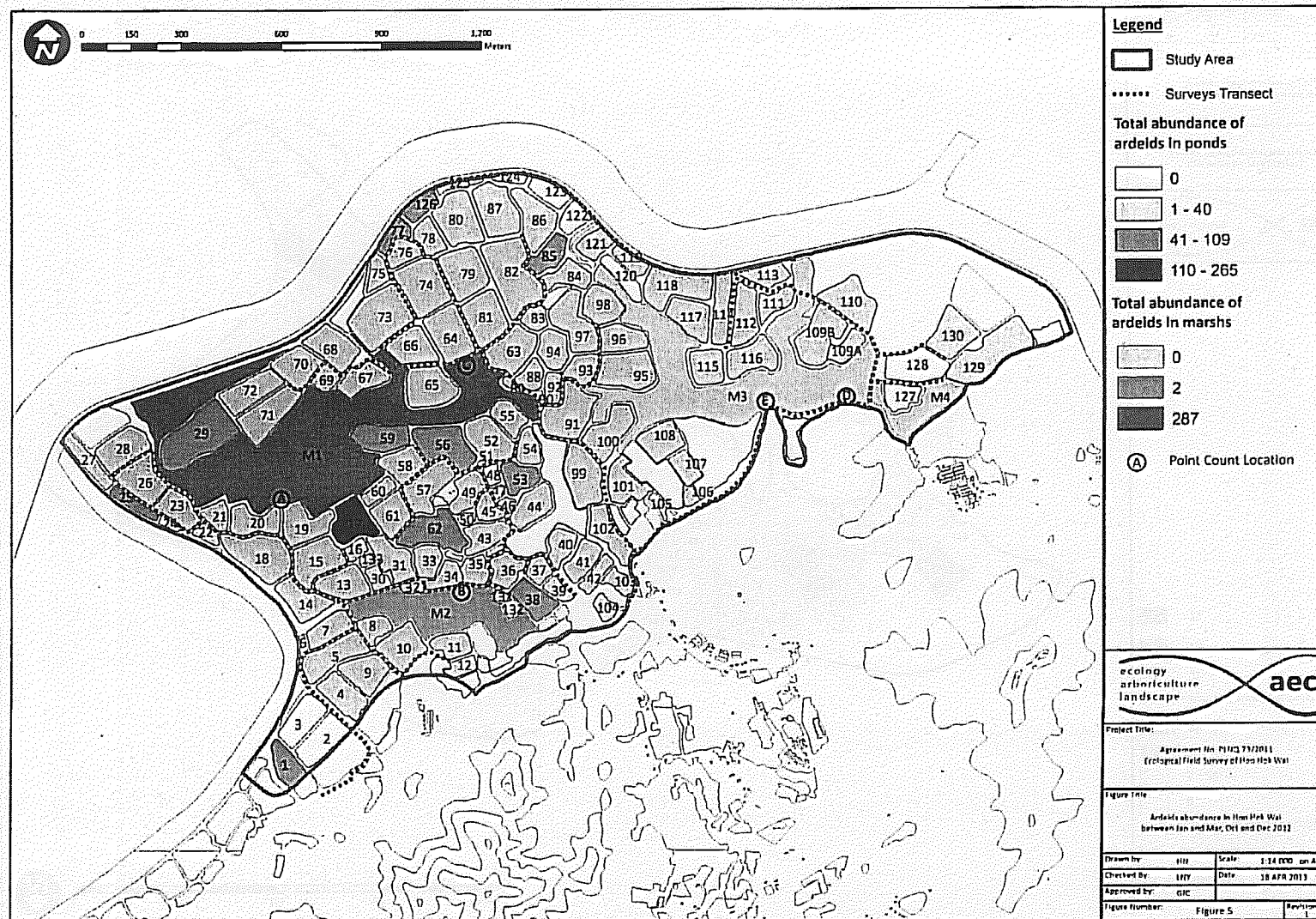


Figure 6 Relative abundance and distribution of roosting Great Cormorant across the Study Area in the dry season months of 2012.

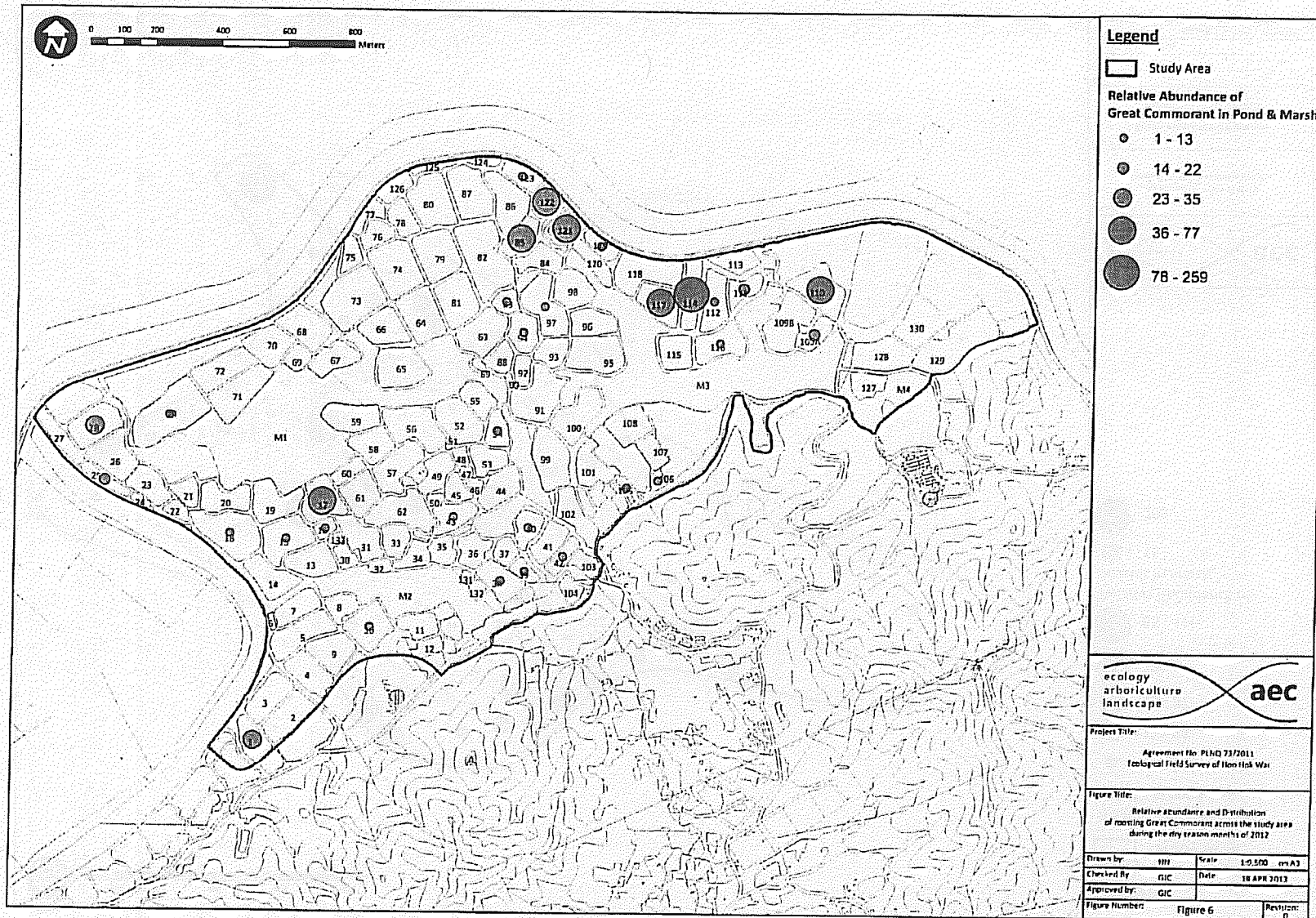


Figure 7 Relative abundance and distribution of roosting ardeids across the Study Area through the whole of 2012

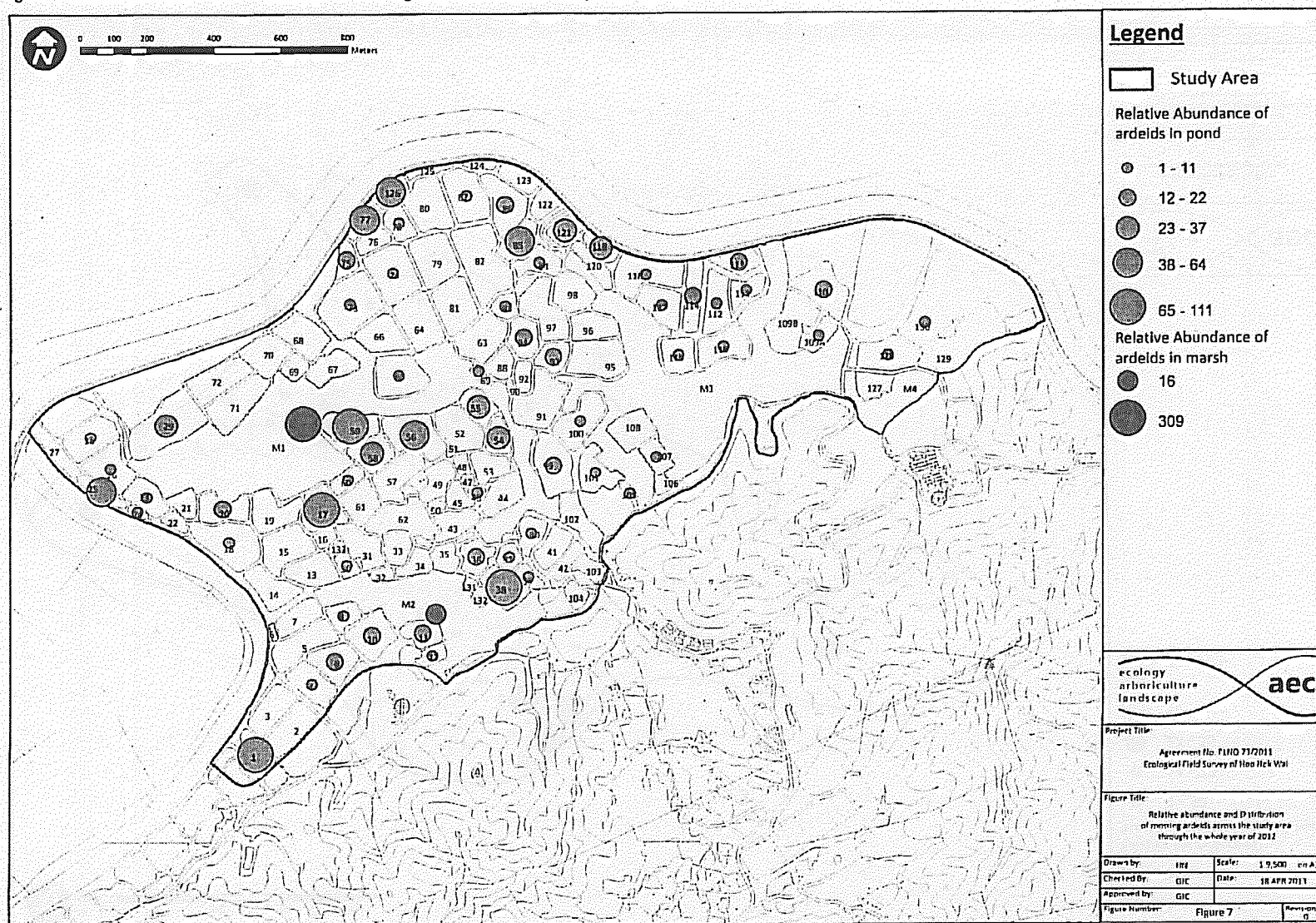


Figure 8 Wet season non-ardeid waterbirds abundance in the Study Area, April to September 2012.

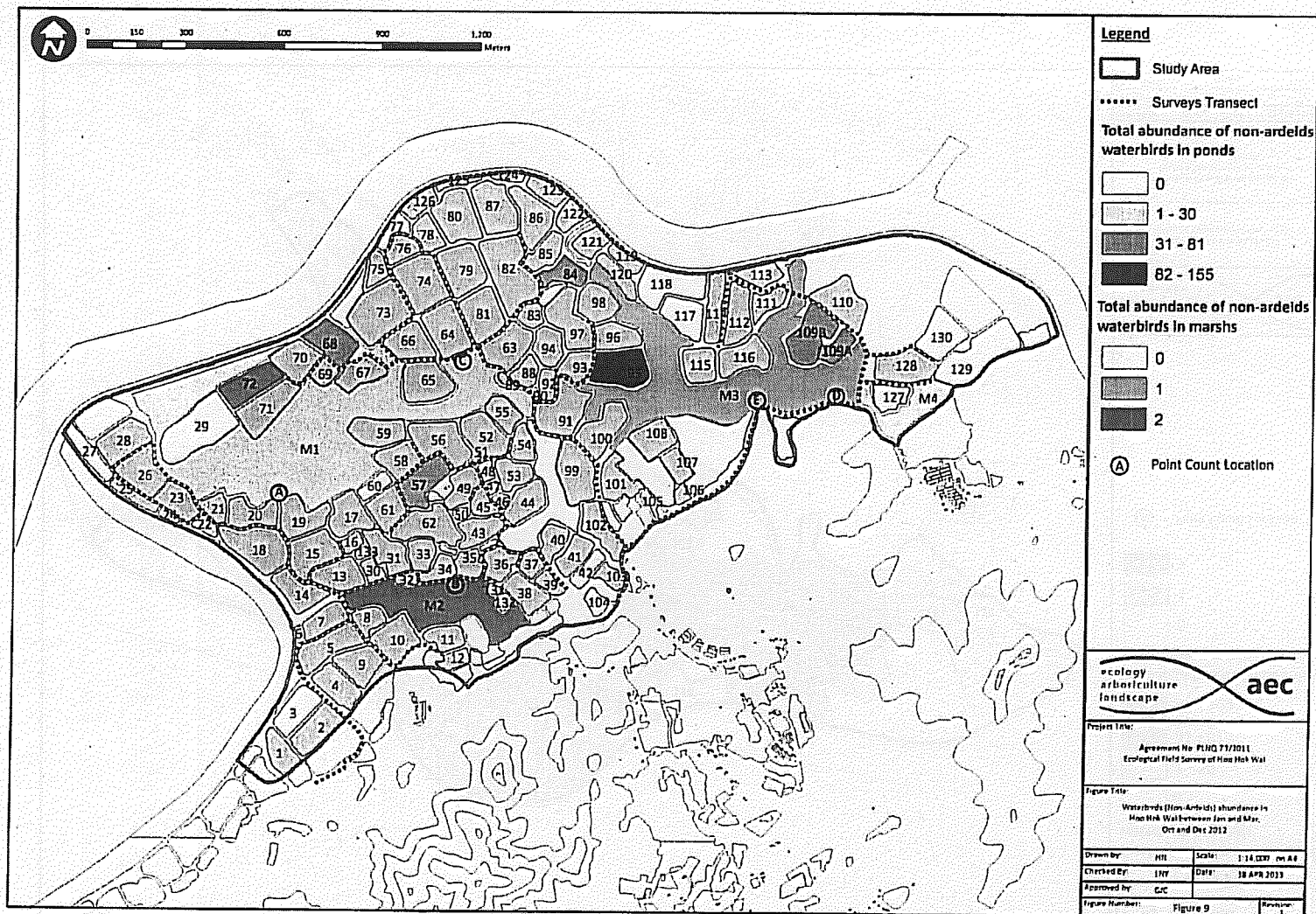


Figure 9 Dry season non-ardeid waterbirds abundance in the Study Area, January to March and October to December 2012.

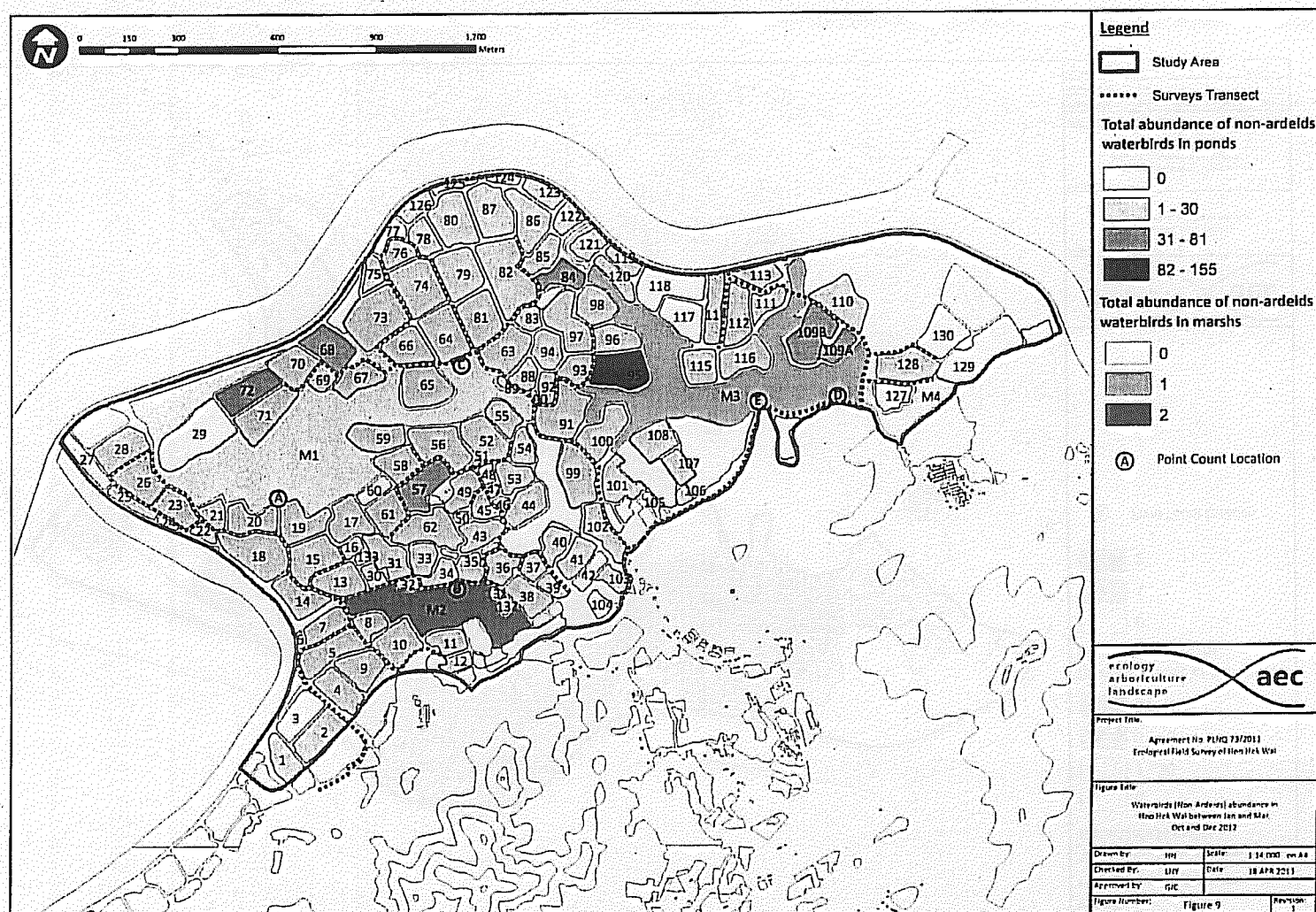


Figure 10 Findings of Ho Sheung Heung Egretty Flight line Survey

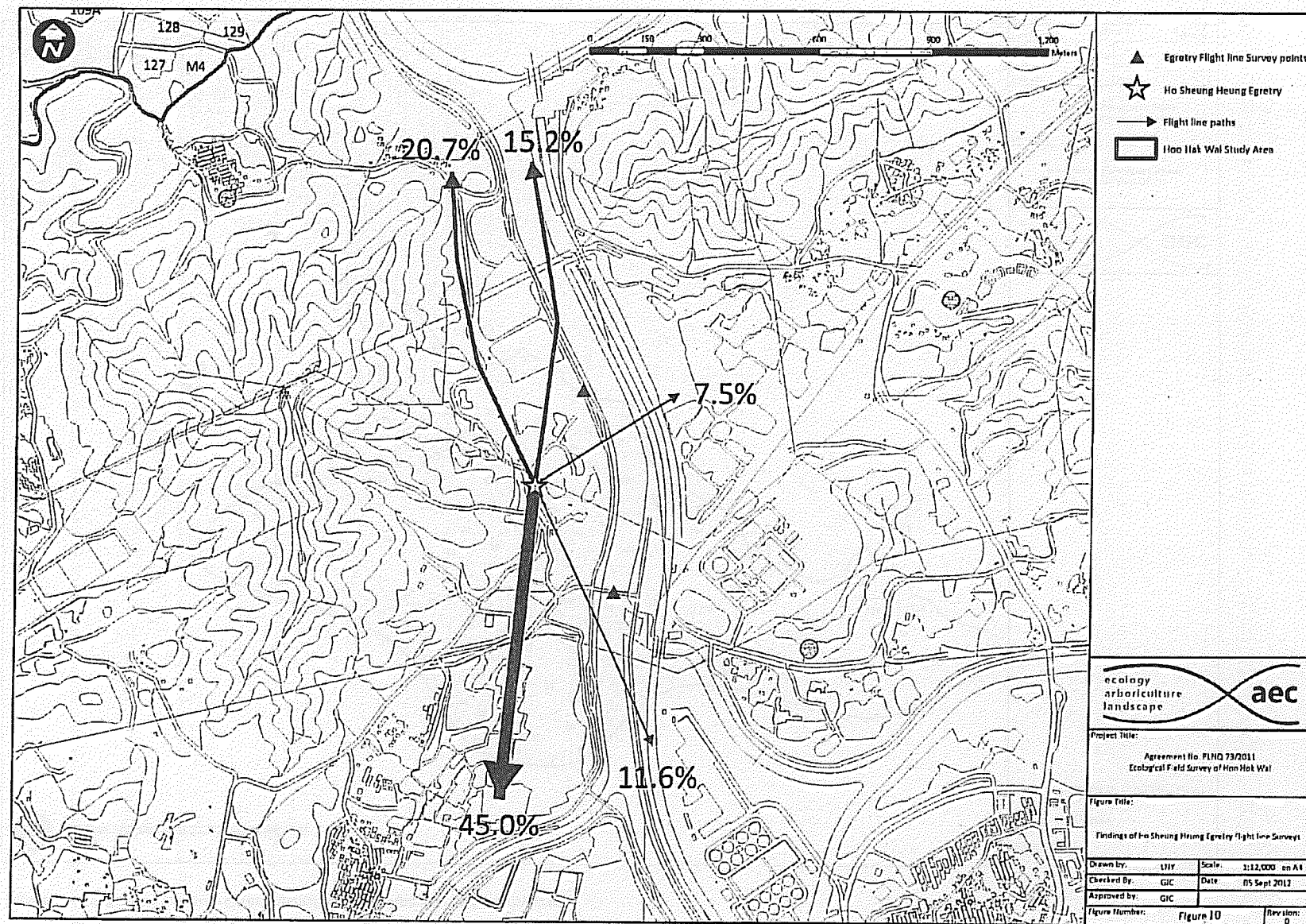


Figure 11 Locations of Eurasian Otters recorded at Hoo Hok Wai and nearby areas

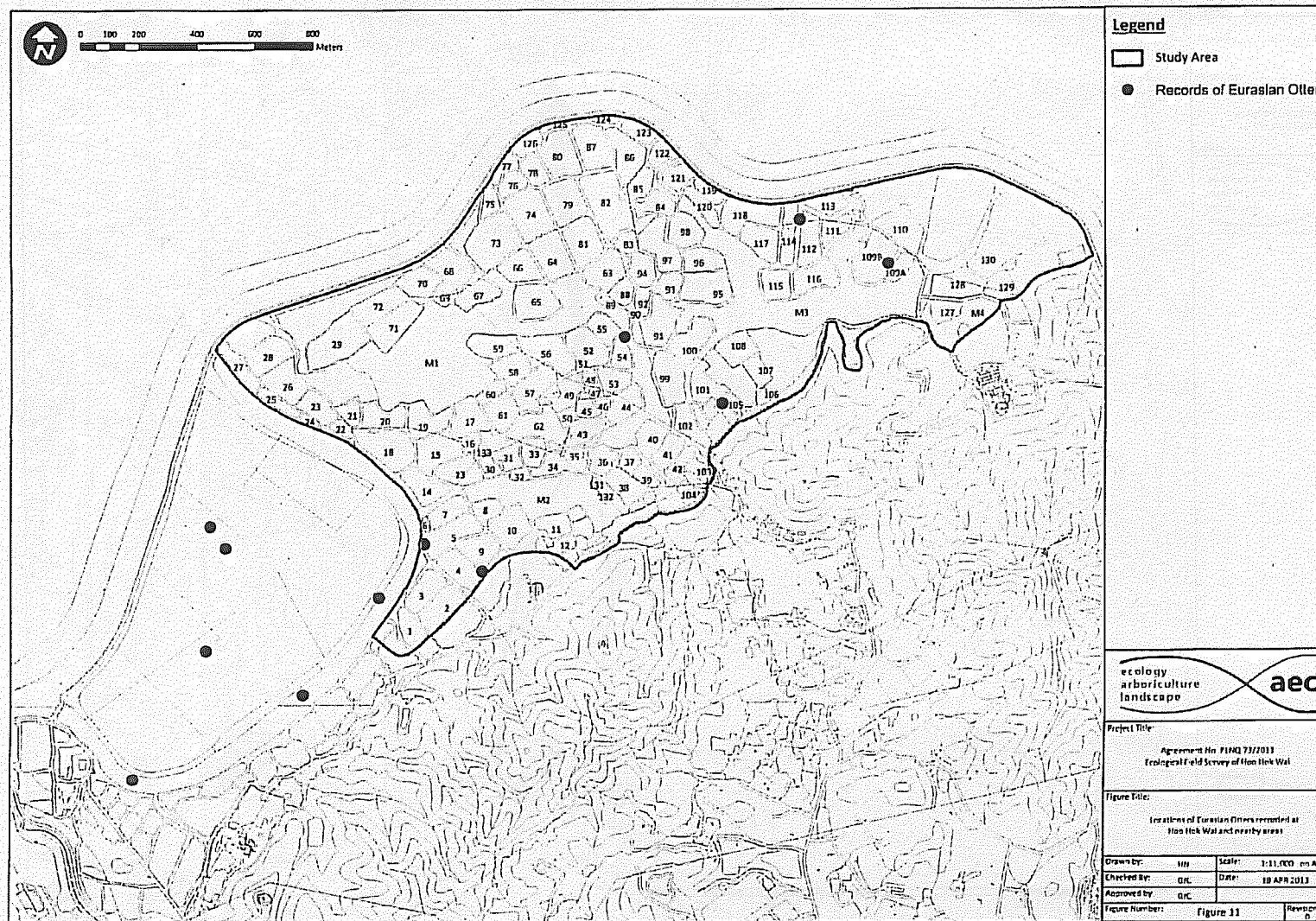


Figure 12 Locations of butterflies of conservation significance recorded during 2012

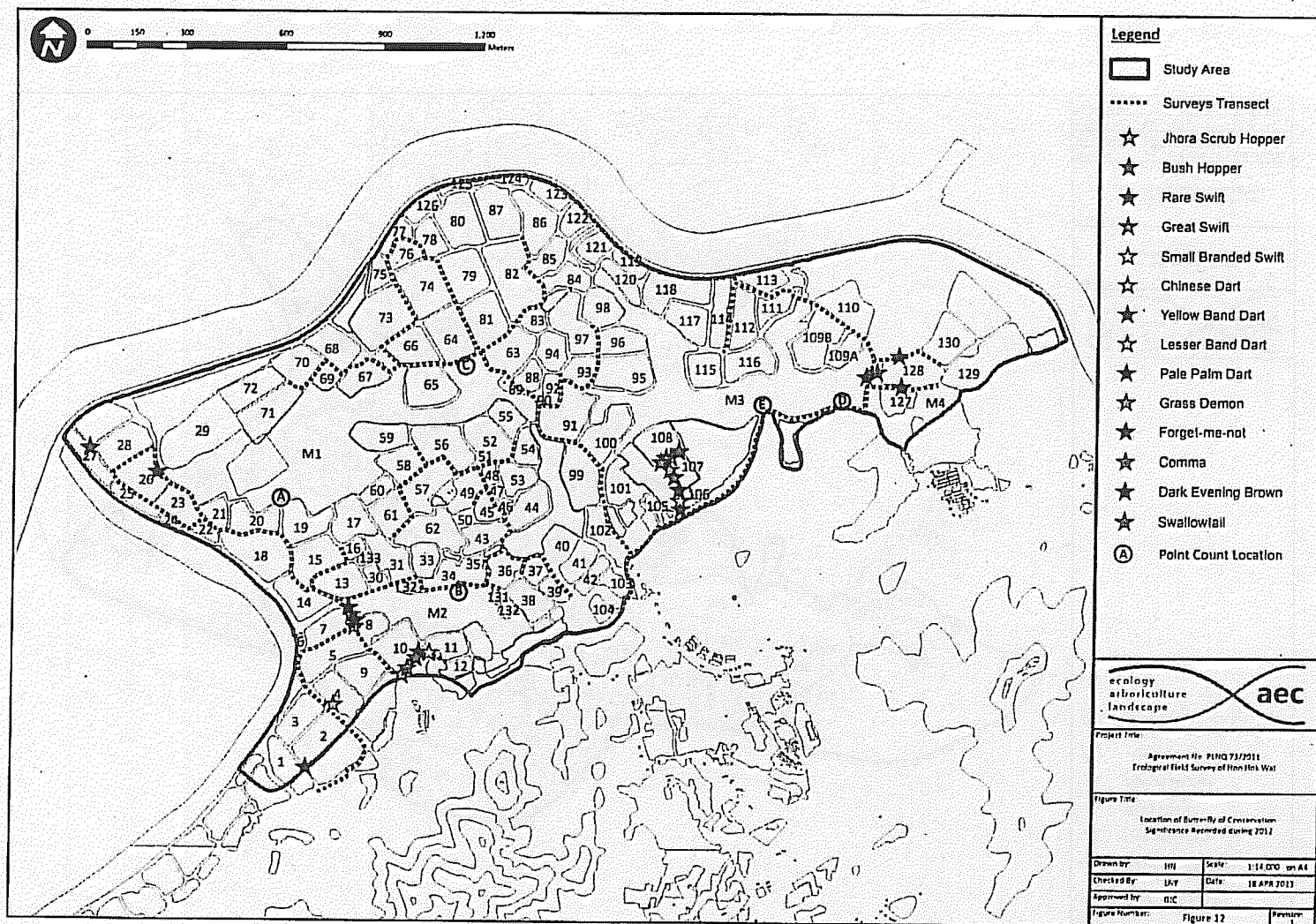


Figure 13 Locations of dragonfly species of conservation significance recorded during 2012

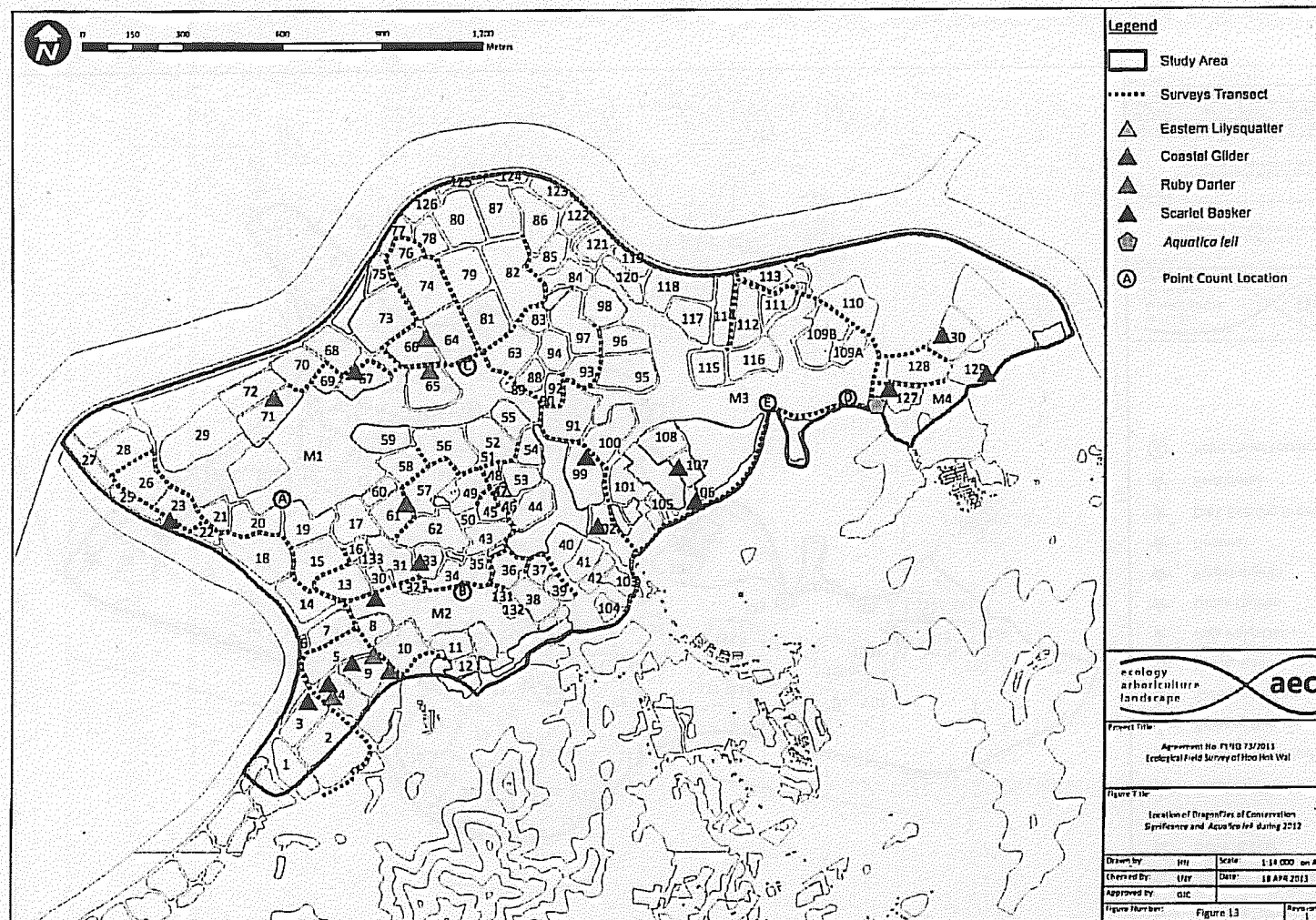


Figure 14 Locations of Herpetofauna of Conservation Significance recorded during 2012

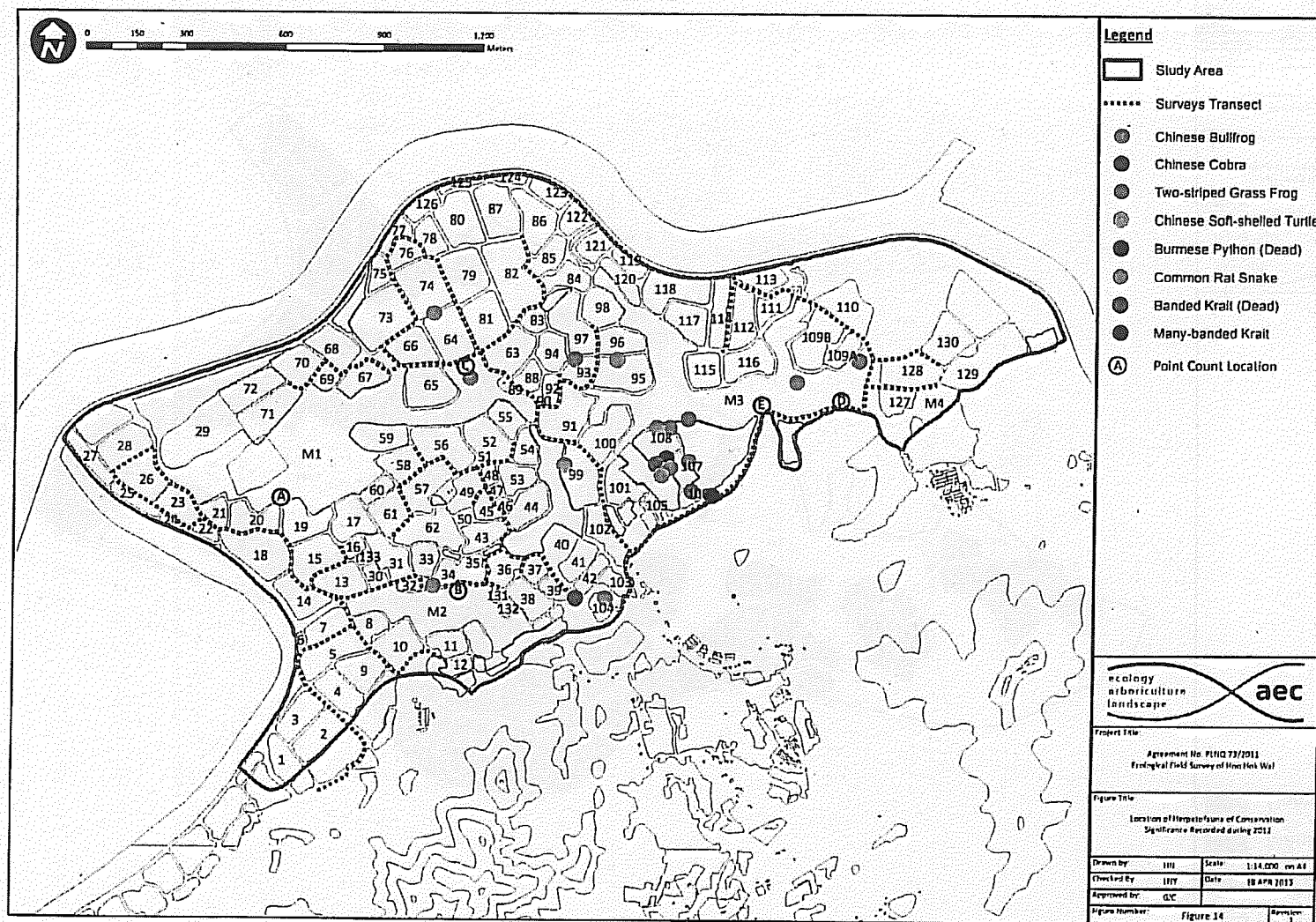


Figure 15 Distribution of managed and unmanaged fishponds as of December 2012

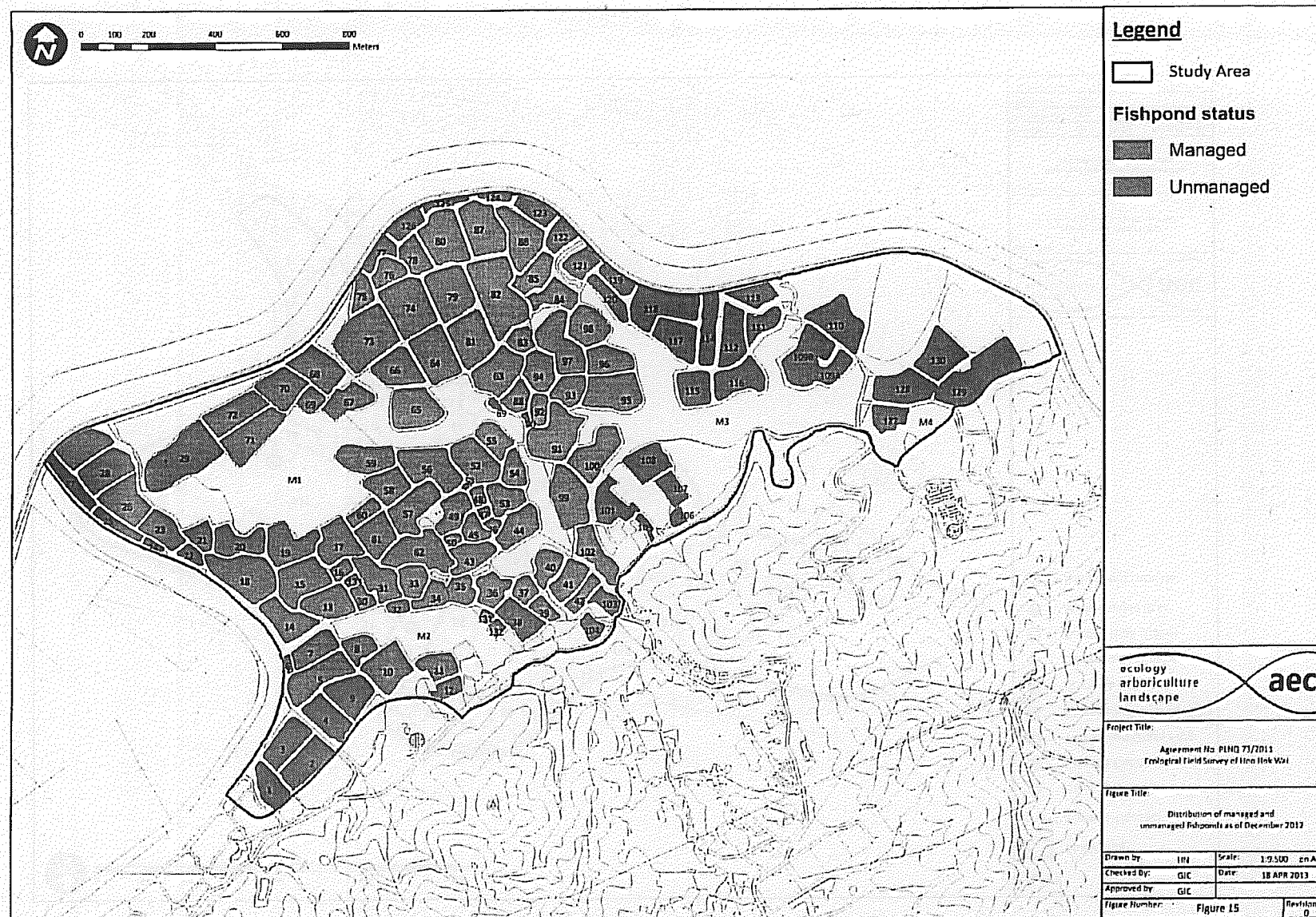
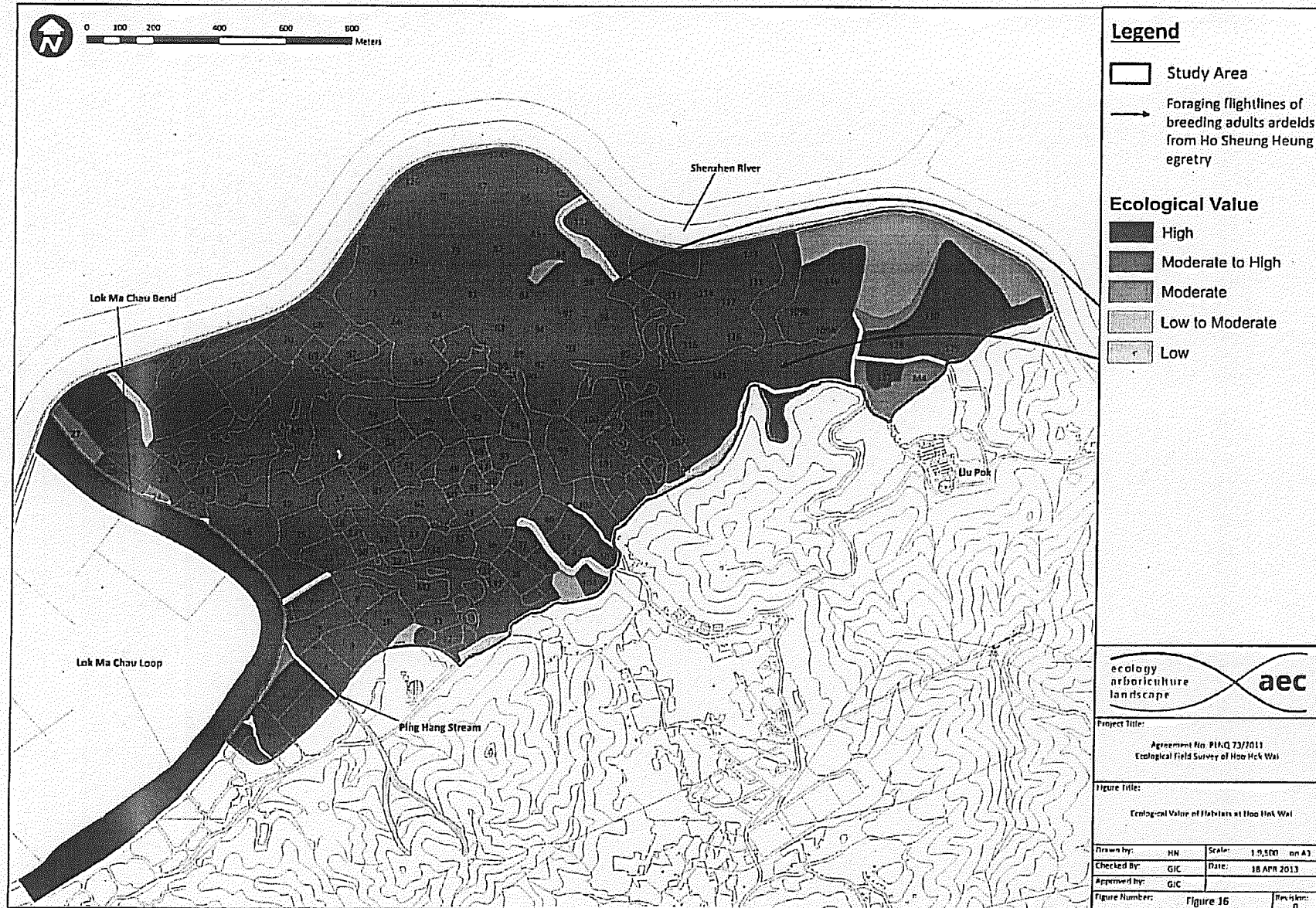


Figure 16 Ecological value of habitats of Hoo Hok Wai



Appendix A

Floral species recorded within the Study Area

Scientific Name	Chinese Common Name	Growth form	Distribution and Status in HK ^a	Channelized Watercourse#	Marsh	Natural Watercourse	Plantation	Pond	Reed Marsh	Ruderal Area	Secondary Woodland	Urban/ Residential Area
<i>Celtis sinensis</i>	朴樹	Tree	Common		*		*	*		*	*	
<i>Chloris barbata</i>	孟仁草	Herb	Very common		*			*		*		
<i>Cinnamomum burmannii</i>	陰香	Tree	Common		*	*	*				*	
<i>Cinnamomum camphora</i>	樟	Tree	Common		*		*			*	***	
<i>Citrus maxima</i>	柚	Tree	Exotic, Cultivated for food									*
<i>Citrus reticulata</i>	桔	Small tree	Common									*
<i>Clerodendrum cyrtophyllum</i>	大青	Shrub or tree	Common								*	
<i>Cocculus orbiculatus</i>	木防己	Climber	Common							*		
<i>Colocasia esculenta</i>	芋	Herb	Cultivated		*	*						
<i>Commelina diffusa</i>	節節草	Herb	Common		**	****	*	*	**		*	
<i>Coryza canadensis</i>	小蓬草	Herb	Exotic, Very common							*		
<i>Crotalaria pallida</i> var. <i>obovata</i>	豬屎豆	Herb	Exotic, Common		*			*				
<i>Cuphea petiolata</i>	黏毛萼距花	Shrub	Exotic, Common		*							
<i>Cuscuta chinensis</i>	菟絲子	Parasitic herbaceous climber	Common		*							
<i>Cyclosorus interruptus</i>	間斷毛蕨	Herb	Common		***	*	**		**			
<i>Cyclosorus parasiticus</i>	華南毛蕨	Herb	Very common				*					
<i>Cynodon dactylon</i>	狗牙根	Herb	Very common		*			**				*
<i>Cyperus compressus</i>	扁穗莎草	Herb	Very common		*							
<i>Cyperus distans</i>	疏穗莎草	Herb	Common		*							
<i>Cyperus exaltatus</i>	高桿莎草	Herb	Restricted		*			*				
<i>Cyperus imbricatus</i>	覆瓦狀莎草	Herb	Common		*			*				
<i>Cyperus iria</i>	碎米莎草	Herb	Common		*			*		*		
<i>Cyperus malaccensis</i>	短葉荳蔻	Herb	Common		***			*				
<i>Cyperus odoratus</i>	斷節莎	Herb	Exotic, Regarded as Rare in Xing <i>et al.</i> (2000), widely established in HK in recent years		*			*				
<i>Cyperus pilosus</i>	毛軸莎草	Herb	Common		*			*				
<i>Cyrtococcum patens</i>	弓果桑	Herb	Very common				*				**	
<i>Dactyloctenium aegyptium</i>	龍爪茅	Herb	Common				*					
<i>Desmodium gangeticum</i>	大葉山螞蝗	Subshrub	Common		*							
<i>Desmodium heterocarpon</i>	假地豆	Subshrub	Very common		*		*			*	*	
<i>Desmodium tortuosum</i>	南美山螞蝗	Subshrub	Exotic, Common		*		*					
<i>Desmodium triflorum</i>	三點金	Herb	Very common		*							
<i>Desmos chinensis</i>	假鷹爪	Woody climber	Common				*				***	
<i>Dianella ensifolia</i>	山菅蘭	Herb	Very common			*						
<i>Dianella ensifolia</i>	山菅蘭	Herb	Very common								*	
<i>Dicranopteris pedata</i>	芒萁	Herb	Very common							*	*	

Scientific Name	Chinese Common Name	Growth form	Distribution and Status in HK ^a	Channelized Watercourse	Marsh	Natural Watercourse	Plantation	Pond	Reed Marsh	Ruderal Area	Secondary Woodland	Urban/ Residential Area
<i>Hibiscus mutabilis</i>	木芙蓉	Shrub or Small Tree	Extensively cultivated		*							
<i>Hibiscus tiliaceus</i>	黃槿	Tree	Common			*	***	*			*	
<i>Ilex asprella</i>	梅葉冬青	Shrub	Very common				*			*		
<i>Imperata cylindrica</i> var. <i>major</i>	絲茅	Herb	Very common		*	*		*				
<i>Ipomoea aquatica</i>	蕹菜	Herb	Exotic, Very common		*	*						
<i>Ipomoea calrica</i>	五爪金龍	Herbaceous climber	Exotic, Very common		***					*	*	
<i>Ipomoea nil</i>	牽牛	Herbaceous climber	Common									*
<i>Ipomoea triloba</i>	三裂葉薯	Herbaceous climber	Exotic, Common		*	*	*	*		*	*	
<i>Kyllinga polyphylla</i>	香根水蜈蚣	Herb	Exotic, Common		*			*		*		
<i>Lantana camara</i>	馬櫻丹	Shrub	Exotic, Very common		*	*	*	*		*	*	*
<i>Leersia hexandra</i>	李氏禾	Herb	Common		*							
<i>Lemna minor</i>	浮萍	Floating Small Herb	Common					*				
<i>Leucaena leucocephala</i>	銀合歡	Tree	Exotic, Common	*	*		*	*			*	
<i>Ligustrum sinense</i>	山指甲	Shrub or Small Tree	Common							*	*	
<i>Lindernia crustacea</i>	母草	Herb	Restricted				*			*	*	
<i>Litsea chinensis</i>	荔枝	Tree	Exotic, Restricted		*							
<i>Litsea cubeba</i>	木薑子	Tree	Common							*		
<i>Litsea glutinosa</i>	潺槁樹	Tree	Very common				*			*	*	*
<i>Litsea monopetala</i>	假柿木薑子	Tree	Restricted				*					
<i>Litsea rotundifolia</i> var. <i>oblongifolia</i>	豺皮樟	Tree	Very common								*	
<i>Lophatherum gracile</i>	淡竹葉	Herb	Very common				*					
<i>Ludwigia hyssopifolia</i>	草龍	Herb	Restricted		**			*		*		
<i>Ludwigia octovalvis</i>	毛草龍	Herb	Common		**			*				
<i>Ludwigia perennis</i>	細花丁香蓼	Herb	Restricted		*	*		*				
<i>Ludwigia x taiwanensis</i>	台灣水龍	Herb	Exotic, Common					*				
<i>Lygodium flexuosum</i>	曲軸海金沙	Climber	Very common								*	
<i>Lygodium japonicum</i>	海金沙	Climber	Very common		*		*			*	*	
<i>Lygodium scandens</i>	小葉海金沙	Climber	Common		**						*	
<i>Macaranga tanarius</i> var. <i>tomentosa</i>	血桐	Tree	Common		*	*	*	*		**	***	*
<i>Macroptilium atropurpureum</i>	紫花大翼豆	Creeping herb	Exotic, Common				*					
<i>Macroptilium lathyroides</i>	大翼豆	Creeping herb	Exotic, Common		*							

Scientific Name	Chinese Common Name	Growth form	Distribution and Status in HK ^a	Channelized Watercourse ^b	Marsh	Natural Watercourse	Plantation	Pond	Reed Marsh	Ruderal Area	Secondary Woodland	Urban/ Residential Area
<i>Phyllanthus reticulatus</i>	小果葉下珠	Shrub	Common		*					*		
<i>Phyllanthus urinaria</i>	葉下珠	Herb	Common				*					
<i>Polygonum barbatum</i>	毛蓼	Herb	Common		*			*				
<i>Polygonum chinense</i>	火炭母	Herb	Very common		*	*		*			*	
<i>Polygonum dichotomum</i>	二歧蓼	Herb	Common		*							
<i>Polygonum lapathifolium</i>	大馬蓼	Herb	Common		*							
<i>Polygonum perfoliatum</i>	紅板歸	Herb	Common		*	*		*				
<i>Portulaca oleracea</i>	馬齒莧	Herb	Very common					*				
<i>Praxelis clematidea</i>	假臭草	Herb	Exotic, Very common				*				*	
<i>Psidium guajava</i>	番石榴	Tree	Exotic, Common		*							
<i>Psychotria asiatica</i>	九節	Shrub	Very common							*	*	
<i>Pteridium aquilinum</i> var. <i>latiusculum</i>	蕨	Herb	Common							*		
<i>Pueraria lobata</i>	野葛	Climber	Very common				**			*		
<i>Pycnus polystachyus</i>	多穗扁莎	Herb	Very common		*			*				
<i>Raphiolepis indica</i>	車輪梅	Shrub or Small Tree	Very common				**				*	
<i>Rhodomyrtus tomentosa</i>	桃金娘	Shrub	Very common		*			*			*	
<i>Rhus chinensis</i>	鹽膚木	Tree	Common		*		*					
<i>Rhus hypoleuca</i>	白背鹽膚木	Tree	Common				*			*		
<i>Rhus succedanea</i>	野漆樹	Tree	Common							*	*	
<i>Sacciolepis indica</i>	囊穎草	Herb	Very common				*					
<i>Sageretia thea</i>	雀梅藤	Shrub	Common		*							
<i>Sapium discolor</i>	山烏桕	Tree	Very common							*		
<i>Sapium sebiferum</i>	烏桕	Tree	Common		*	*		*			*	*
<i>Scoparia dulcis</i>	冰塘草	Herb	Common		*			*			*	
<i>Sesbania cannabina</i>	田菁	Subshrub	Exotic, Common		*	***	*	**		*		*
<i>Sida acuta</i>	黃花稔	Herb	Common		*			*				
<i>Sida rhombifolia</i>	白背黃花稔	Subshrub	Common		*		*	*				*
<i>Smilax china</i>	金剛藤	Climbing shrub	Very common							*		
<i>Solanum americanum</i>	少花龍葵	Herb	Exotic, Very common	*	*							*
<i>Solanum nigrum</i>	龍葵	Herb	Common		*		*	*			*	
<i>Solanum torvum</i>	水茄	Shrub	Exotic, Common	*	*		*	*				
<i>Spermacoce stricta</i>	豐花草	Herb	Restricted		*							
<i>Sporobolus fertilis</i>	鼠尾粟	Herb	Very common		***			*		*		
<i>Stephania longa</i>	千金藤	Climber	Common				*			*	*	
<i>Sterculia lanceolata</i>	假蘇婆	Tree	Very common							*	*	
<i>Syzygium hancei</i>	韓氏蒲桃	Tree	Common								*	*
<i>Syzygium jambos</i>	蒲桃	Tree	Exotic, Common		*		*				*	
<i>Syzygium levinei</i>	山蒲桃	Tree	Common				*					

Appendix B

List of Bird Species Recorded in the Hoo Hok Wai area

Species	BLI	Fellowes	China	CMS	R	M	P	CN	SWP	URA
Great Crested Grebe <i>Podiceps cristatus</i>		RC					x			
Black-necked Grebe <i>Podiceps nigricollis</i>							x			
Black Stork <i>Ciconia nigra</i>		RC	1	2			x			
Eurasian Spoonbill <i>Platalea leucorodia</i>		LC	2	2			x			
Black-faced Spoonbill <i>Platalea minor</i>	E	PGC	2	1			x	x		
Yellow Bittern <i>Ixobrychus sinensis</i>		(LC)			x	x	x			
Von Schrenck's Bittern <i>Ixobrychus eurhythmus</i>		RC			x	x				
Cinnamon Bittern <i>Ixobrychus cinnamomeus</i>		LC			x	x				
Black Bittern <i>Dupetor flavicollis</i>		LC			x	x				
Black-crowned Night Heron <i>Nycticorax nycticorax</i>		(LC)					x			
Striated Heron <i>Butorides striata</i>		(LC)					x			
Chinese Pond Heron <i>Ardeola bacchus</i>		PRC(RC)				x	x	x		
Eastern Cattle Egret <i>Bubulcus coromandus</i>		(LC)				x	x			
Grey Heron <i>Ardea cinerea</i>		PRC			x	x	x	x		
Purple Heron <i>Ardea purpurea</i>		RC			x	x		x		
Great Egret <i>Ardea alba</i>		PRC(RC)				x	x	x		
Intermediate Egret <i>Egretta intermedia</i>		RC				x	x			
Little Egret <i>Egretta garzetta</i>		PRC(RC)				x	x	x		
Great Cormorant <i>Phalacrocorax carbo</i>		PRC					x	x		
Western Osprey <i>Pandion haliaetus</i>		RC	2	2			x			
Black Baza <i>Aviceda leuphotes</i>				2					x	
Crested Honey Buzzard <i>Pernis ptilorhynchus</i>		LC	2	2					x	
Black-winged Kite <i>Elanus coeruleus</i>		LC	2	2		x	x			
Black Kite <i>Milvus migrans</i>		(RC)		2			x	x		x
White-bellied Sea Eagle <i>Haliaeetus leucogaster</i>		(RC)	2	2			x			
Crested Serpent Eagle <i>Spilornis cheela</i>		(LC)		2					x	
Eastern Marsh Harrier <i>Circus spilonotus</i>		LC		2	x					
Pied Harrier <i>Circus melanoleucos</i>		LC		2	x					
Crested Goshawk <i>Accipiter trivirgatus</i>				2					x	
Chinese Sparrowhawk <i>Accipiter soloensis</i>				2					x	
Japanese Sparrowhawk <i>Accipiter gularis</i>				2			x			
Besra <i>Accipiter virgatus</i>				2					x	
Eurasian Sparrowhawk <i>Accipiter nisus</i>			2	2		x	x			
Eastern Buzzard <i>Buteo japonicus</i>				2		x	x			
Greater Spotted Eagle <i>Aquila clanga</i>	V	GC	2	1			x			
Steppe Eagle <i>Aquila nipalensis</i>			2	2			x			
Eastern Imperial Eagle <i>Aquila heliaca</i>	V	GC	1	1			x			
Bonelli's Eagle <i>Aquila fasciata</i>		(RC)	2	2			x			
Common Kestrel <i>Falco tinnunculus</i>				2			x			
Amur Falcon <i>Falco amurensis</i>			2	2			x			

Species	BLI	Fellowes	China	CMS	R	M	P	CN	SWP	URA
Pectoral Sandpiper <i>Calidris melanotos</i>		LC		2			x			
Sharp-tailed Sandpiper <i>Calidris acuminata</i>				2			x			
Curlew Sandpiper <i>Calidris ferruginea</i>				2			x			
Dunlin <i>Calidris alpina</i>		RC		2			x			
Ruff <i>Philomachus pugnax</i>		LC		2			x			
Red-necked Phalarope <i>Phalaropus lobatus</i>				2			x			
Oriental Pratincole <i>Glareola maldivarum</i>		LC					x			
Black-headed Gull <i>Chroicocephalus ridibundus</i>		PRC					x			
Caspian Gull <i>Larus cachinnans</i>		LC					x			
Heuglin's Gull <i>Larus fuscus</i>		LC					x			
Little Tern <i>Sternula albifrons</i>		LC		2			x			
Whiskered Tern <i>Chlidonias hybrida</i>							x			
White-winged Tern <i>Chlidonias leucopterus</i>							x			
Domestic Pigeon <i>Columba livia</i>							x			x
Oriental Turtle Dove <i>Streptopelia orientalis</i>							x		x	
Eurasian Collared Dove <i>Streptopelia decaocto</i>							x			
Red Turtle Dove <i>Streptopelia tranquebarica</i>							x			
Spotted Dove <i>Spilopelia chinensis</i>							x		x	x
Common Emerald Dove <i>Chalcophaps indica</i>									x	
Greater Coucal <i>Centropus sinensis</i>									x	
Lesser Coucal <i>Centropus bengalensis</i>			2							
Chestnut-winged Cuckoo <i>Clamator coromandus</i>									x	
Asian Koel <i>Eudynamis scolopaceus</i>									x	x
Plaintive Cuckoo <i>Cacomantis merulinus</i>									x	
Large Hawk Cuckoo <i>Hierococcyx sparveroides</i>									x	
Indian Cuckoo <i>Cuculus micropterus</i>									x	
Oriental Cuckoo <i>Cuculus optatus</i>							x			
Eurasian Eagle Owl <i>Bubo bubo</i>		RC				x	x			
Asian Barred Owlet <i>Glaucidium cuculoides</i>									x	
Savanna Nightjar <i>Caprimulgus affinis</i>										
Himalayan Swiftlet <i>Aerodramus brevirostris</i>							x			
Silver-backed Needletail <i>Hirundapus cochinchinensis</i>			2			x	x			
Pacific Swift <i>Apus pacificus</i>		(LC)					x			
House Swift <i>Apus nipalensis</i>							x			
White-throated Kingfisher <i>Halcyon smyrnensis</i>		(LC)			x	x	x	x		
Black-capped Kingfisher <i>Halcyon pileata</i>		(LC)					x			
Common Kingfisher <i>Alcedo atthis</i>							x	x		
Pied Kingfisher <i>Ceryle rudis</i>		(LC)					x			

Species	BLI	Fellowes	China	CMS	R	M	P	CN	SWP	URA
Pallas's Leaf Warbler <i>Phylloscopus proregulus</i>									x	
Yellow-browed Warbler <i>Phylloscopus inornatus</i>									x	
Arctic Warbler <i>Phylloscopus borealis</i>									x	
Pale-legged Leaf Warbler <i>Phylloscopus tenellipes</i>									x	
Oriental Reed Warbler <i>Acrocephalus orientalis</i>					x	x				
Black-browed Reed Warbler <i>Acrocephalus bistrigiceps</i>					x	x		x		
Manchurian Reed Warbler <i>Acrocephalus tangorum</i>					x	x				
Paddyfield Warbler <i>Acrocephalus agricola</i>					x	x				
Thick-billed Warbler <i>Iduna aedon</i>					x	x		x		
Russet Bush Warbler <i>Bradypterus mandelli</i>									x	
Lanceolated Warbler <i>Locustella lanceolata</i>					x					
Pallas's Grasshopper Warbler <i>Locustella certhiola</i>		LC			x					
Styan's Grasshopper Warbler <i>Locustella pleskei</i>	V	GC				x				
Zitting Cisticola <i>Cisticola juncidis</i>		LC			x	x		x		
Golden-headed Cisticola <i>Cisticola exilis</i>		LC			x	x		x		
Yellow-bellied Prinia <i>Prinia flaviventris</i>					x	x		x		
Plain Prinia <i>Prinia inornata</i>					x	x		x		
Common Tailorbird <i>Orthotomus sutorius</i>					x	x		x		x
Masked Laughingthrush <i>Garrulax perspicillatus</i>									x	x
Japanese White-eye <i>Zosterops japonicus</i>									x	
Crested Myna <i>Acridotheres cristatellus</i>							x	x		x
Common Myna <i>Acridotheres tristis</i>							x			
Red-billed Starling <i>Spodiopsar sericeus</i>		GC				x	x	x		
White-cheeked Starling <i>Spodiopsar cineraceus</i>		PRC					x			
Black-collared Starling <i>Gracupica nigricollis</i>							x			x
Daurian Starling <i>Agropsar sturninus</i>		LC					x			x
Chestnut-cheeked Starling <i>Agropsar philippensis</i>						x	x			
White-shouldered Starling <i>Sturnia sinensis</i>		(LC)					x			x
Common Starling <i>Sturnus vulgaris</i>		LC					x			
White's Thrush <i>Zoothera aurea</i>									x	
Grey-backed Thrush <i>Turdus hortulorum</i>									x	x
Common Blackbird <i>Turdus merula</i>									x	
Pale Thrush <i>Turdus pallidus</i>									x	
Naumann's Thrush <i>Turdus naumanni</i>		LC				x	x			
Dusky Thrush <i>Turdus eunomus</i>						x	x			
Bluethroat <i>Luscinia svecica</i>		LC			x	x				
Siberian Rubythroat <i>Luscinia caliope</i>					x					
Siberian Blue Robin <i>Luscinia cyane</i>		LC							x	
Red-flanked Bluetail <i>Tarsiger cyanurus</i>									x	

Appendix C

Habitat Photos



Plate 7. M4, between ponds 109B and pond 111.

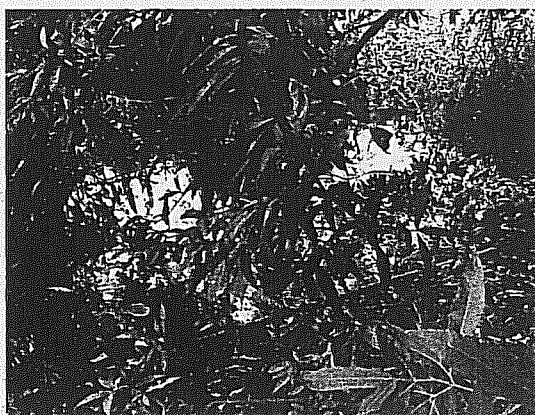


Plate 8. Ping Hang Stream, which supports a suite of freshwater invertebrate species.

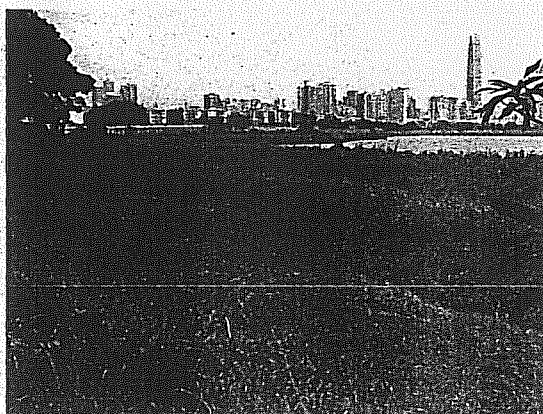


Plate 9. Natural watercourse alongside pond 26.



Plate 10. Natural watercourse alongside pond 121.



Plate 11. Channelised watercourse near Ma Tso Lung village.

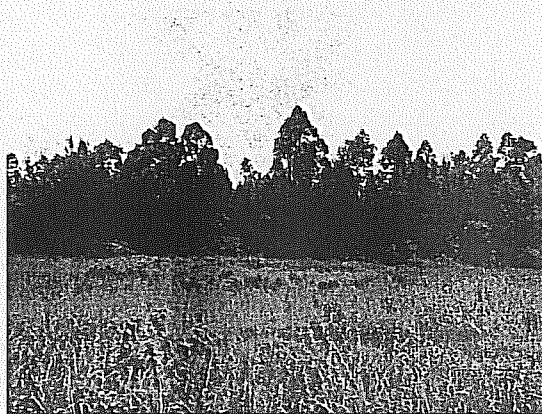
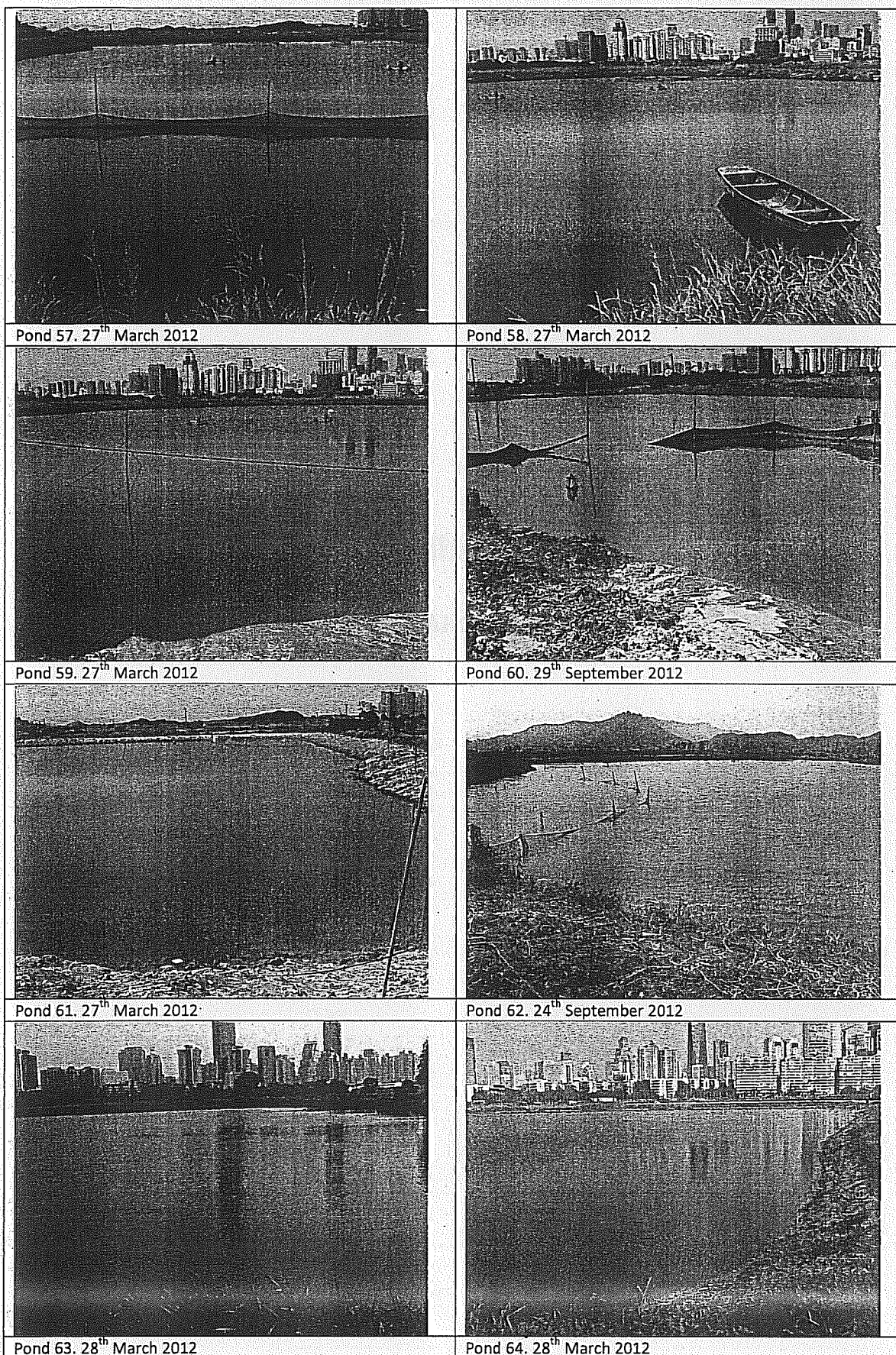
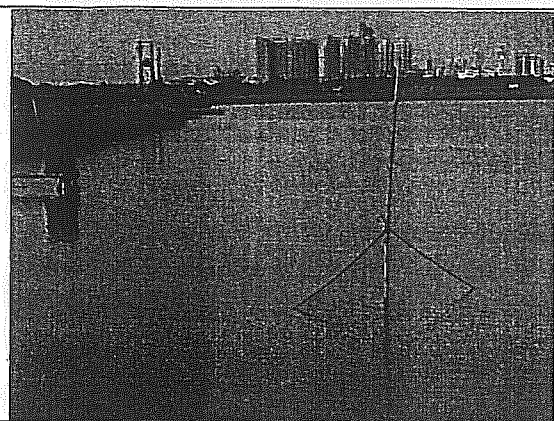


Plate 12. Plantation woodland alongside Shenzhen River, in the vicinity of pond 130.

Appendix D

Point Count Survey Data

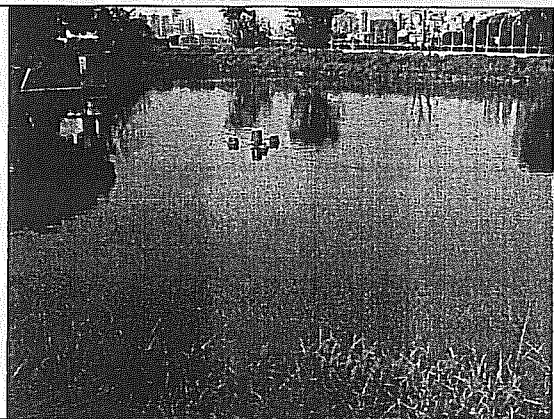




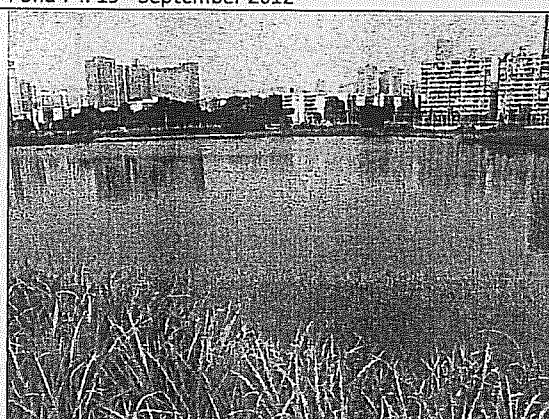
Pond 73. 28th March 2012



Pond 74. 19th September 2012



Pond 75. 28th March 2012



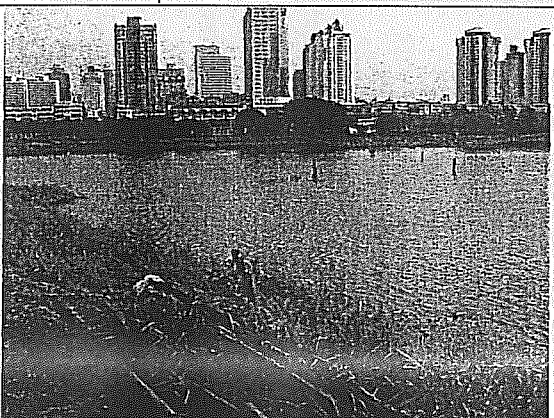
Pond 76. 19th September 2012



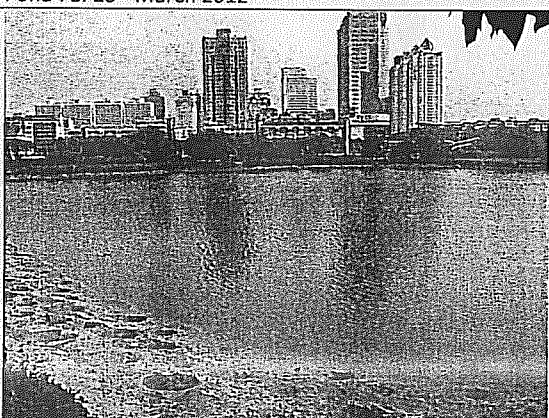
Pond 77. 19th September 2012



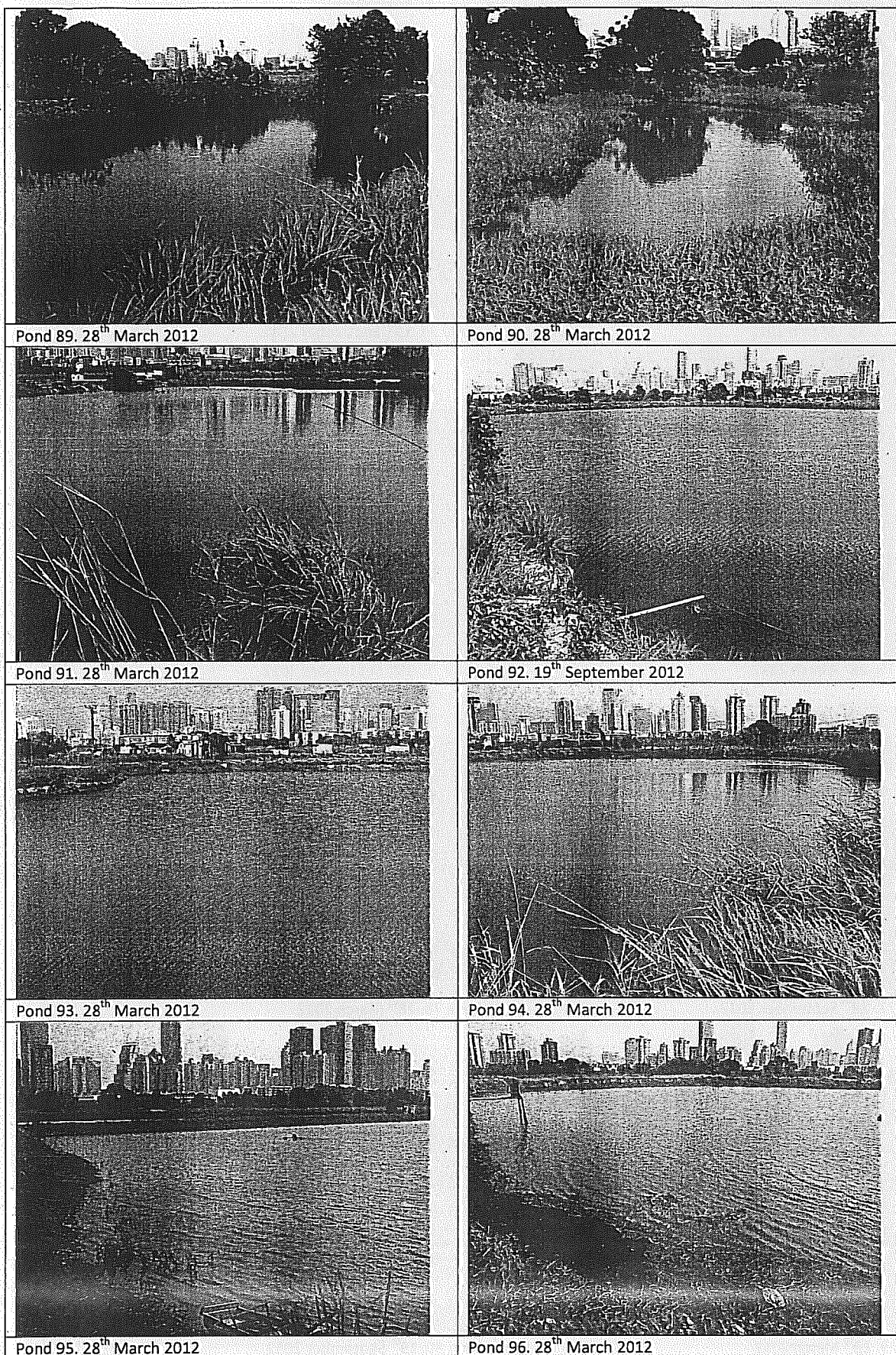
Pond 78. 28th March 2012

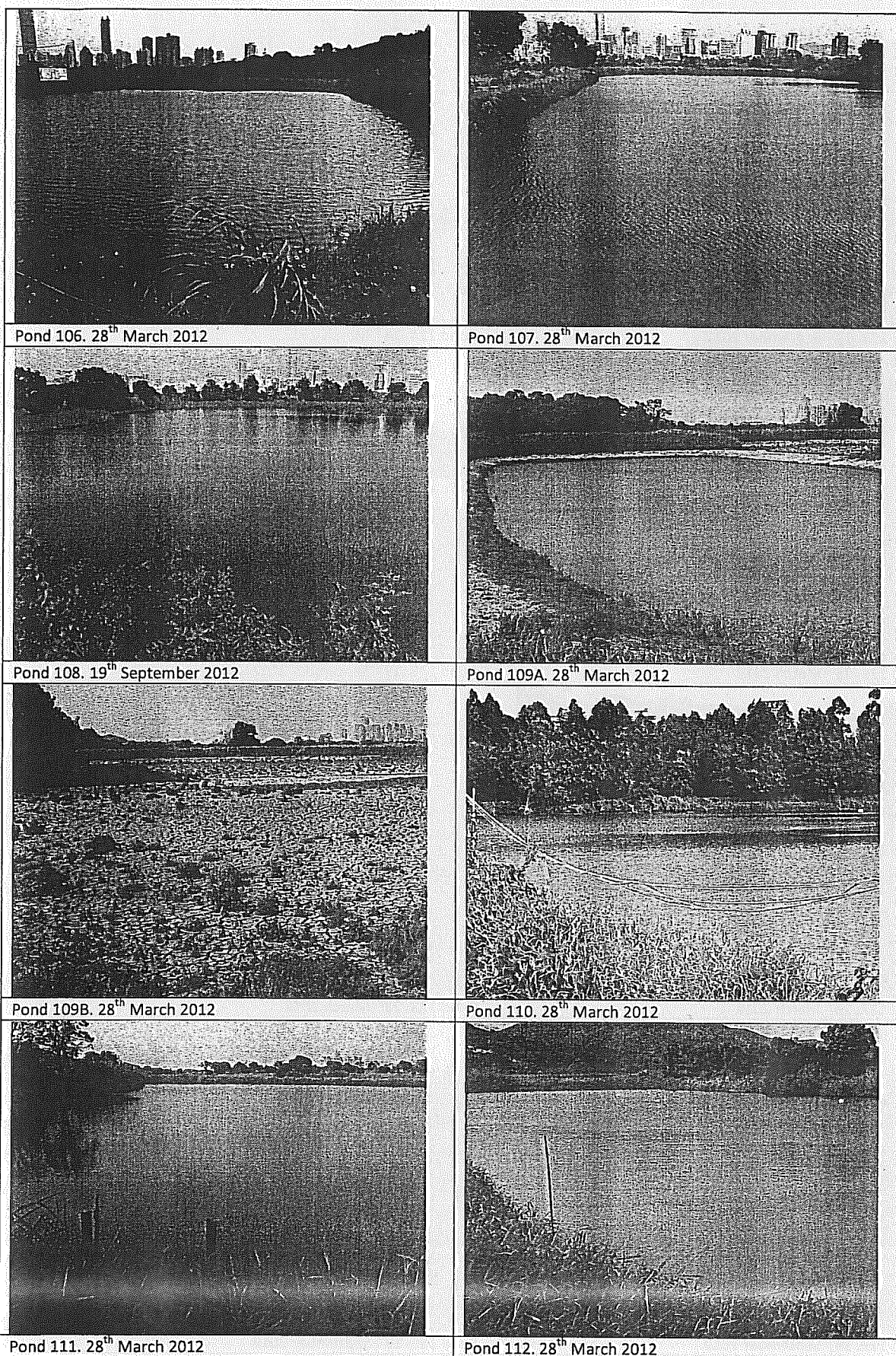


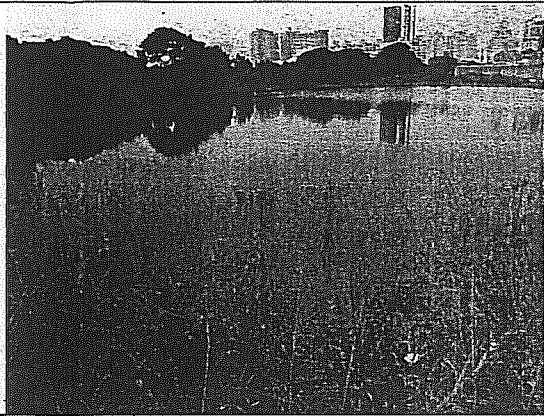
Pond 79. 28th March 2012



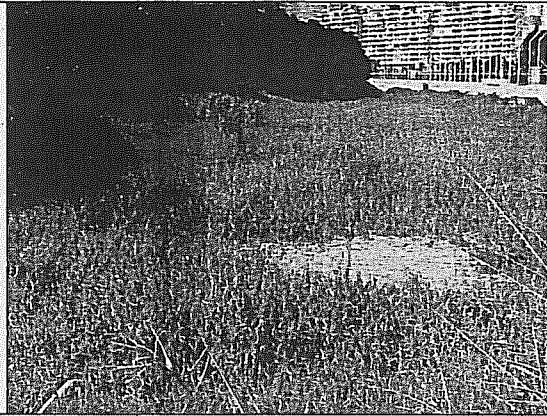
Pond 80. 19th September 2012







Pond 123. 19th September 2012



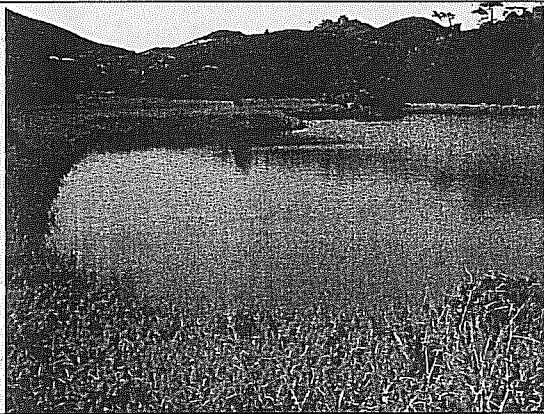
Pond 124. 28th March 2012



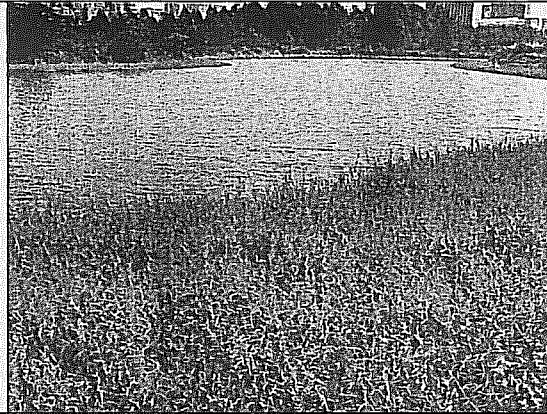
Pond 125. 28th March 2012



Pond 126. 19th September 2012



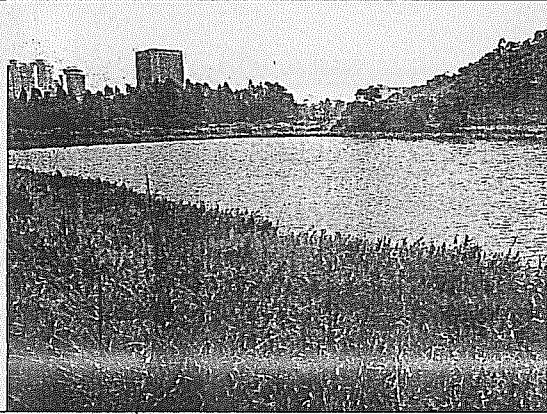
Pond 127. 28th March 2012



Pond 128. 28th March 2012



Pond 129. 19th September 2012



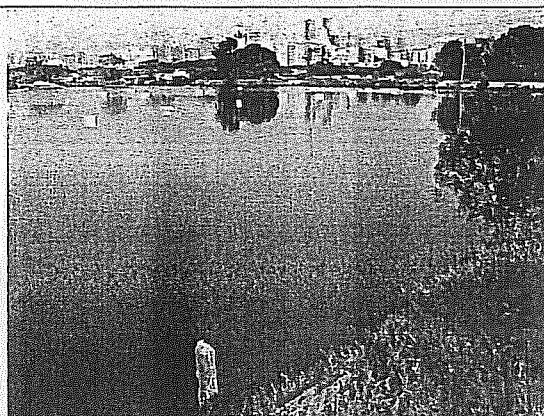
Pond 130. 19th September 2012

Appendix E

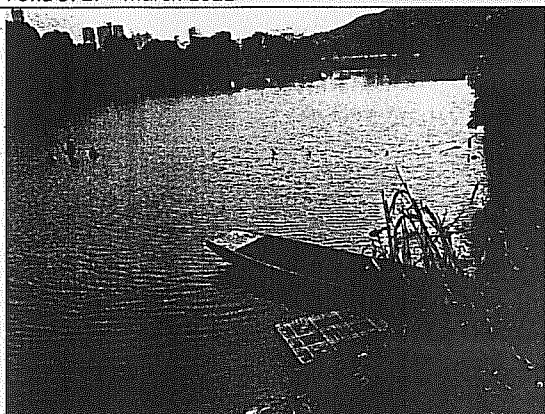
Photographic Record of Ponds in the Assessment Area



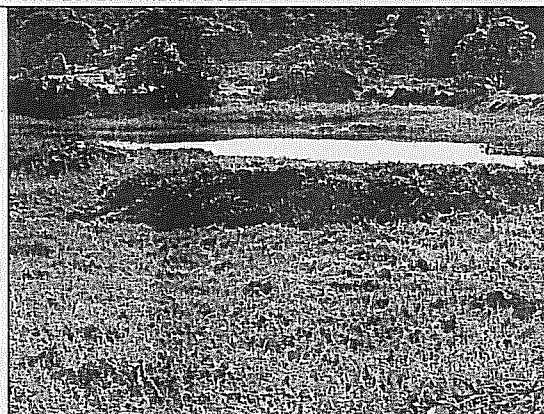
Pond 9. 27th March 2012



Pond 10. 27th March 2012



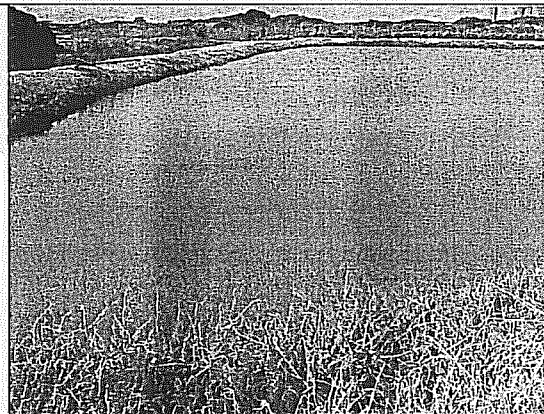
Pond 11. 27th March 2012



Pond 12. 27th March 2012



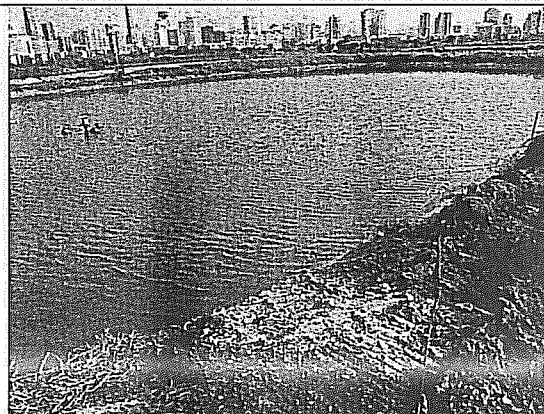
Pond 13. 27th March 2012



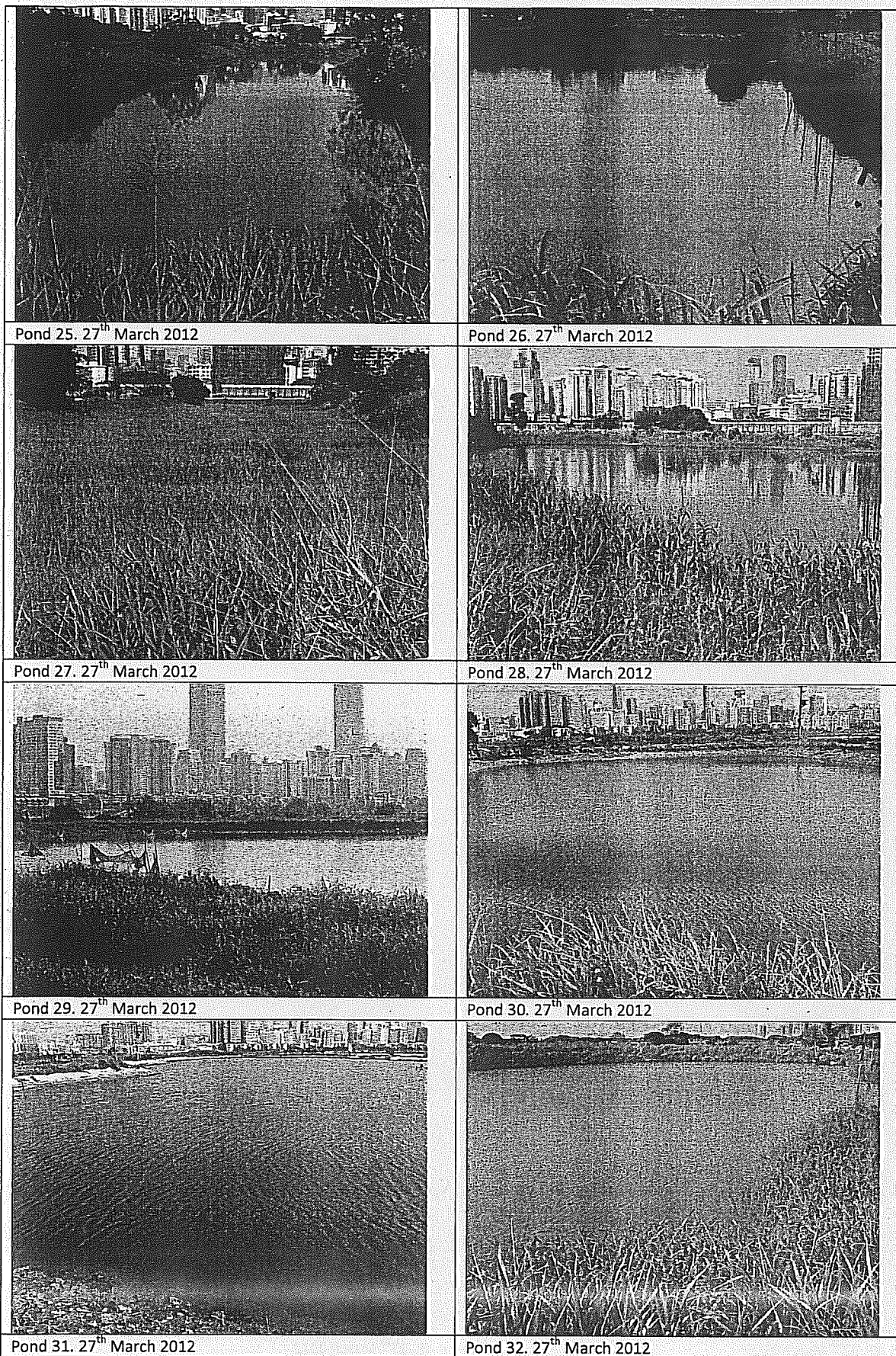
Pond 14. 27th March 2012

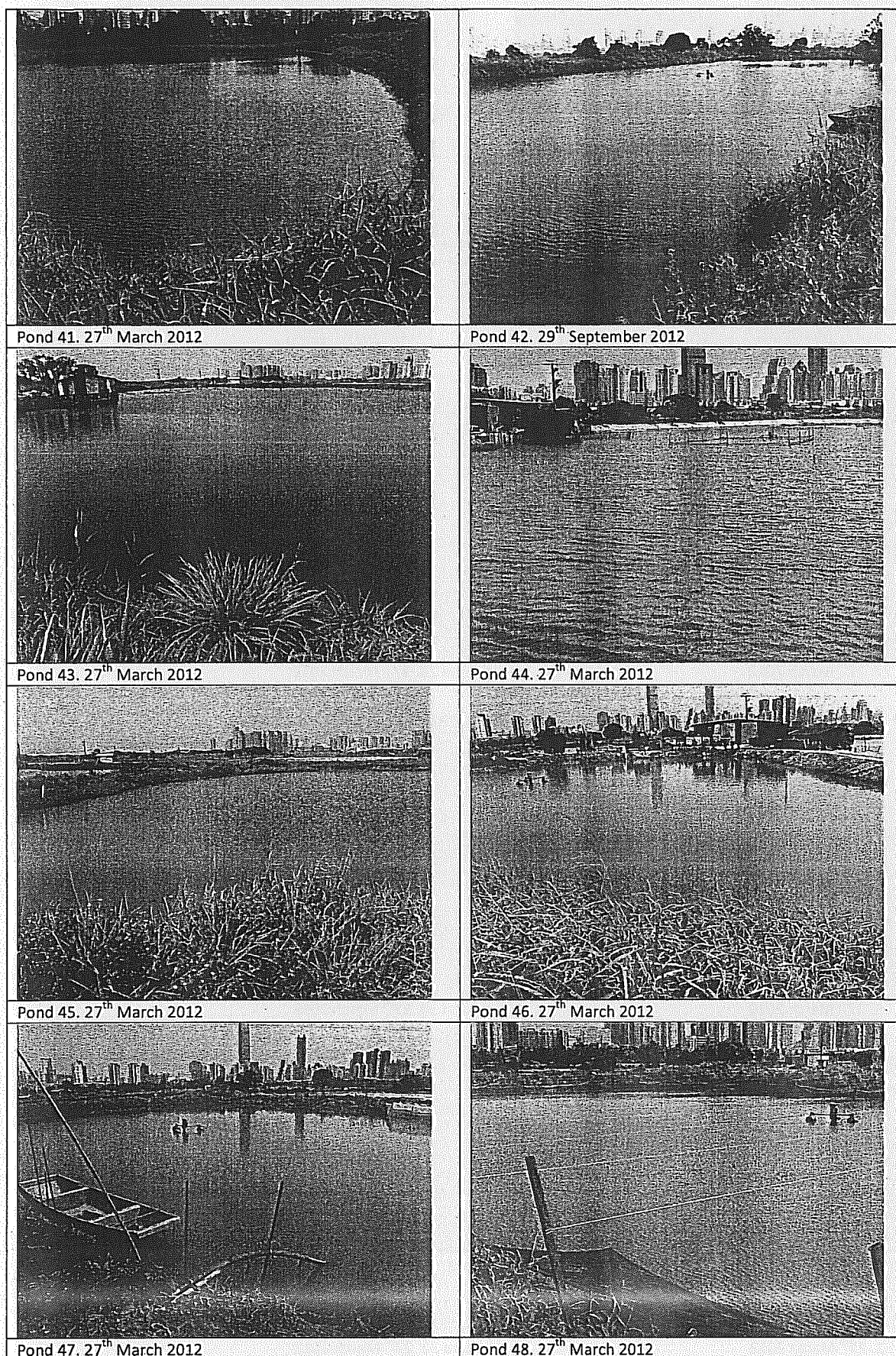


Pond 15. 27th March 2012



Pond 16. 27th March 2012





Appendix F

Bird Transect Survey Data

KEY: Gray denotes widespread species not counted, Pond condition: e = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

190	191
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KEY: Gray denotes widespread species not counted. Pond condition: e = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

[illegible]

KEY: Gray denotes widespread species not counted, Pond condition: a = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

Appendix F. Bird transect survey data.

[illegible]

KEY: Gray denotes widespread species not counted, Pond condition: e = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

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KEY: Grey denotes widespread species not counted, Pond condition: e = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

[illegible]

[illegible]

KEY: Gray denotes widespread species not counted. Pond condition: e = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

Appendix F. Bird transect survey data.

2012		Month												Period Condition											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rowing in grey	Period Condition																								
English Name	Scientific Name	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
Harlequin Shrike	<i>Arremonops alpestris</i>																								
Guinean Lark	<i>Arremonops alpestris</i>																								
Little Ostrich	<i>Arremonops alpestris</i>																								
Black-crowned Night Heron	<i>Arremonops alpestris</i>																								
Yellow-crowned Night Heron	<i>Arremonops alpestris</i>																								
Black-crowned Night Heron	<i>Arremonops alpestris</i>																								
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KEY: Gray denotes widespread species not counted. Pond condition: a = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

[illegible]

KEY: Grey denotes widespread species not counted, Pond condition: e = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

[illegible]

KEY: Grey denotes widespread species not counted. Pond condition: e = emergent vegetation, b = bottom of pond, 25/50/75/100 denotes % of pond surface occupied or exposed, w = wet, d = dry.

Appendix G

Non-bird Faunal Transect Survey Data

[illegible][illegible]

		Month	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Species	Scientific Name	Local Restrictedness#	12	12	12	13	13	13	13	13	13	13	13	13	14	14	14	14	14	14	14	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Common	<i>Polygala c-aureum</i>	VI															1																																	
Dark Evening Brown	<i>Melanitis phedima</i>	UC																																																
Dark-brand Bush Brown	<i>Mycalesis mineus</i>	VC																																																
Common Five-ring	<i>Ypthima baldus</i>	VC																																																
Common Mime	<i>Chloris clytie</i>	C																																																
Tailed Jay	<i>Graphium agamemnon</i>	C																																																
Common Jay	<i>Graphium dasys</i>	C																																																
Common Bluebottle	<i>Graphium sarpedon</i>	VC																																																
Red Helen	<i>Papilio helenus</i>	VC																																																
Great Mormon	<i>Papilio memnon</i>	VC																																																
Paris Peacock	<i>Papilio paris</i>	VC																																																
Common Mormon	<i>Papilio polytes</i>	VC																																																
Swallowtail	<i>Papilio xuthus</i>	R																																																
Letmon Emigrant	<i>Colapsilia pamona</i>	C																																																
Common Grass Yellow	<i>Eurema hecabe</i>	VC		2																																														
Red-base Jezebel	<i>Delias pasthiae</i>	VC																																																
Indian Cabbage White	<i>Pieris candida</i>	VC													2																																			

[illegible]

		Month	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug
Species	Scientific Name	Local Restrictedness#	27	27	27	27	27	27	28	28	28	28	28	28	28	28	28	30	30	30	30	30	30	30	30	30	33	33	33	33	33	33	33	33	34	34	34	34	34	34	34	34	34	34	35	35	35	35	35	35
Tawny Rajah	<i>Charaxes bernardus</i>	C																																																
Plain Tiger	<i>Danaus chrylopus</i>	UC																																																
Common Tiger	<i>Danaus genutia</i>	C																																																
Blue-Spotted Crow	<i>Euploea midamus</i>	VC															1																																	
Glassy Tiger	<i>Parantica aglea</i>	C																																																
Indian Fritillary	<i>Argyreus hyperbius</i>	C																																																
Angled Castor	<i>Ariadne ariadne</i>	C																																																
Colour Sergeant	<i>Athyma nefte</i>	C																																																
Red-ring Skirt	<i>Hestina assmilis</i>	C																																																
Great Egg-fly	<i>Hypolimnoid bolina</i>	C																																																
Peacock Pansy	<i>Junonia almana</i>	C																																																
Common Sailer	<i>Neptis lylos</i>	VC																																																
Comma	<i>Polygona c-aureum</i>	VR																																																
Dark Evening Brown	<i>Melanitis phedima</i>	UC																																																
Dark-brand Bush Brown	<i>Mycalesis mineus</i>	VC							1								2																																	
Common Five-ring	<i>Ypthima baldus</i>	VC																																																
Common Mime	<i>Chlosa clytia</i>	C																																																
Tailed Jay	<i>Graphium agamemnon</i>	C																																																
Common Jay	<i>Graphium doson</i>	C															1																																	
Common Bluebottle	<i>Graphium sarpedon</i>	VC																																																
Red Helen	<i>Papilio helenus</i>	VC																																																
Great Mormon	<i>Papilio memnon</i>	VC																																																
Park Peacock	<i>Papilio paris</i>	VC																																																
Common Mormon	<i>Papilio polytes</i>	VC																																																
Swallowtail	<i>Papilio xuthus</i>	R																																																
Lemon Emigrant	<i>Colapsilia pamona</i>	C		1													1																																	
Common Grass Yellow	<i>Eurema hecabe</i>	VC																																																
Red-base Jezebel	<i>Delias pasithoe</i>	VC																																																
Indian Cabbage White	<i>Pieris canidia</i>	VC																																																

Local Restrictedness status follows that of Chan et al. (2011). VR=Very Rare, R=Rare, UC=Uncommon, C=Common, VC=Very Common

		Month	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov						
Species	Scientific Name	Local Restrictedness#	35	35	35	36	36	36	36	36	36	36	36	36	36	37	37	37	37	37	37	37	37	Woodland next to Pond 39										39	39	39	39	39	39	39	39	39	39	39	41	41	41	41	41	41	41	41	41	41	41	41
Jhora Scrub Hopper	<i>Aeromachus jhora</i>	R																																																						
Bush Hopper	<i>Amplittia diascaides</i>	UC																																																						
Forest Hopper	<i>Asictopterus jama</i>	C																																																						
Formosan Swift	<i>Barba cinerea</i>	C																																																						
Parnara sp.	-	-																																																						
Rare Swift	<i>Parnara ganga</i>	UC																																																						
Common Straight Swift	<i>Parnara guttata</i>	C																																																						
Great Swift	<i>Pelopidas assamensis</i>	R																																																						
Small Branded Swift	<i>Pelopidas mathias</i>	UC																																																						
Contiguous Swift	<i>Polytremis lubricans</i>	C																																																						
Swift sp.	-	-																																																						
Chinese Dart	<i>Poianthus confucius</i>	UC																																																						
Yellow Band Dart	<i>Poianthus pava</i>	VR																																																						
Lesser Band Dart	<i>Poianthus trachala</i>	R																																																						
Pale Palm Dart	<i>Telicioia colon</i>	R																																																						
Grass Demon	<i>Udaspes folus</i>	R																																																						
Chestnut Angle	<i>Odontopitulum angulatum</i>	C																																																						
Water Snow Flat	<i>Taglades bilglosus</i>	C																																																						
Purple Sapphire	<i>Heliotharus epicles</i>	C																																																						
Common Hedge Blue	<i>Acyrtalepis pupa</i>	C																																																						

		Month	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Species	Scientific Name	Local Restrictedness#	M1	M1	M1	M1	M1	M1	M1	M2	M2	M2	M2	M2	M2	M2	M2	M2	M3	M3	M3	M3	M3	M3	M3	M3	M3	M4	M4	M4	M4	M4	M4	M4	M4	
Yellow Band Dart	<i>Patanthus pava</i>	VR																																		
Lesser Band Dart	<i>Patanthus trachala</i>	R																																		
Pale Palm Dart	<i>Telicota calan</i>	R										1																								
Grass Demon	<i>Udaspes folus</i>	R																																		
Chestnut Angle	<i>Odonotopitum angulatum</i>	C																																		
Water Snow Flat	<i>Tagiades litigiosus</i>	C																																		
Purple Sapphire	<i>Heliophorus epicles</i>	C																																		
Common Hedge Blue	<i>Acytoleph puspa</i>	C																																		
Forget-me-not	<i>Catachrysops straba</i>	VR																																		
Tailed Cupid	<i>Everes lacturnus</i>	C																																1		
Long-tailed Blue	<i>Lampides boeticus</i>	C																																1		
Pale Grass Blue	<i>Pseudotelesia maha</i>	VC																	1	1																
Slate Flash	<i>Rapala manea</i>	C																																		
Large Faun	<i>Faunis eumeus</i>	C																																		
Tawny Rajah	<i>Charaxes bernardus</i>	C																																		
Plain Tiger	<i>Danaus chrysippus</i>	UC																																		
Common Tiger	<i>Danaus genutia</i>	C																																		
Blue-Spotted Crow	<i>Euploea midamus</i>	VC																								1								1		
Glossy Tiger	<i>Parantica aglea</i>	C																																		
Indian Frillflew	<i>Argyreus hyperbrius</i>	C					1																													
Angled Castor	<i>Ariadne ariadne</i>	C																																2		
Colour Sergeant	<i>Athyma nefte</i>	C																																		
Red-ring Skirt	<i>Hesitia aschallia</i>	C																	1																	
Great Egg-fly	<i>Hypolimnas bolina</i>	C																							1											
Peacock Pansy	<i>Junonia almana</i>	C																															2	1		
Common Sailer	<i>Nepitha hyfas</i>	VC																																		
Comma	<i>Polygonia c-aureum</i>	VR																																		
Dark Evening Brown	<i>Melanitis phedima</i>	UC																	5																	
Dark-banded Bush Brown	<i>Mycodites mineus</i>	VC																	10	3												1	1			
Common Five-ring	<i>Ypthima baldus</i>	VC																	11																	
Common Mime	<i>Chilasa clytia</i>	C																																		
Tailed Jay	<i>Graphium agamemnon</i>	C																																		
Common Jay	<i>Graphium daxon</i>	C																							1											
Common Bluebottle	<i>Graphium sarpedon</i>	VC																																		
Red Helen	<i>Papilio helenus</i>	VC																	4	1																
Great Mormon	<i>Papilio memnon</i>	VC																							1											
Pale Peacock	<i>Papilio paris</i>	VC																	2																	
Common Mormon	<i>Papilio polytes</i>	VC																	1	1													1			
Swallowtail	<i>Papilio xuthus</i>	R																																		
Lemon Emigrant	<i>Catopsilia pomona</i>	C																																		
Common Grass Yellow	<i>Eurema hecabe</i>	VC																1	1														1			
Red-base Jerebel	<i>Delias pasithoe</i>	VC																1		3																
Indian Cabbage White	<i>Pieris cardia</i>	VC									2	1						1		1	3				1											

Local Restrictedness status follows that of Chen et al. (2011). VR=Very Rare, R=Rare, UC=Uncommon, C=Common, VC=Very Common

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[illegible]

* Conservation status follows that of Fellowes *et al.* (2002), Chan *et al.* (2005), Karsen *et al.* (1998) and AFCD (2009). PRC= Potential Regional Concern, PC= Potential Concern.

^a Two-striped Grass Frog was listed as Local concern in Fellowes *et al.* (2002). However it is a 'Least Concern' species in the AFCD (2009).

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[illegible]

* Conservation status follows that of Fellowes *et al.* (2002), Chan *et al.* (2005), Keryn *et al.* (1998) and AFCD (2009). PRC= Potential Regional Concern, PC= Potential Concern.

* Two-striped Grass Frog was listed as Local concern in Fellows et al. (2002). However it is a 'Least Concern' species in the AEPD (2009).

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* Conservation status follows that of Fellowes *et al.* (2002), Chan *et al.* (2005), Kersen *et al.* (1998) and AFCD (2009). PRC= Potential Regional Concern, PC= Potential Concern.

^ Two-striped Grass Frog was listed as Local concern in Fellowes *et al.* (2002). However it is a 'Least Concern' species in the AFCD (2009).

(Cont)

[illegible]

* Conservation status follows that of Fellowes *et al.* (2002), Chan *et al.* (2005), Karsen *et al.* (1998) and AFCD (2009). PRC= Potential Regional Concern, PC= Potential Concern.

^ Two-striped Grass Frog was listed as Local concern in Fellowes et al. (2002). However it is a 'Least Concern' species in the AFCD (2009).

Appendix H

Comments and Responses to Comments

	dependence of habitats and species highlighted in the paragraphs.	
11	<p>Para 4.1.1:</p> <ul style="list-style-type: none"> - Line 4 and 6: Please provide full name of LMC BCP before the abbreviation. - Table 3 & Appendix B: Please check the following information for accuracy: <ul style="list-style-type: none"> (i) The name of the birds should be consistent, for example, Great Egret (<i>Ardea alba</i>), Eurasian Teal, Western Osprey, etc. (ii) Table 3 does not include some of the bird species which were recorded in Hoo Hok Wai, for example, Great Cormorant (PRC), Black Kite (RC), etc. (iii) In Table 3, the name of 6 species of waterbirds in page 10 is duplicated. (iv) Please update Table 3 and Appendix B with reference to the species list of Convention on the Conservation of Migratory Species of Wild Animals (the "CMS" or "Bonn Convention"). 	<p>Amended accordingly.</p> <p>All information checked, table amended accordingly, including addition of Bonn Convention Appendix I/II designation. Note that Appendix B has been corrected by the deletion of Nordmann's Greenshank and the addition of Eurasian Collared Dove.</p>
12	Para 4.1.3: Please specify the number of waterbird recorded in HHW from the WMP and clarify how the average percentage (i.e. 15%) was obtained.	Amended accordingly.
13	Para 4.1.4: Please quantify the number of Great Cormorant as far as possible.	Amended accordingly.
14	Para 4.1.4 to 4.1.6: Apart from the species highlighted in Para 4.1.4 to 4.1.6, please also provide summary accounts for other waterbirds/groups such as "ardeids" and "ducks" which were also presented in Table 3.	Amended accordingly.
15	Para 4.1.6: Please indicate the year when Styan's Grasshopper Warbler and Japanese Yellow Bunting were recorded.	Amended accordingly.
16	<p>Para 4.1.7:</p> <ul style="list-style-type: none"> - Please provide comparable information by adding a separate column which shows survey result of this study in Table 3 and Appendix B. - line 4: The sentence "...both indicate a broad spread of across the area ..." appears incomplete. - line 6: location of ponds 131 and 132 are missing on Figure 4 and Figure 5. 	<p>Amended accordingly.</p> <p>Corrected.</p> <p>Neither pond is missing. They are located at the eastern side of Marsh 2.</p>
17	Para 4.1.7 to 4.1.13, Transect survey: To clearly demonstrate the ecological importance of HHW, it is suggested to add a section with tabulated result of about 10	The main aim of transect surveys was to record the distribution of waterbirds across the area, while the main aim of the flight line counts was to provide a more accurate

	4.1.22 any observation on the movement of birds beyond Crest Hill (i.e. eastward to Lo Wu and southward to Ng Tung River and LV areas).	
26	Para 4.2 to Para 4.7: Baseline information should also be included in the Appendix to substantiate the ecological evaluation in Para 5.	See new appendices.
27	Para 4.3.5: Please illustrate in relevant figures the localities of the species of conservation concern. This also applies to Sections 4.4-4.6.	See Figures 12-14.
28	Para 5: Please elaborate ecological characteristics of each habitat type such seasonal patterns and presence of any features/species of ecological importance (apart from the Eurasian Otter) including those specified in 4.3 (c)(vi) of the assignment brief.	Amended accordingly.
29	Table 9: The linkages between the Mai Po Inner Deep Bay area and HHW based on the flight lines survey result of waterbirds including Great Cormorants and ardeids should also be considered. This also applies on Section 7.1.3.	Table 9 and revised paragraph 5.1.1 amended accordingly.
30	Para 5.2.1: Please review the evaluation for M4, given its size, "lack of faunal record of significance", vicinity to Liu Pok village and presence of an existing vehicular access on the north. This also applies to Para 7.1.7.	Reviewed and amended.
31	Para 5.3: A crab species of conservation concern, <i>Somanniathelphusa zanklon</i> , was observed in streams at Chau Tau and to the southeast of LMC Loop under the LMC Loop EIA study. Please review the ecological value of the above mentioned streams taking into account such records.	See paragraph 5.3.1.
32	Para 6: In addition to the avifauna species specified in section 6, evaluation on the abundance, inter-dependance of habitat type, seasonal patterns of any animal or plant species identified of ecological significance should also be elaborated as required under the assignment brief.	Please see amended Table 18. Abundance of some fauna is unknown, but distribution gives a guide to this in these cases. Please note that <i>Sommaniathelphusa zanklon</i> was originally included in error; it has not been reported from the Study Area.
33	Para 7.1: Please elaborate the flight path between foraging sites as well as any seasonal patterns recorded for migratory overwintering birds.	Amended accordingly (para. 7.1.3).
34	Para 7.1.4: Please illustrate in relevant figures where the egrets "flight lines enter the HHW area north of Liu Pok village".	These were already illustrated in Figure 12 (now Figure 15). Reference made to this.
35	Para 7.1.5: - In addition to ponds 106-108, please elaborate if other areas, including pond 4,5, 9 and M3 also supported various species of conservation importance.	Amended accordingly.

Received from Cynthia Chan, NC/N, AFCD on 22 nd April 2013.		
1	Para 1.1.3: Please ensure that location of Ponds 131 to 133 would be illustrated in the report.	These ponds are shown on all relevant figures.
2	Para 1.1.4: It is suggested to remove the last sentence in the paragraph.	Amended accordingly. However, this remains a potential development of significance for the ecological value of the Deep Bay wetland ecosystem.
3	Para 4.1.2: Please review if the sentence "Significant numbers of the globally-threatened...." for completeness.	Amended accordingly.
4	Para 4.1.5: It is suggested to delete "foraging" before "numbers of foraging cormorants" in line 3.	Amended accordingly.
5	Para 4.1.7: It is suggested to add "is a diving duck" after "Tufted Duck" in line 6.	Amended accordingly.
6	Para 4.1.21: "Mai P Village" should read "Mai Po Village".	Amended accordingly.
7	Para 4.1.28 - 4.1.29, Table 5a and Table 6: Please check for consistency the figures of Great Cormorant and Little Egrets recorded in January, October and December.	We have amended the count of Great Cormorants in the second winter period in paragraph 4.1.27. However, we cannot find any issue with the Little (nor Great) Egret figures.
8	Para 5: It is understood that some habitats on the northwest of HHW are part of the proposed fishpond enhancement area recommended in the ongoing EIA Study for the Lok Ma Chau Loop Development Project. The enhancement potential of the above-mentioned area should be reflected in Para 5.	Table 9 amended accordingly.
9	Para 5.1.2: Please see if "Yellow-breasted" refers to "Yellow-breasted Bunting".	Amended accordingly.
10	Para 5.2.1: The proposed changes on the value of M4 (i.e. from "Moderate to High" to "moderate") is yet to be reflected in the paragraph.	Amended accordingly.
11	Section 6.2.1: "Table 18" should read as "Table 19".	Table numbering throughout has been reviewed and revised to take into account additions.
12	Table 3: Please provide the full names of all species.	Amended accordingly.
13	Table 5: Please elaborate what the abbreviations "b" and "d" are referring to.	Table 4a amended accordingly.

"Tony Nip"
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13/05/2013 下午 04:49 cc <dcctsang@pland.gov.hk>
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Sub Zonings in Frontier Closed Area
jec
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Dear Otto,

Nice to meet you on 2 May 2013, and we also spoke this noon.

I would like to reiterate some of the points I made during our conversation this noon, and some additional views.

Draft Ta Kwu Ling North OZP

1. As mentioned repeatedly (in our document sent to you earlier this year and also in the Feasibility Study for the land use planning for the closed area commissioned by the PlanD; PlanD (2010)), the Heung Yuen Wai Stream is of high conservation concern and should be protected (see attached figure entitled HYW). We urge that this stream and its riparian zone (at least 5 to 10 m) should NOT be covered with zonings for development/ recreation (e.g. V zone/ REC zone). We sincerely hope that the final draft of the OZP can accommodate this request; this can show that the recommendation regarding ecologically important issue made in PlanD (2010) and Environmental NGOs' view are being respected. Attached please see the natural status of the Heung Yuen Wai Stream (natural bottom, naturally vegetated riparian zone). Please be informed (again) that an endemic freshwater crab species of high conservation importance (*Somanniathelphusa zanklon*; **Globally Endangered** in the IUCN redlist) inhabits this stream. Also, as mentioned in our earlier meeting, we have already recommended AFCD to designate this stream to be an Ecologically Important Stream (EIS); if this comes true but at the same time it is covered with V zone/ REC zone, we are concerned that this is showing a lack of consistency.

Draft Lin Ma Hang OZP

1. In general, we consider that, after KFBG' s internal discussion, it would

not be appropriate to rezone some AGR land to V zone (as a “compensation” for turning certain Lin Ma Hang Stream riparian GB zones back to CA); GB is already a conservation zoning and the intention is not for development.

2. But we would be grateful if more Lin Ma Hang Stream riparian GB zones can be turned back to CA (without “compensation”).

Draft Sha Tau Kok OZP

1. In the document we sent to you earlier this year and the Feasibility Study by PlanD (PlanD 2010), we consider that you should have been aware that the streams in this OZP are of conservation interest (please see the attached figure entitled STK).

We consider that these streams should not be covered with zonings for development/ recreation such as V zone/ REC zone. In particular, the Ha Tam Shui Hang Stream zoning should be reverted (at least not under V zone). The original proposed zoning was AGR but now is V; we do not consider that the results of the FCA study report (PlanD 2010), especially the ecological part, have been respected based on this change.

2. Please be informed that in 2012 and later in January 2013, we have reported some suspected unauthorized cases related to Ha Tam Shui Hang Stream to relevant departments and we are greatly concerned that the situation would be worse if the Ha Tam Shui Hang Stream is entirely covered under V zone. We urge that this stream and its riparian area should not be covered with zonings for development/ recreation (such as V zone/ REC zone).

You should have known that an international convention – The Convention on Biological Diversity – has been extended to Hong Kong and a high level steering group is being formed by the Environment Bureau. Senior officials from relevant government departments (including PlanD) and bureaux would join this committee. We sincerely hope that the process of the making of the FCA OZPs can respect the spirit and the requirements of this convention.

Any enquires please feel free to contact me, and I expect we would meet later before the formal public consultation process.

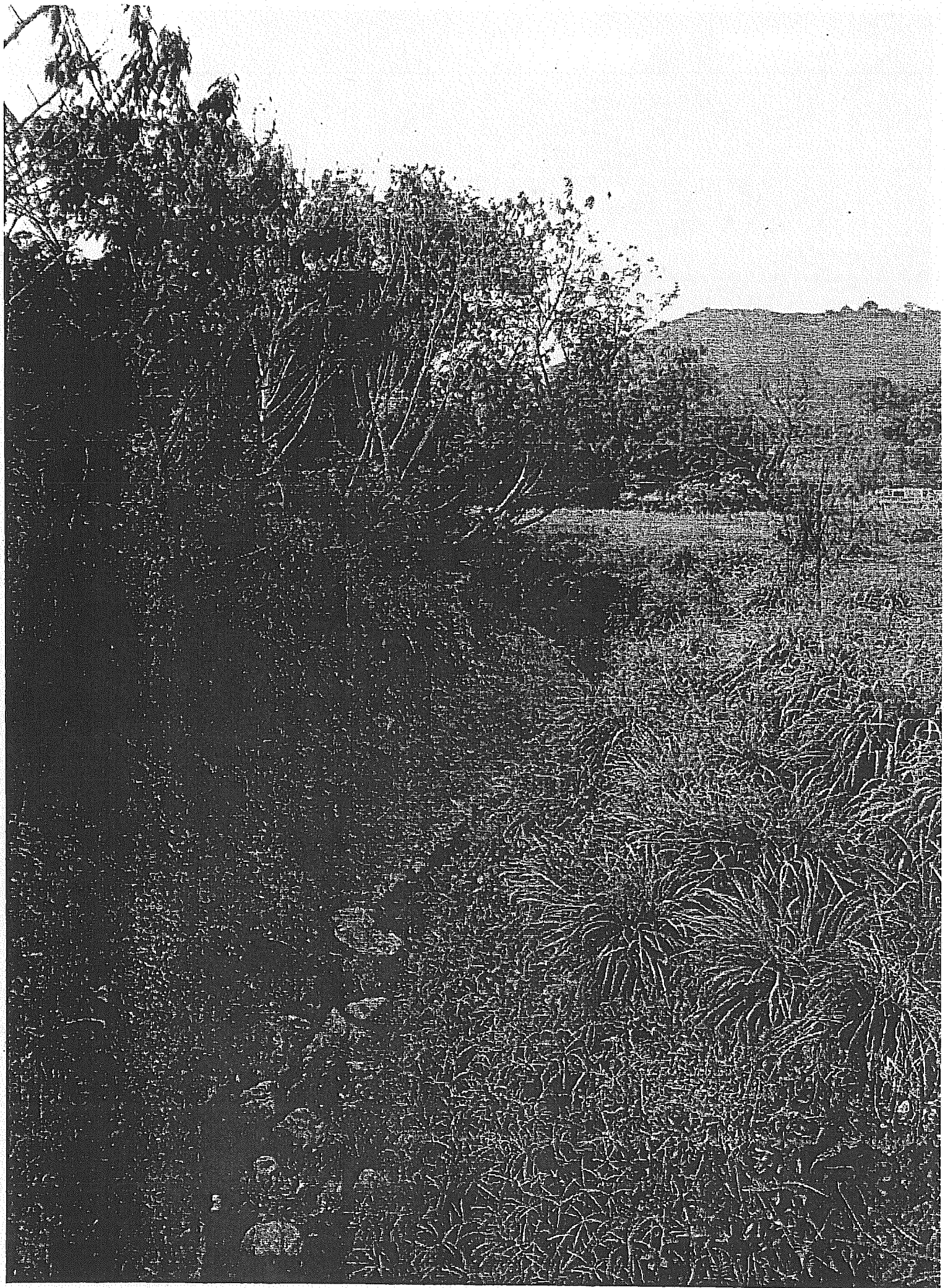
References:

IUCN. 2012. The IUCN Red List of Threatened Species. <www.iucnredlist.org> Downloaded in December 2012.

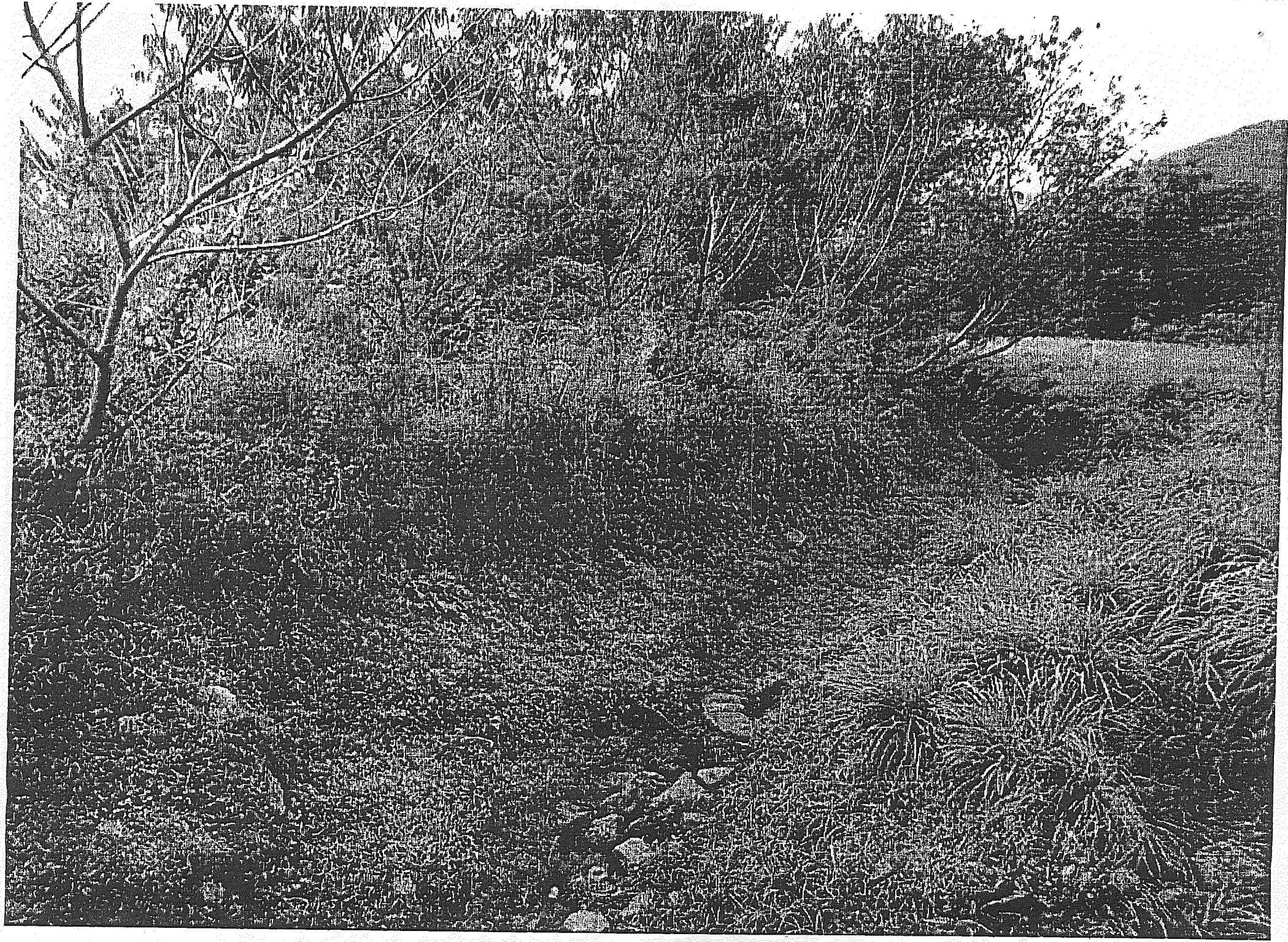
PlanD. 2010. Land Use Planning for the Closed Area – Feasibility Study (Final Report). Unpublished report submitted to Planning Department, Hong Kong Special Administrative Region.

Best Regards,

Tony Nip
Senior Ecologist
Ecological Advisory Programme
Kadoorie Farm and Botanic Garden Corporation
Lam Kam Rd., Tai Po, N.T., Hong Kong.





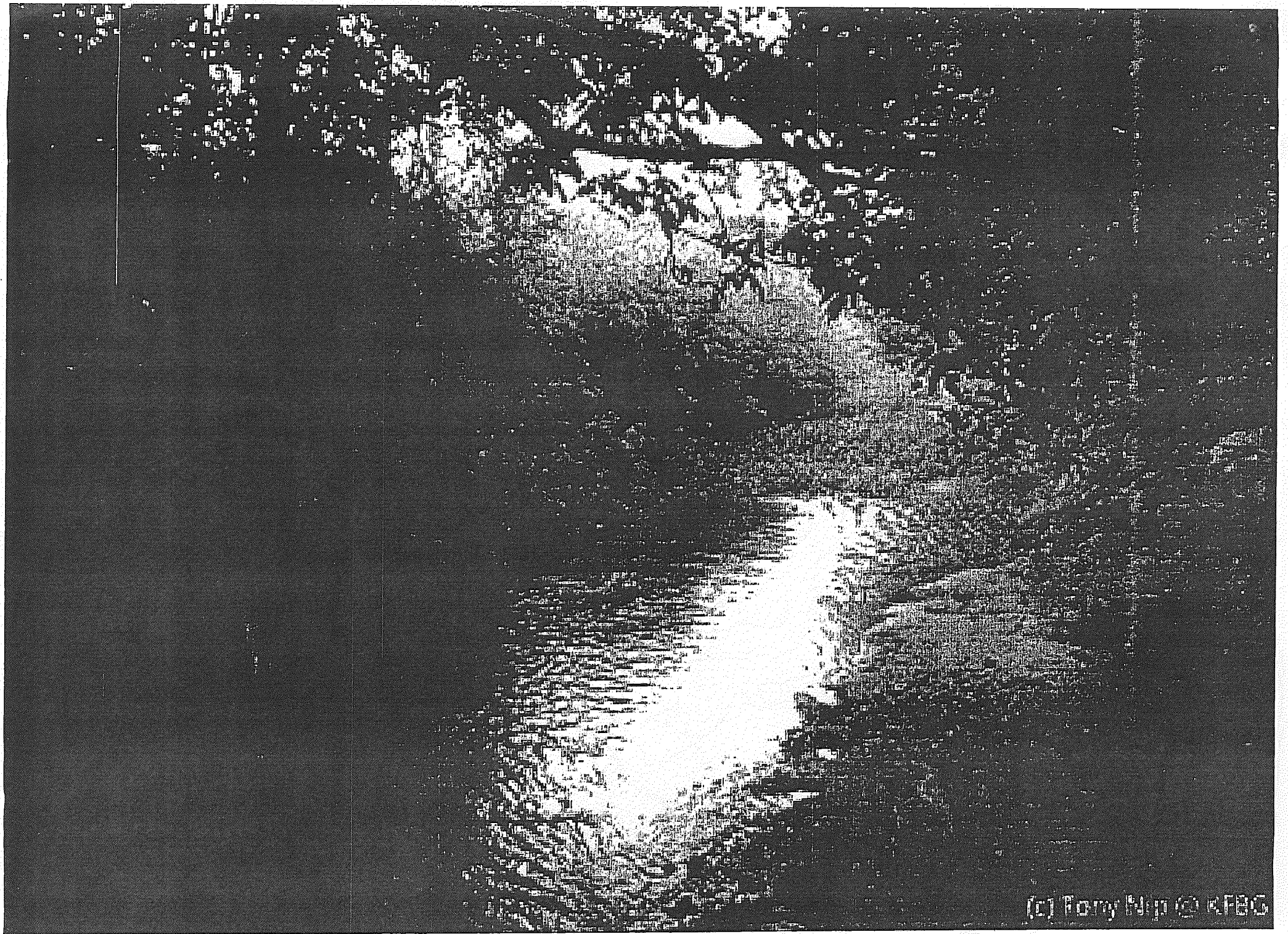




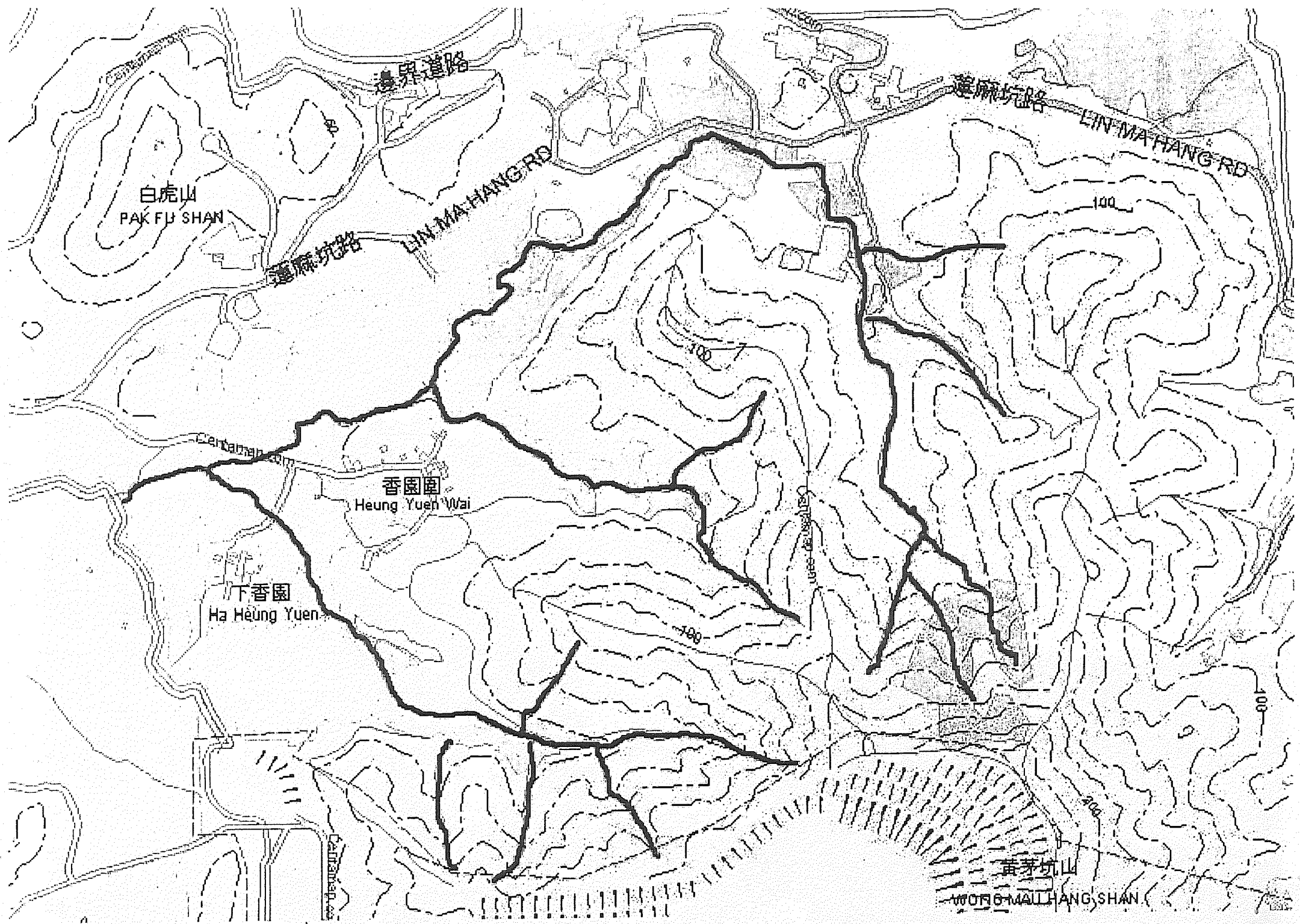


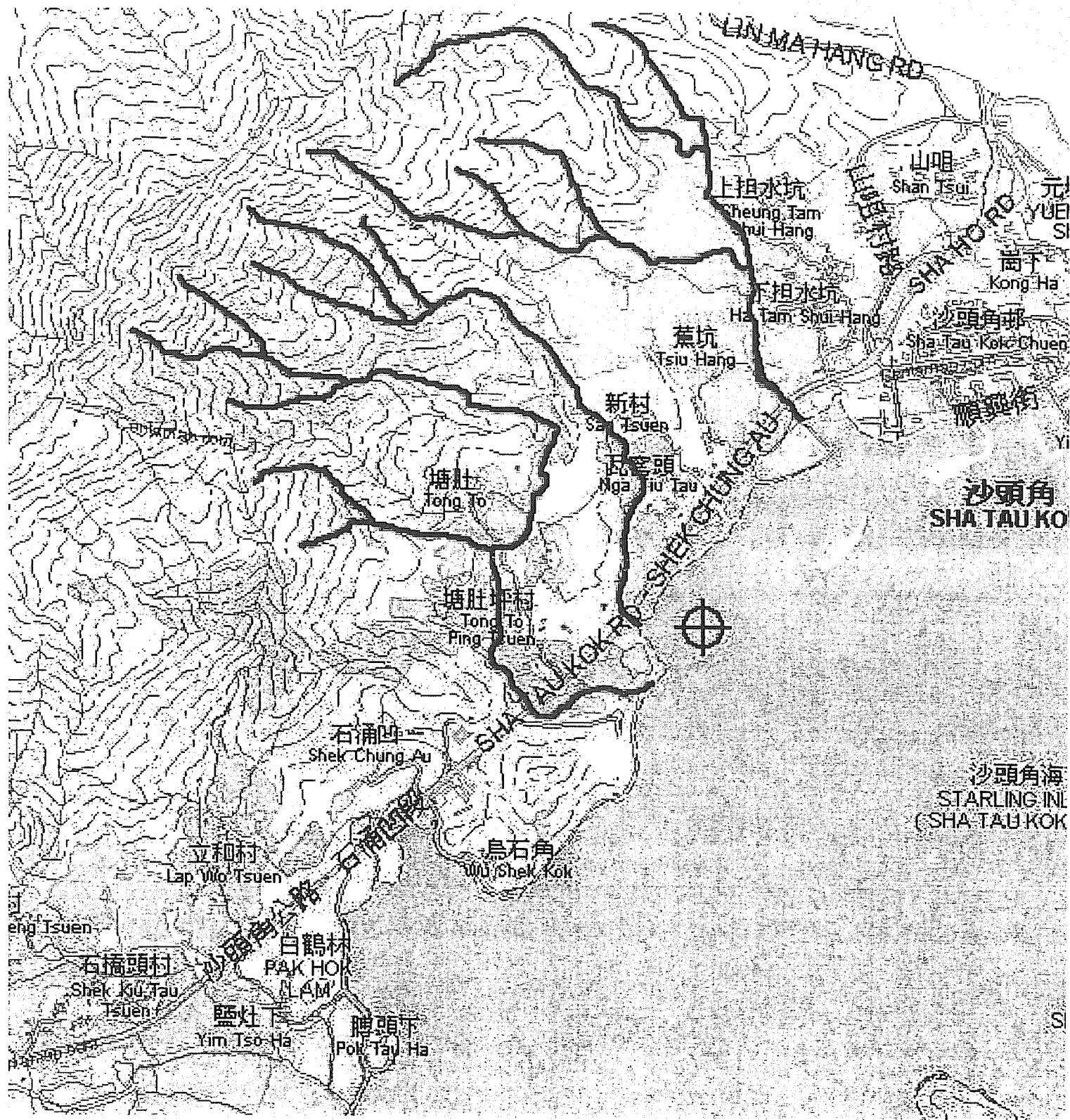
Heung Yuen Wai Stream





(c) Tony Nip © KFBC





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16/05/2013 18:40

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cc "Alan Leung" <ALeung@wwf.org.hk>

"Tony Hung" <thung@wwf.org.hk>

"Tobi Lau" <tlau@wwf.org.hk>

Sub WWF's Comments on FCA Draft OZPs

jec

t

Dear Otto,

Thanks for arranging the focus group meeting on 2 May 2013 regarding the captioned issue. As discussed in the meeting, here attached our comments and concerns on the FCA draft OZPs for your consideration.

If you have any enquiries, please feel free to contact us. Thank you very much!

Best Regards,

Andrew Chan
Assistant Conservation Officer, Local Biodiversity
WWF-Hong Kong
15/F, Manhattan Centre,
8 Kwai Cheong Road,
Kwai Chung, New Territories
Tel: (852) 2161 9667
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WWF Hong Kong works to ensure a better environment for present and future generations in Hong Kong (See attached file: FCA darft OZPs comments_May

2013_WWF.pdf)

16 May 2013

Comments & Recommendations on Draft FCA OZPs

Sha Tau Kok

1. Riparian Zone of the Stream between Tam Shui Hang & Tong To should be “GB” / “AGR”
 - The stream is regarded as moderate – high ecological value by TPB paper
 - Species of conservation found in the stream: *Zeuxine affinis*, Giant Mottled Eel and Mangrove Skimmer Dragonfly
 - Given no sewerage system in the area and within “V” zone, pollutants from village development will contaminate the stream and the mangroves at the estuary
 - “GB” / “AGR” is appropriate zoning to protect the riparian zone from future development.
2. Two Fish Ponds between Starling Inlet and south of Shau Tau Kok Road should be conservation zonings
 - Mangrove nearby is important habitat to globally vulnerable Mangrove Skimmer Dragonfly
 - Also, at least 15 nos. of wetland dependent avifauna species are using the fish ponds (refer to the attached WWF Letter on 27/9/2010).
 - To avoid any ecological impacts to the ponds and the mangroves nearby, conservation zoning is necessary, e.g. “CA”.

16 May 2013

Lin Ma Hang

1. Riparian zone of Lin Ma Hang SSSI should be "Conservation Area"
 - All the 20m riparian zone of Lin Ma Hang Stream (LMHS) SSSI within Lin Ma Hang Village should be zoned as "Conservation Area"
 - The importance of riparian zone to the LMHS SSSI has been repeatedly explained in green groups' joint letters (date of letter: 14 May 2012).
 - Riparian zone is important since it is an integral part of the stream ecosystem
 - Since Small House application is under Column 2, Small House development may encroach to LMHS's riparian zone if the riparian zone is "GB"
 - "CA" should be adopted to avoid any development on the riparian zones that will degrade the water quality of the LMHS SSSI.
 - Given no public sewer within the area, domestic sewerage from new Small Houses will be potentially drained into the LMHS SSSI
 - Adopting "CA" will be an effective measure to prevent any contamination to the SSSI from future village development
 - Sha Lo Tung can be the reference that riparian zone is under conservation zoning, i.e. "SSSI" to protect the integrity of stream ecosystem and prevent any degradation from development

Ta Kwu Ling North

1. All *Fung Shui* Woodlands zoned as “Conservation Area”
 - *Fung Shui* Woodlands near Kan Tau Wai and Tsung Yuen Ha should be zoned as “Conservation Area”
 - “V” zone of Kan Tau Wai has been expanded and nearly surrounded by village area. Thus, there will be development threat imposed if *Fung Shui* Woodland remains “GB”
 - Village development at Tsung Yuen Ha also threaten the *Fung Shui* Woodland nearby (zoned as “GB”)
 - “CA” should be adopted to these two areas to prevent any development disturbing the woodlands
2. Heung Yuen Wai Stream to be zoned as “CA”
 - FCA study regards Heung Yuen Wai Stream (HYWS) as high ecological value
 - *Somanniathepphusa zanklon*, a Globally Endangered freshwater crab species under IUCN, inhabits in the HYW stream
 - To prevent any human disturbance and protect the endangered species, the stream course and riparian zone of HYWS should be changed from “REC” and “AGR” to “CA” and impose strict control on development
3. Concerns on Recreational landuse at the lowland between Kan Tau Wai & Heung Yuen Wai
 - There should be restriction on land filling and excavation in “REC” use.
 - We are of concern that unrestricted land fillings for recreational activities will lead to serious fly-tipping in the area.
 - Also, there will be impacts on existing drainage, ecology and landscape caused by fly-tipping.

Ma Tso Lung & Hoo Hok Wai

1. Strong support to zone Hoo Hok Wai into CA(1)
 - We strongly support the zoning of CA(1) in Hoo Hok Wai and Ta Sha Lok
 - CA(1) can conserve the ecological value and function of the fish ponds which are part of the ecosystem of Deep Bay by prohibiting any development in this area
 - Therefore, CA(1) is appropriate to Hoo Hok Wai and Ta Sha Lok
2. Conservation zoning to Ma Tso Lung stream & riparian zone
 - 2 globally endangered species *Somanniathepphusa zanklon* 鎌刀束腰蟹 and *Cuora trifasciata* 金錢龜 have been found in the stream
 - Instead of "AGR", conservation zoning, e.g. "CA", is more appropriate to reflect the ecological importance of the stream in terms of these endangered species
 - As roots and stems of riparian grasses are also the habitats of this freshwater crab, riparian zone of MTL stream should also be zoned as "CA"
 - As part of the wetland ecosystem at Hoo Hok Wai, the stream should be further protected by "CA" against any development which can cause pollution to it.
3. Potential impacts of future development around Ma Tso Lung
 - Ecological impacts of LMC Loop bypass which is proposed to pass through HHW fish ponds
 - Future zoning of southern part of Ma Tso Lung where is duplicated with the proposed NENT NDA.
 - Upper MTL stream falls into the proposed NENT NDA which may be affected by the proposed development of NDA
 - PlanD should address the cumulative impacts of surrounding development plan and co-operate with different Government departments so that ecological values of habitats with high conservation interests will not be degraded.

Man Kam To

1. Fung Shui woodland at Muk Wu to be zoned as "Conservation Area"
 - Fung Shui woodland in Muk Wu should be zoned as "Conservation Area" to further conserve their ecological value to local biodiversity.
 - Since the Fung Shui woodland has significant size, about 2.5 hectare, the ecological value is high and thus it should be conserved.
 - As said in the board paper, Fung Shui woodland has high susceptibility. Therefore, "Conservation Area" is needed to restrict any potential development that encroach to Fung Shui woodland
2. Chow Tin Tsuen wet agricultural land to be zoned as "GB" or "AGR"
 - The wet agricultural lands should not be zoned as "V" since they are still actively using and the lands are outside "VE"
 - They will be under great development pressure from Small Houses if remains at "V"
 - As wet agricultural lands have been declining in Hong Kong due to development, conservation zoning is necessary to keep them intact from human disturbance and maintain their ecological function
3. Concerns on Recreational landuse at Ta Kwu Ling Village & east of Fung Wong Wu
 - There should be restriction on land filling and excavation in "REC" use.
 - We are of concern that unrestricted land fillings for recreational activities will lead to serious fly-tipping in the area.
 - Also, there will be impacts on existing drainage, ecology and landscape due to fly-tipping.

"Roy Ng"
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23/05/2013 下午 12:39 cc "'Tony Nip'" <tonynip@kfbg.org>
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'Ming Chuan Woo'" <mcwoo@kfbg.org>
'Debby Chan'" <debby@designinghongkong.com>
'Karen'" <karen@greenpower.org.hk>
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'Alan Leung'" <ALeung@wwf.org.hk>
'Tobi Lau'" <tlau@wwf.org.hk>
Sub Comments on 5 Frontier Closed Area OZPs
jec
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Dear Otto,

Thanks for arranging the meeting on 2 May 2013. While The Conservancy Association (CA) appreciates the effort by Planning Department in working on the final draft of the OZPs in Frontier Closed Area (FCA), we would reiterate some of our comments on the following items.

Draft Lin Ma Hang OZP

We support the initiative to rezone the upstream riparian zone of Lin Ma Hang SSSI into "CA" to safeguard its ecological importance. To further ensure its ecological integrity, the remaining GB along the riparian zone should also be rezone as "CA".

Draft Ma Tso Lung & Hoo Hok Wai OZP

We support that the extensive fish ponds and adjacent freshwater marshes in Hoo Hok Wai would be zoned as "CA (1)". This arrangement is appropriate to reflect the ecological value of Hoo Hok Wai wetland system and ecological linkage with adjacent wetland in Ho Sheung Heung, Lok Ma Chau Loop, San Tin, Mai Po and even other Deep Bay Area.

Draft Sha Tau Kok OZP

We are concerned that the 0.16ha and 0.39ha of Ha Tam Shui Hang Stream, originally zoned as AGR, would be rezoned as V. In the final report of Strategic Environmental Impact Assessment of FCA, this stream was once classified as "Moderate to High" so that rezoning this as V zone does not reflect the ecological importance of the stream. We especially worry that stream diversion which requires permission from TPB under AGR zone would be legitimate under the proposed V zone. We thus would not support that this stream and riparian area should be zoned as V zone in future.

Best regards,
Ng Hei Man (Roy)
Assistant Campaign Manager
The Conservancy Association

"Karen"
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 23/05/2013 下午 02:43 cc "'Tony Nip'" <tonynip@kfbg.org>
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 Sub Green Power's comments on Frontier Closed Area OZPs
 jec
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Dear Mr. Otto Chan,

Thank you for meeting with the green groups on 2 May 2013 relating to the drafting of OZPs covering the FCA areas. Green Power would like to submit our comments as follows:

1. Draft Lin Ma Hang OZP

- Lin Ma Hang Stream SSSI has very high ecological value and is one of few good quality stream for freshwater fish in Hong Kong. We consider that the Administration should take an ecosystem approach and rezone the whole existing stream buffer areas from "Green Belt" (GB) zone to "Conservation Area" (CA) zone which can offer more effective protection to the Lin Ma Hang SSSI stream.
- In view of the above rezoning of the stream buffers of Lin Ma Hang Stream SSSI, the Administration may consider whether it is necessary to increase the "GB" areas within the Lin Ma Hang OZP. And if yes, the identification of areas suitable for "GB" designation should be first subject to an ecological impact assessment to confirm that the areas are not ecologically sensitive.

2. Draft Ta Kwu Ling North OZP

- As discussed in the green groups meeting on 2 May, we note that the Heung Yuen Wai Stream is of high conservation concern. KFBG has already recommended AFCD to designate this stream to be an Ecologically Important Stream (EIS).
- We therefore urge the Administration to protect the stream and its riparian zone (at least 10 m) by rezoning it from the proposed "Village Type Development" (V) zone and/or "Recreation" (REC) zone to "Conservation Area" (CA) zone to better reflect its high ecological value.

3. Draft Sha Tau Kok OZP

-As discussed in the meeting, we support the protection and conservation of the stream course near Ha Tam Shui Hang which is considered of ecological interest in local context. However, the stream and its riparian areas are currently proposed to be zoned as "Village Type Development" (V) zone, which will make the stream course vulnerable to small house development or other developments listed in Columns 1 and 2 under the "V" zone. As such, we suggest that the stream should be rezoned as "Conservation Area" (CA) zone for better protection and conservation of the stream.

-Moreover, we note that the "Agriculture" (AGR) zone on the southern-eastern side of Sha Tau Kok has been used for car parks at present. The Administration should assess whether the car parks in the "V" zone is a compatible land use with the surrounding land uses in the Sha Tau Kok area.

Thank you for your attention and consideration.

Sincerely,

Karen Woo

Conservation and Education Manager

Green Power

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Debby Chan
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debby.ckl@gmail.com jec
04/06/2013 12:53 t

Dear Mr Otto Chan,

We appreciate the fruitful meeting on 2 May 2013. We support the suggestions that the NGOs mentioned during the meeting, here we would like to readdress our views on the draft of the OZPs in Frontier Closed Area (FCA):

1. To fully protect the villages from the threat of flooding and the ecological important streams, including Lin Ma Hang Stream in the Lin Ma Hang OZP, Heung Yuen Wai Stream in the Ta Kwu Ling North OZP and stream passes Ha Tam Shui Hang in the Sha Tau Kok OZP, we agree the area along those streams and the riparian zones on the both side should either be zoned as SSSI or CA.

2. One additional point, all monuments in the FCA, including the Residence of Ip-Ting-Zi, should be zoned as OU annotated as Heritage Site with relevant amendment added to the Notes.

Yours sincerely,

Debby Chan

Designing Hong Kong

第廿五屆上水區鄉事委員會
第九次村代表大會
會議紀錄

日期： 2013 年 5 月 21 日(星期二)

時間： 上午 11 時

地點： 本會二樓會議廳

主席： 侯志強先生

出席： 侯福達先生-上水區鄉事委員會首副主席

廖富壽先生-上水區鄉事委員會副主席

黃偉業先生-上水區鄉事委員會總務

侯添興先生-上水區鄉事委員會財務

廖國華先生、廖興洪先生、廖泰穩先生-上水鄉村代表

馮偉發先生、馮就全先生、馮興疇先生-料壘村村代表

簡炳培先生、簡石萍先生、簡敬庭先生-大頭嶺村村代表

李觀仙先生、歐陽學宏先生-坑頭村村代表

侯澤東先生、侯永良先生-河上鄉村代表

侯榮光先生、侯錦全先生-燕崗村村代表

唐土福先生、關天舜先生-唐公嶺村村代表

鄧灶興先生-蕉徑村村代表

簡拾仁先生-松柏塱村村代表

藍少虎先生-古洞村(北)村代表

曾家新先生-古洞村(南)村代表

黃煥全先生-馬草壟村(南)村代表

林焯祺先生-馬草壟村(北)村代表

張運芳先生-雞嶺村村代表

魏蓮有先生-長瀝村村代表

袁嘉雯先生-得月樓村代表(打鼓嶺鄉事委員會)

陳冠昌先生-規劃署 高級城市規劃師

曾志宗先生-規劃署 城市規劃師

彭婉珊女士-規劃署 規劃助理

許世光先生-運輸署 工程師/邊界

關偉明先生-建築署 高級工程策劃經理

伍葆儀女士-路政署 區域工程師/北區及粉嶺

蘇澤雄警司-香港警務處 落馬洲分區指揮官
蔡賢慧總督察-香港警務處 邊界警區警民關係主任
麥偉泉高級督察-香港警務處 落馬洲分區高級督察(行動)
鄧俊明先生-北區民政事務處 聯絡主任主管(上水鄉郊)
劉嘉民先生-北區民政事務處 聯絡主任(上水鄉郊)
郭忠良先生-北區民政事務處 高級工程督察
李勒夫先生-北區民政事務處 工程督察(上水及打鼓嶺)
楊衛發先生-北區民政事務處 助理工程督察(上水)(北)
曾昭明先生-Mott MacDonald 駐工地工程師
陳德麒先生-Mott MacDonald 駐工地助理工程師
鄭重輝先生-Mott MacDonald 工程監督
梁國華先生-Mott MacDonald 屋宇裝備督察
陳啓華先生-中國水利電力對外公司 地盤總監
飽克隆先生-中國水利電力對外公司 工程經理
嚴錦文先生-中國水利電力對外公司 交通工程師

通過上次會議記錄

1. 黃偉業總務動議，侯添興財務和議。各村代表一致通過 2013 年 1 月 21 日之會議記錄。

規劃署簡介馬草壟及蠔殼圍分區計劃大綱圖(編號 S/NE-MTL/C)

2. 陳冠昌先生利用大綱圖簡介擬議計劃的目的、背景、規劃區及土地用途地帶。土地的用途包括了 1. 鄉村式發展用地，2. 政府、機構或社區規劃用地，3. 生態旅舍及練靶場用地，4. 農地及綠化規劃用地，5. 自然保育區用地。有關詳情可參閱(附件一)。陳先生表示是次會議主要是聽取各村代表對上述計劃的意見，而城規會會就意見作出跟進。
3. 黃偉業總務表示原居民的人口不斷增加，而未來禁區開放後，將會吸引更多原居民回流發展；但規劃署現時仍然根據政府在四十年前丁屋政策剛實行時所制定的村界(V.E)，指規劃署借此限制鄉村式發展用地(V.ZONE)的規劃，使 V.ZONE 不能超越(V.E)。黃總務認為城規會根本沒有考慮現時各鄉村的實際情況，要求政府盡快對鄉村式發展用地作出檢討。
4. 黃煥全村代表及袁家文村代表均表示雖然禁區將於六月十日起開放，但至今仍然未見他們的鄉村(馬草壟南及得月樓)有任道路及其他配套設施的安排，擔心日後會造成交通混亂，就好像沙頭角開放後的例子。黃村代表詢問上述計劃與新界東北發展規劃是否相關連？

5. 馮興疇村代表表示未來料壘村將會被剔除於禁區範圍內，因此將有很多海外華僑回鄉興建丁屋，希望署方可以擴大村界，以應付村民所需。
6. 廖興洪村代表表示，原先政府計劃在大沙樂興建大學城，對現在改劃作自然保育區表示驚訝。此外，政府應該就丁屋用地的需求諮詢料壘村村民；由於回流村民增加，因此必需擴大小型屋宇用地。廖村代表批評規劃署只是按地政處 72 年所制定的村界政策釐定現時的丁屋用地，根本是不合時宜亦未有考慮村民的實際所需。
7. 侯福達副主席表示鄉事會已經就該項計劃在早前的會議上提出了多項建議，但從是次計劃大綱圖上未作出太大改善。
8. 陳冠昌先生解釋城規會已經採納了料壘村村民的意見，將小型屋宇發展用地的面積作出適當的調整。倘若調整後的小型屋宇發展用地仍然不足夠村民使用，村民可以使用村界以外的農地，規劃署會予以考慮。至於擴大料壘村的村界建議，規劃署會考慮及跟進。此外，有關自然保育區的規劃是屬於落馬洲河套區項目，該項目現正進行土地研究。有關道路及設施等問題已清楚列明在文件內(附件一)的註釋；而額外設施的建議，會向有關部門反映。陳先生表示上述計劃與新界東北發展是不同的項目規劃。
9. 廖興洪村代表指地政處是不會接受村界以外的丁屋申請，因此應該由規劃署先行擴大小型屋宇發展的用地，解決建屋所需。
10. 黃偉業總務不滿陳冠昌先生沒有回應他就村界政策的提問，批評規劃署及城規會未有關注鄉村式發展用地(V-ZONE)的實際需求，更批評現時的村界(V.E)政策自 1972 年至今從沒有作出任何檢討。據黃總務了解規劃署的權力是駕馭地政署，認為是部門之間互相推卸責任。
11. 藍少虎村代表表示既然料壘村的村民未來可以在村界以外的農地上申請建屋，為何規劃署不在是次的大綱圖上一併將這些農地劃入村界範圍。
12. 廖富壽副主席批評規劃署對村界政策的態度默守成規，從未有就原居民的人口改變而作檢討，欠缺靈活。
13. 陳冠昌先生回應有關丁屋政策是由地政署按照政府土地政策而審批，亦曾有多個成功個案申請在村界以外建丁。
14. 侯志強主席總結各村代表的意見，希望署方關注 1. 各村代表十分關注村界及小型屋宇發展用地等問題，雖然有村代表批評部門互相推卸責任，但地政署及規劃署同樣是隸屬於發展局，因此希望地政署及規劃署將與會者的要求向發展局反映，重新規劃上水鄉事委員會屬下鄉村的村界及小型屋宇發展用地。此外，雖然地政

署每年均要求各鄉村申報人口，但有關政策並未有配合人口的增長，現時的申請者必須先提供用地，否則申請將會遭擱置；希望規劃署能了解此問題，將實際情況反映，亦希望政府藉著東北發展規劃重新檢討村界問題。2. 丁屋同樣是香港房屋政策的一部份，而每條鄉村均需要面對人口膨脹問題。亦有許多外國原居民希望回鄉建屋，但基於有些鄉村被政府規劃所限或沒有土地等原因，導致有丁無地的情況不斷出現。因此，希望政府重新考慮釋放靈山擴展區予原居民使用。3. 政府將蠓殼圍規劃作自然保育區，同時應該尊重業權人的權益，必須對他們作出合理的賠償。此外，主席認為保育範圍過大，建議部份用地改為低密度發展或予料壘村及其他鄉村作小型屋宇發展用地。4. 為配合未來發展，政府應該興建道路，停車場，康樂及衛生等配套設施，以免像開放後的沙頭角區，逢週末及假日就造成交通嚴重擠塞。5. 希望政府關注料壘村的發展，擴大其村的村界，以配合未來回流村民用地所需。

(規劃署於 11:40 離開)

有關部門答問邊境禁區開放後的工程及配套安排事實

15. 關偉明先生表示第二期圍網工程需要清拆現有圍網、護柱、巡邏射燈、禁區指示牌及警崗，該拆卸工程會在第二期禁區開放計劃中進行，工期為期半年，開展日期仍與相關部門商討中。
16. 曾昭明先生表示是次拆卸工程將會由承建商—中國水利電力對外公司負責，主要工程會由 6 月 24 日至 11 月中，現有的圍網全長約 6 公里，圍網拆卸將由得月樓沿料壘村至馬草壠村，曾先生詳細解釋建築圖側的內容，有關資料請參閱(附件二)。
17. 陳啟華先生表示受影響的道路包括得月樓警崗至信義村，由於該段路較窄及是單程路，因此工程會分階段進行並且會進行臨時封路，有關公共交通將會改道行駛快景路、料壘路及馬草壠路；而當遇上緊急情況時工程車會作出配合。此外，由第 87 間往落馬洲的路段較為寬闊，屆時將會擺設公程指示牌，提示道路使用者。
18. 黃偉業總務表示該工程為期半年時間，倘若承辦商清拆巡邏燈後，日後會否由民政處或其他部門安裝街燈。
19. 袁嘉雯村代表詢問圍網旁的石柱會否清拆，而原有的去水道設施將如何處理？此外，工程期間，村民的出入通道將如何安排？
20. 曾昭明先生回應根據合約的要求是要將所有巡邏燈全部拆卸，而巡邏燈只是用作邊界警區巡邏保安之用，跟街燈的照明功能並不一樣。至於何時安裝街燈則需要詢問其他政府部門。而所有石柱亦會一併拆卸，除牛角村外，將會有八佰米的石柱繼續保留，用以保護該處的水管。有關去水道的問題，清拆圍網後仍然保留圍網下的石壘。至於有關道路安排，將臨時使用快景路及馬草壠路，屆時承建商會

在出入口擺設清晰及當眼的指示牌，承辦商會安排小組會與相關村代表再繼續商討，期望對村民的影響減至最低。

21. 馮偉發村代表表示現時由第 79 至 80 號開的路段非常狹窄，擔心村內有事故發生時，阻礙緊急車輛使用。馮村代表建議在山邊路段開設三個避車處，並要求擴闊第 79 至 80 號開的路段。
22. 藍少虎村代表詢問工程完成後，原有道路的安排。此外，現有的馬草壟路已經非常繁忙，擔心工程車會增加其負荷，影響交通。
23. 廖富壽副主席指顧問公司對道路設施欠缺規劃，當禁區開放後，定必吸引不少自行車隊進入參觀，屆時會造成人車爭路；因此顧問公司應該配合未來發展所需，興建單車徑，擴闊路段，減少意外發生。
24. 曾昭明先生回應按照現時建築署的合約，顧問公司主要負責拆卸現有的邊界圍網工程，至於村代表提及避車處，單車徑及擴闊道路等建議，則需要由相關政府部門負責。
25. 許世光先生(運輸署)回應他已經由夏灣村至得月樓作實地視察，由於部份土地為私人擁有，將會沿路加建 15 個避車處。
26. 袁嘉雯村代表提議清拆圍網及石壘後，政府可以考慮將現行的單線行車改為雙線行車。
27. 許世光先生回應只要不涉及私人土地，政府會考慮袁村代表的建議，許先生並希望袁村代表一起作實地了解。
28. 廖興洪村代表關注清拆燈柱會使道路漆黑一片，希望燈柱可以繼續保留。
29. 蘇澤雄警司(落馬洲分區)表示由夏灣村至得月樓的圍網燈共有 170 支，該類圍網燈與街燈的功能並不一樣。現時 95% 的圍網燈是用作防範非法入境者之用，因此照射範圍較遠(如田野或壕殼圍)，而並非照射道路。蘇警司亦十分贊成日後清拆所有圍網燈後興建一批合規格的街燈供市民使用，希望有關部門關注。此外，警方為著公眾人士安全起見，是絕不贊同繼續使用圍網燈，擔心因照明不足導致意外發生。但由於禁區開放，該類圍網燈必須拆卸，警方已就有關意見與其他部門開會商討及改善。蘇警司續稱當禁區開放後，會增派警員巡邏，以確保開放後的交通繼續保持暢順及道路使用者的安全。最後，警方預計在週末及假日進入禁區的市民會增加，因此希望承建商於上述日子期間暫停施工，以方便警方巡邏及疏導交通。

30. 侯福達首副主席提出拆卸後的圍網應該立即清走，以免吸引盜賊、阻礙路面交通及村民往返。
31. 黃煥全村代表希望運輸署考慮擴闊快景路和馬草壟路與河上鄉路的交界位置。此外，由於禁區開放後人流增加，運輸署會否要求往料壘村的專線小巴作全日行駛。
32. 黃偉業總務建議工程車輛可以使用落馬洲新口岸往返工地，減少對古洞及馬草壟的交通負荷。
33. 袁嘉雯村代表表示由第 78 號閘至停車場的一段路十分彎曲，而且靠近懸崖，要求有關部門清拆圍網後必須加建防撞欄。此外，希望署方暫時開放一段在警崗旁的“渠務署緊急維修”道路讓村民繼續使用該停車場。
34. 廖富壽副主席表示承建商將會清拆所有圍網燈，那麼在該段時間這裡不是漆黑一片，詢問署方何時安裝合規格街燈？
35. 馮偉發村代表詢問由第 79 至 80 號閘有否預設避車處？
36. 曾昭明先生回應拆卸後的圍網會立刻運走。此外，亦會考慮使用其他道路往工地的建議。會與運輸署及路政署商討防撞欄的安裝。有關街燈問題，會繼續與有關部門商討及跟進。
37. 侯志強主席希望署方關注以下問題：1. 由於馬草壟往料壘村的一段山路較為崎嶇，希望署方在合適地點上加設避車處。2. 要求運輸署盡速增設專線小巴開往料壘村及加密班次。3. 希望由料壘村至快景路往河上鄉的道路上增加避車處以配合未來車輛的增加並擴闊道路。4. 盡快貫通得月樓往落馬洲的道路。5. 由於現時由落馬洲至得月樓及料壘村至落馬洲的兩個段路一直依靠巡邏燈照明，而且禁區開放後將會吸引大批市民，因此為保障大眾安全，路政署必須在巡邏燈拆卸前在上述兩個的路段上安裝路燈，以免危害大眾。
38. 袁嘉雯村代表要求有關部門將施工時間表以通告形式告知村民。此外，有關路段被剔除於禁區後，是由那個部門負責？
39. 郭忠良先生(民政處)回應有關路段的路面保養會由民政處負責，而管理方面，則由地政府負責。
40. 侯志強主席補充希望各村代表將有關訊息通知村民。

(有關部門於 12:30 離開)