



Updated Baseline Vegetation Survey Report

Contract No. DPW 01/2020 Environmental Team for Drainage Improvement Works at Ngong Ping

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Executive Summary

Fugro Technical Services Limited (FTS) was appointed as the Environmental Team (ET) by the Drainage Services Department (DSD) for the project *PWP Item No. 4163CD – Drainage Improvement Works at Ngong Ping*. As the ET, part of the scope of FTS, is to undertake the Updated Baseline Vegetation Survey as per **EP Condition 2.8, Section 6.12.2.8 of the EIA report, and Section 5.5.2.5 of the approved EM&A Manual**.

Updated vegetation survey was conducted at Works Section (WS) 6 of the Project area prior to the commencement of construction works. Within the Survey area, a total of 79 floral species, distributed in eight habitat types, was identified. Of these 79 species, nine were considered as species of conservation interest. Seven individuals of Eurya-leaved Camellia *Camellia euryoides* and five individuals of Mrs. Farrer's Rhododendron *Rhododendron farrerae* will be directly affected by the construction works in the vicinity of Outfall B. These 12 individuals are recommended for transplantation and the details of the transplantation programme are described in the Floral Transplantation Plan. In-situ preservation of other species of conservation interest from potential indirect impacts of the works are detailed in the Floral Protection Plan.

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1. INTRODUCTION

1.1 Background

1.1.1 To enhance the capacity of the trunk drainage system and reduce the flood risk in Ngong Ping, long term drainage improvement works are proposed to be implemented under "PWP Item No. 4163CD – Drainage Improvement Works at Ngong Ping" (hereafter referred to as "the Project").

1.1.2 The Project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap.499). An Environmental Impact Assessment (EIA) Report together with an Environmental Monitoring and Audit (EM&A) Manual (hereafter referred to as the "approved EM&A Manual") (Register No. AEIAR-169/2013) was prepared for the Project and approved by Environmental Protection Department (EPD) on 21 April 2013. An Environmental Permit was first issued on 7 August 2013. Variations of EP (VEP) was subsequently applied for and the current EP (EP No. EP-456/2013/A) (hereafter referred to as the "EP") was issued on 29 March 2019. These documents are available in the EIAO Register.

1.1.3 Fugro Technical Services Limited (FTS) has been appointed as the Environmental Team (ET) by the Drainage Services Department (DSD) to implement the EM&A programme in accordance with the EP No. EP-456/2013/A and the approved EM&A Manual. As the ET, part of the scope of FTS, is to undertake the Updated Baseline Vegetation Survey (hereafter referred to as the "Survey").

1.2 Scope and Objectives of the Survey

- reconfirm if the floral species of conservation interest identified during the EIA and as described in **Table 5.1 of the approved EM&A Manual** and **Table 6.26 of the EIA report** and as shown in **Figure 6.5b of the EIA report** are still present in the Project Area within Works Section (WS) 6 (hereafter referred to as "Survey area");
- determine if additional floral species of conservation interest have grown in the Survey area.;
- assess if the identified floral species of conservation interest (confirmed and new) will be directly or indirectly affected by the works; and
- determine if these species of floral of conservation interest can be preserved in-situ or if transplantation is needed.

1.2.1 The Survey shall allow a more focused plan of transplantation or protection to be formulated.

1.3 Purpose and Structure of the Report

1.3.1 This Updated Baseline Vegetation Survey Report was prepared to detail the findings of the Survey and to recommended corresponding measures to mitigate potential impacts of the works to the floral species of conservation interest. A 1:500 topographical map showing the precise location of the floral species of conservation interest is included in this report.

1.3.2 The Updated Baseline Vegetation Survey Report shall be certified by the ET Leader and verified by the IEC as conforming to the information and recommendations contained in the approved EIA report before submission to relevant authorities.

1.4 Relevant Legislations, Standards, Guidelines, and Criteria

The Survey was undertaken in accordance with the guidelines, standards, documents, and government ordinances and regulations as described below:

- *Environmental Impact Assessment Ordinance (EIAO) (Cap. 499)*. An ordinance for assessing the impact on the environment of certain projects and proposals, for protecting the environment and for incidental matters.
- *EIAO Technical Memorandum Annexes 8 and 16*. Ecological assessment specific annexes which provide the criteria for evaluating ecological impact and guidelines for ecological assessment, respectively.
- *EIAO Guidance Notes No.7/2010 and 10/2010*. Guidance notes on the general guidelines for conducting an ecological baseline survey for ecological assessment and on some methodologies in conducting terrestrial and freshwater ecological baseline surveys, respectively.
- *Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislation, the Forestry Regulations*. An ordinance that prohibits felling, cutting, burning, or destroying of trees and growing plants in forests and plantations on Government land. The Forestry Regulations protects the listed restricted and protected plant species from selling, offering for sale, or possession illegally.
- *Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and its subsidiary legislation*. Ordinance to regulate the import, introduction from the sea, export, reexport, and possession of specimens of a scheduled species, including live, dead, parts or derivatives. The Ordinance applies to all activities involving endangered species which include the parties of traders, tourists and individuals.
- *Town Planning Ordinance (Cap. 131)*. Ordinance which designates country parks, conservation area, green belts, sites of special scientific interest, coastal protection area and other specified uses to promote conservation, protection and education of the valuable environment.
- *Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 10 "Conservation"*. Provides landscape and conservation guidelines to achieve a balance between the need for development and the need to minimise disruption of the landscape and natural resources.

- *Site of Special Scientific Interest (SSSI) Register*. Lists the designated sites under the Town Planning Ordinance with special faunal, floral, ecological or geographical features.
- *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)*. An international agreement between Governments which aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
- *The IUCN Red List of Threatened Species*. Widely recognised as the most comprehensive, objective global approach for evaluating the conservation status of plant and animal species. The goal of the IUCN Red List is to provide information and analyses on the status, trends and threats to species in order to inform and catalyse action for biodiversity conservation.
- *United Nations Convention on Biodiversity (1992)*. An international legally binding treaty which aims to develop national strategies for the conservation and sustainable use of biological diversity.

2. METHODOLOGY

This section presents the methodology and approach of the Updated Baseline Vegetation Survey. The Survey was conducted by a qualified ecologist and land surveyor of the ET, which were supported by experienced field ecologists. The qualifications of the ecologist and the land surveyor were certified by the ET Leader and verified by the Independent Environmental Checker (IEC) as per **EP Condition 2.3**.

2.1 Desktop Review

Prior to actual field surveys, the EIA report, approved EM&A Manual, EP, and other available relevant information were reviewed. A preliminary map to show the extent of the Survey area and the original locations and list of the floral species of conservation interest was prepared to be used as field reference (**Appendix A**).

2.2 Field Surveys

2.2.1 Survey Area

2.2.1.1 As described in **Section 6.12.2.8 of the EIA report, Section 5.5.2.5 of the approved EM&A Manual, and EP Condition 2.8**, the Survey area focused on Project Area within Works Section 6. Transect routes and quadrats were established to overlap with the Project Area to ensure that the vegetation adjacent and within the locations of Outfall B, Intake C, jacking pit, work area, and stockpiling area are covered. Works Area (WA) 4 and Stockpiling Area (SA) 4 were both adjacent to Transect 1; a section of WA3 was within one of the quadrats of Transect 1; outfall B was adjacent to one of the quadrats of Transect 1; Intake C was inside of one of the quadrats; and jacking pit area was within one of the quadrats of Transect 1.

2.2.1.2 The extent of the Survey area and the transect routes are shown in **Appendix A**.

2.2.2 Methodology

2.2.2.1 Two transect routes (Transect 1 and Transect 2) were established to cover the vegetation within and adjacent to the outfall, intake, jacking pit, stockpiling and work areas; and locations of species of conservation interest. While setting up the transect, every 20 m was marked by a flagging tape which served as a section. In each section, vegetation formation was identified.

2.2.2.2 Along the transect, measurements for species diversity was conducted using the nested quadrat technique. A total of eight quadrats were established within the two transects. The quadrats were established relative to the predetermined locations of the species of conservation interest during the EIA study and proposed works areas. A modified belt transect method was used for the assessment of woodlands and scrublands while line intercept method was used for the assessment of the ground cover.

2.2.2.3 For large woody plants with diameter of equal to or greater than 9.5 cm, measurements of diameter at breast-height (DBH), total height (TH), and crown spread were conducted inside the 20 x 20m quadrat. The observed flowering and fruiting of the individual trees as well as common tree problems (e.g. forking, diseased, with cut, covered by epiphytes, etc.) were also noted as remarks. On the other hand, small trees (<9.5 cm DBH), poles, saplings, shrubs inside a 5 x 5m quadrat were identified and counted. It is very important to assess understory diversity (includes herbs, shrubs and trees with height of >1m) as the existence of sufficient number of saplings and young trees in a given population often determines successful regeneration. Epiphytes living on trees inside the 5 x 5m quadrat were identified. Flowering and fruiting individuals were also noted. Identification and estimation of percentage cover (percent site cover and percent species cover) of grasses and other ground cover species (vines, ferns, sedges and other erect plants <1m in height) was conducted inside a 1 x 1m quadrat.

2.2.2.4 Cover of forest litter and barren soil were also included in the survey.

2.2.2.5 A broad walk-over survey and photo-documentation of the Project Area was conducted to confirm the existing habitats.

2.2.3 Taxonomic Identification and Protection Status

2.2.3.1 Nomenclature and protection status of the plant species primarily followed those documented in the Hong Kong Herbarium (<http://www.herbarium.gov.hk>) website.

2.2.4 Survey Parameters

2.2.4.1 Composition, community structure, and diversity of vegetation communities present in the Survey area was described. To determine their suitability for transplant or in-situ preservation, vegetation form, health condition, amenity value, and survival transplantation were assessed. Natural and anthropogenic disturbances to vegetation within the Survey area were also recorded.

2.2.5 Verification of Floral Species of Conservation Interest

2.2.5.1 To ensure that the presence of floral species of conservation interest described in **Table 5.1 of the approved EM&A Manual** and **Table 6.26 of the EIA report** and as shown in **Figure 6.5b of the EIA report** were verified in the Survey area, their locations as shown in **Appendix A** were individually visited and surveyed.

2.2.6 Tagging of Floral Species of Conservation Interest

2.2.6.1 The location of all the identified floral species of conservation interest were initially geo-tagged. The land surveyor together with the ecologist revisited these locations to make the final tagging and measurements needed for the preparation of 1:500 topographical maps.

2.2.7 Survey Schedule

2.2.7.1 The Survey was conducted on 07 – 09 October. Meanwhile, a separate geotagging survey was also undertaken with the land surveyor on 20 October to tag the location of each individual species of conservation interest.

2.2.8 As stipulated in **Section 5.5.2.7 of the approved EM&A Manual**, the “Updated Baseline Vegetation Survey” report shall be undertaken in the pre-construction phase and in accordance with **EP Condition 2.8**, the “Updated Baseline Vegetation Survey Report” shall be deposited with the Director at least one month before commencement of construction works.

2.3 Reporting

2.3.1 Updated Baseline Vegetation Survey Report

2.3.1.1 An Updated Baseline Vegetation Survey Report was prepared to detail the findings of the Survey. A 1:500 topographical map showing the precise location of the floral species of conservation interest was included in the report.

2.3.1.2 The floral species of conservation interest were assessed if they will be directly or indirectly affected by the works. For those species that could be potentially affected, it shall be determined if they can be preserved in-situ or if transplantation is needed.

2.3.1.3 This Updated Baseline Vegetation Survey Report was certified by the ET Leader and verified by the IEC as conforming to the information and recommendations contained in EIA report before submission to relevant authorities.

3. UPDATED BASELINE CONDITIONS

This section describes the updated baseline conditions of the vegetation communities in the Survey area. Existing habitats were photo-documented, described, and mapped; existing vegetation communities were characterized; and all confirmed and identified floral species of conservation interests were located and assessed. The succeeding sections describe the detailed findings of the Survey.

3.1 Habitat Types

A total of eight habitat types (i.e. secondary woodland, mixed shrubland/woodland, shrubland, shrubby grassland, stream, channelized watercourse, landscape plantation, and developed area) were identified in the Survey area (**Appendix B.1**). All of these habitat types but for mixed shrubland/woodland were identified in the approved EIA report.

The location of the works and stockpiling areas; and the project components relative to the habitat types are described in **Table 3.1**.

Table 3.1: Location of the Works and Stockpiling Areas; and the Project Components Relative to Habitat Types

Project Components	EIA Study	Current Study
Works Area (WA) 3	Channelized watercourse	Channelized watercourse
WA4	Shrubland and Stream	Shrubland and Stream
Stockpiling Area (SA) 4	Landscape plantation	Landscape plantation and shrubland
Outfall B	Stream	Shrubland and Stream
Intake C	Channelized watercourse	Channelized watercourse
Jacking Pit (JP) 2	Landscape plantation	Landscape plantation and shrubland

The description of each habitat types is presented in the succeeding sections.

3.1.1 Secondary woodland

Secondary woodland is a type of woodland that resulted from natural succession or from planting of previously unwooded land. The largest secondary woodland (**Appendix B.2.1**) within the Survey area is at the western side of Outfall B, across the natural stream. Commonly recorded tree species in this habitat type are Red Machilus *Machilus thunbergii* and Woolly Machilus *Machilus velutina*. Dominant shrub and groundcover species were Common Melastoma *Melastoma malabathricum* and Twelve-stamened Melastoma *Melastoma dodecandrum*, respectively.

3.1.2 Shrubland

Shrubland habitats are dominantly covered with thickets of shrubs¹ and young trees with presence of scattered grasses or herbs. Primary shrublands within the Survey area were observed adjacent (northern section) to the alignment of the drainage pipe (**Appendix B.2.2**). Commonly recorded shrubs within this habitat type are Mrs. Farrer's Rhododendron *Rhododendron farrerae* and Vietnam Leaf-flower *Phyllanthus cochinchinensis*. Groundcover species, on the other hand, were generally composed of Ambrosia Orchid *Bulbophyllum ambrosia* and Brown Rock-orchid *Coelogyne fimbriata*. Tree species that were present in this habitat type were Chekiang Machilus *Machilus chekiangensis*, Short-flowered Machilus *Machilus breviflora*, and Hong Kong Gordonia *Polyspora axillaris*.

3.1.3 Mixed shrubland/woodland

Mixed shrubland/woodland is characterized of having tree species mixed with shrubland species together with scattered groundcover species such as grasses or herbs. This type of habitat covers the south section of the alignment of the drainage pipes (**Appendix B.2.3**). In the approved EIA report, this section was classified as plantation, but possible natural succession could have allowed growth of shrubs and young trees in this habitat. Common tree species recorded in this area were *M. chekiangensis*, *M. velutina*, Turn-in-the-wind *Mallotus paniculatus*, and Rough-leaved Holly *Ilex asprella*; dominant shrubs were *M. malabathricum*; and groundcover species were Carpet Grass *Axonopus compressus*. Species of conservation interest such as Heliotrope Ehretia *Ehretia acuminata*, Small-fruited Honeylocust *Gleditsia australis*, and Walking-stick Orchid *Geodorum densiflorum* were also recorded in this area.

3.1.4 Shrubby Grassland

Shrubby grassland refers to areas with mixture of short or tall grass and shrubs with less than 50% of woody plant (AFCD, undated). This type of habitat was observed at the fringes of the channelized channel (**Appendix B.2.4**), where Intake C is proposed to be located. The dominant species found in this area were *A. compressus* and West-India Chickweed *Drymaria cordata*. *G. densiflorum* was also recorded near the road, east side of Intake C.

3.1.5 Stream

Streams refer to body of flowing water in a channel or bed. The natural stream found within the Survey area is Ngong Ping stream, which parallelly traverses the southern section of the alignment of the drainage pipe, passes behind the columbarium, and eventually discharges downstream at the cliff adjacent to the location of Outfall B (**Appendix B.2.5**). A number of Eurya-leaved Camellia *Camellia euryoides* were found along the stream in Outfall B. This species is listed as of conservation interest.

¹ A shrub is characterized by growing not exceeding than 5 m (single main stem) or 8 m (multi-stemmed).

3.1.6 Channelized Watercourse

Channelization of streams or rivers is usually done for the purposes of flood control, drainage, navigation, and to prevent erosion. Intake C is proposed to be located in channelized watercourse (**Appendix B.2.6**), which connects to the natural stream described in **Section 3.1.5**. Common species found in this area were Glabrous Knotweed *Polygonum glabrum*, Giant Alocasia *Alocasia macrorrhizos*, and Alligator-weed *Alternanthera philoxeroides*.

3.1.7 Plantation

This generally refers to man-made habitats with planted trees for landscape and forestation purposes. Plantations have simple structure due to the similarities of species present which results to little vegetation stratification and lower heterogeneity. Landscape plantation areas were along the Private Road going to the columbarium and within the vicinity of the alignment of the drainage pipe (**Appendix B.2.7**). Common species that were planted in these areas were Oshima Cherry *Prunus speciosa* and Yunnan Cherry *Prunus yunnanensis*.

3.1.8 Developed Area

Developed areas within the Survey area are comprised of the village areas, roads, tourist attractions, and public utilities (**Appendix B.2.8**). *Terminalia mantaly*, *Sasanqua Camellia* *Camellia sasanqua*, Mock Lime *Aglaia odorata*, and Caribbean Copper Plant *Euphorbia cotinifolia* are some species observed in this area.

3.2 Updated Baseline Vegetation

3.2.1 Outfall B and WA4

Two quadrats were established in the vicinity of columbarium to cover the vegetation communities adjacent and within the proposed locations of the Outfall and WA4. Habitat types covered by these quadrats are secondary woodland, shrubland, and stream.

A total of 11 tree species were recorded in these quadrats. The trees were generally fair in form and condition and with medium amenity value. DBH ranged from 9.5 cm to 40 cm; estimated height² from 2.5 m to 11 m; and crown spread from 2 m to 9 m. Common tree problems observed were leaning and co-dominant stems. Common tree species are *M. thunbergii*, *M. velutina*, *M. paniculatus*, Ivy Tree *Schefflera heptaphylla*, Blue Japanese Oak *Cyclobalanopsis glauca*, *P. axillaris*, *Acronychia* *Acronychia pedunculata*, *M. chekiangensis*, *M. brevifloral*, and Chinese Gugertree *Schima superba*.

A total of 67 individuals (ind.) belonging to 30 species of shrubs, saplings, and poles were identified inside these quadrats. Mean height ranged from 4 cm to 500 cm. The common shrub species were *M. malabatrimum*, Wild Coffee *Psychotria asiatica*, Rose Myrtle

² estimated total height of the tree inspected above ground level to top of tree crown

Rhodomyrtus tomentosa, *R. farrerae*, and *C. euryoides*. *C. euryoides* were commonly observed along the streambanks.

A total of eight groundcover species were identified within these quadrats. The most dominant species was *M. dodecandrum* and other species recorded were Dichotomy Forked Fern *Dicranopteris pedata*, Truncate-glume Sedge *Carex truncatigluma*, and Thyme-leaved Spurge *Euphorbia thymifolia*, among others.

Species of conservation interest recorded within and in the vicinity of Outfall B and WA4 are *C. euryoides* (Cap. 96A), *R. farrerae* (Cap. 96A), *C. fimbriata* (Cap. 96A and Cap.586), and *B. ambrosia* (Cap. 96A and Cap. 586). Details of these species of conservation interest are discussed in **Section 3.3**.

3.2.2 Drainage Pipe Alignment, JP2, and SA4

Four quadrats were established within and in the vicinity of the proposed drainage pipe alignment, JP2, and SA4. Habitat types covered by these quadrats are mixed shrubland/woodland, shrubland, landscape plantation, and developed area.

A total of 23 tree species were recorded in these quadrats. These trees were generally fair in condition and form with medium amenity value. DBH ranged from 9.5 m to 53.8 m; estimated height from 2.5 m to 9.5 m; and crown spread from 0.5 m to 18 m. Common tree species observed in these quadrats are Autumn Maple *Bischofia javanica*, *G. australis*, *E. acuminata*, Taiwan Acacia *Acacia confusa*, Ear-leaved Acacia *Acacia auriculiformis*, *M. paniculatus*, *P. axillaris*, *M. chekiangensis*, *S. heptaphylla*, Prickly Ash *Zanthoxylum avicennae*, Chinese Hackberry *Celtis sinensis*, Opposite-leaved Fig *Ficus hispida*, Batavia Cinnamon *Cinnamomum burmanii*, Chinese Privet *Ligustrum sinense*, Round-leaved *Litsea Litsea rotundifolia*, *M. thunbergii*, *M. chekiangensis*, *M. velutina*, *I. asprella*, Fragrant *Litsea Litsea cubeba*, Pond Spice *Litsea glutinosa*, and Mountain Tallow Tree *Sapium discolor* were recorded in these areas. Planted individuals of *P. speciose* for landscaping purposes were also observed along the Private Road going to columbarium.

A total of 54 ind. belonging to 14 species of shrubs, saplings, and poles were identified inside these quadrats. Mean height ranged from 3 cm to 360 cm. Commonly recorded shrub species were *M. malabatricum*, *R. tomentosa*, Sensitive Plant *Mimosa pudica*, and Elder *S. chinensis*.

A total of 10 groundcover species were recorded within these quadrats. The most dominant species was *A. compressus*.

Species of conservation interest recorded within and in the vicinity of the proposed drainage pipe alignment, JP2, and SA4 were *G. densiflorum* (Cap 96A and Cap 586), *G. australis* (Rare), and *E. acuminata* (Very Rare). Details of these species of conservation interest are discussed in **Section 3.3**.

3.2.3 Intake C and WA3

Two quadrats were established in the within and in the vicinity of the location of Intake C and WA3. Habitat types covered by these quadrats are channelized watercourse and shrubby grassland.

The only tree species recorded in these quadrats are the planted *P. yunnanensis*. These individuals were observed at the upper bankside of the channelized watercourse. These trees were generally in good form, fair condition, and fair amenity value (as of the Survey period). As these were planted for landscaping purposes, their DBH, estimated height, and crown spread were relatively uniform.

A total of 28 ind. belonging to eight species of shrubs, saplings, and poles were identified inside these quadrats. *P. glabrum* and *A. macrorrhizos* were the commonly recorded species.

A total of 11 groundcover species were recorded within these quadrats with *A. compressus*, *D. cordata* and Japanese Lovergrass, *Eragrostis tenella* being the most cover.

Species of conservation interest recorded in the vicinity of Intake C and WA3 is *G. densiflorum* (Cap 96A and Cap 586). Details of this species of conservation interest are discussed in **Section 3.3**.

3.3 Species of Conservation Interest

A total of nine species of conservation interest have been identified and recorded within the Survey area. The survey findings by the land surveyor and survey plan of these species are presented in **Appendix C.1** and **Appendix C.2**, respectively. The descriptions of the species are presented in the succeeding sub-sections.

3.3.1 *Camellia euryoides*

Individuals of *C. euryoides* (Species No. B1 to B34 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.1**) were concentrated at the streambanks in the secondary woodland at the back of the columbarium and within the shrubland near the vicinity of the proposed location of Outfall B. This species is protected under the Forestry Regulations (Cap. 96A) while its distribution is identified as restricted based on Xing et al. (2000). Seven individuals (Species No. B28 to B34 in **Appendix C.1** and **Appendix C.2**) of this species will be directly affected by the outfall construction. These individuals shall be transplanted, and the details of the transplantation programme shall be included in the Floral Transplantation Plan. For other individuals that will not be directly impacted by the works, in-situ preservation shall be undertaken, and the measures shall be detailed in the Floral Protection Plan.

3.3.2 *Rhododendron farrerae*

Cluster of *R. farrerae* (Species No. I1 to I32 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.2**) individuals were distributed in the shrubland habitat in the hillside cliff near the WA4 and in the mixed shrubland/woodland habitat west of the columbarium. This

species is protected under the forestry Regulations (Cap. 96) but is commonly found in shrubland areas of Hong Kong according to Xing et al. (2000). Five individuals (Species No. I12 to I14 and I29 and I31 in **Appendix C.1** and **Appendix C.2**) of this species will be directly affected by the outfall construction. These individuals shall be transplanted, and the details of the transplantation programme shall be included in the Floral Transplantation Plan. For other individuals that will not be directly impacted by the works, in-situ preservation shall be undertaken, and the measures shall be detailed in the Floral Protection Plan.

3.3.3 *Coelogyne fimbriata* and *Bulbophyllum ambrosia*

Patches of *C. fimbriata* (Species No. A1 to A3 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.3**) and *B. ambrosia* (Species No. D1 to D5 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.4**) were observed on the rocky surfaces of the upper banks (cliff) of the stream in the vicinity of the proposed location of Outfall B. These species are protected under Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and the Forestry Regulations (Cap. 96A) in Hong Kong. *B. ambrosia* is considered as "Vulnerable" while *C. fimbriata* is regarded as "Near Threatened" based on China Plant Red Data Book but these species are considered as common in forests and areas near streams according to Xing et al. (2000). No individuals of these species will be directly affected by the construction works but these species will be protected in-situ from potential indirect impacts of the works. Protection measures shall be set out in the Floral Protection Plan.

3.3.4 *Gleditsia australis*, *Ehretia acuminata*, and *Geodorum densiflorum*

Four individuals of *G. australis* (Species No. H1 to H4 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.5**), eight *E. acuminata* (Species No. E1 to E8 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.6**), and three *G. densiflorum* (Species No. G1 to G3 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.7**) were located in the plantation woodland at the roadside of the Private Road to columbarium. *G. australis* is regarded as "Rare" and can be observed in restricted areas (Xing et al. 2000); *E. acuminata* is also considered as "Rare" according to Xing et al. (2000) but is not protected by a law locally, nationally or internationally; and *G. densiflorum* is protected under Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and the Forestry Regulations (Cap. 96A) in Hong Kong and listed as "Vulnerable" in the China Plant Red Data Book and can be found in restricted locations in Hong Kong (Xing et al., 2000). Two more individuals of *G. densiflorum* (Species No. G4 and G5 in **Appendix C.1** and **Appendix C.2**) were recorded in the shrubby grassland across the location of Intake C. No individuals of the aforementioned species will be directly affected by the construction works but these species will be protected in-situ from potential indirect impacts of the works. In situ-preservation measures shall be set out in the Floral Protection Plan.

3.3.5 *Enkianthus quinqueflorus*

Two individuals of Chinese New Year Flower *Enkianthus quinqueflorus* (Species No. F1 and F2 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.8**) were recorded in shrubland

area under the cable car aerial ropeway, approximately 40 m northeast of the Project area boundary. This species is protected under the Forestry Regulations (Cap. 96A) but is listed as common in the forests and shrubland areas of Hong Kong (Xing et al. 2000). This species is relatively distant from the Project area but was identified during the EIA study in the study area. This species will not be impacted by the construction works.

3.3.6 *Camellia sinensis*

Six seedlings of Tea *Camellia sinensis* (Species No. C1 to C6 in **Appendix C.1** and **Appendix C.2**; **Appendix C.3.9**) were recorded on the farther upper location of *E. quinqueflorus*. *C. sinensis* is commonly planted in Hong Kong but the wild population of this species is protected under Forestry Regulations (Cap. 96A). Based on Xing et al. (2000). As with *E. quinqueflorus*, this species was identified during the EIA study in the study area but are relatively distant from the Project Area. No impacts from the construction works are anticipated.

3.3.7 Summary of Species of Conservation Interest

All floral species of conservation interest in WS6 as listed **Table 5.1 of the approved EM&A Manual** and **Table 6.26 of the EIA report** and as shown in **Figure 6.5b of the EIA report** but for Incense Tree *Aquilaria sinensis* were located, tagged, and surveyed. *A. sinensis* were not recorded during the Survey as it is highly possible that these individuals were harvested due to their high value. With the absence of mature individuals, natural propagation and survival of this species will be potentially reduced. The summary of the floral species of conservation interest recorded during the updated baseline vegetation survey are presented in **Table 3.2**.

Table 3.2: Summary of Species of Conservation Interest

Species	Growth Form	Protection Status	Locations Recorded	¹ Rarity/Status in Hong Kong	Treatment
Ambrosia Orchid (<i>Bulbophyllum ambrosia</i>)	Herb	Cap. 586; Cap. 96A; Vulnerable **	Shrubland in the vicinity of Outfall B	Common (Xing et al. 2000)	In-situ preservation of all individuals
Eurya-leaved Camellia (<i>Camellia euryoides</i>)	Shrub / Small tree	Cap. 96A	Riparian vegetation/ Secondary woodland near the location of Outfall B	Very common (Xing et al. 2000)	Seven individuals (B28 to B34) in the location of Outfall B recommended for transplantation
Tea (<i>Camellia sinensis</i>)	Shrub / Small tree	Cap. 96A	Shrubland relatively far from the Project area	Rare (Xing et al. 2000)	In-situ preservation of all individuals
Brown Rock-orchid (<i>Coelogyne fimbriata</i>)	Epiphytic herb	Cap. 586; Cap. 96A; Near Threatened **	Shrubland in the vicinity of Outfall B	Very common (Xing et al. 2000)	In-situ preservation of all individuals
Heliotrope Ehretia (<i>Ehretia acuminata</i>)	Tree	-	Landscape plantation along the alignment of drainage pipes	Very rare (Xing et al. 2000)	In-situ preservation of all individuals

Species	Growth Form	Protection Status	Locations Recorded	¹ Rarity/Status in Hong Kong	Treatment
Chinese New Year Flower (<i>Enkianthus quinqueflorus</i>)	Shrub	Cap. 96A	Shrubland relatively far from the Project area	Common (Xing et al. 2000)	In-situ preservation of all individuals
Walking-stick Orchid (<i>Geodorum densiflorum</i>)	Herb	Cap. 586; Cap. 96A; Vulnerable**	Plantation woodland along the alignment of drainage pipes Shrubby grassland in the vicinity of Intake C and WA3	Restricted (Xing et al. 2000)	In-situ preservation of all individuals
Small-fruited Honeylocust (<i>Gleditsia australis</i>)	Tree	-	Plantation woodland along the alignment of drainage pipes	Rare (Xing et al. 2000)	In-situ preservation of all individuals
Mrs. Farrer's Rhododendron (<i>Rhododendron farrerae</i>)	Shrub	Cap. 96A	Shrubland in the vicinity of WA4 Mixed shrubland/woodland habitat west of the columbarium	Common (Xing et al. 2000)	Five individuals (I12 to I14 and I29 and I31) in the location of Outfall B recommended for transplantation
<p>Notes:</p> <p>Cap. 96A = Forestry Regulations under Forests and Countryside Ordinance; Cap. 596 = Protection of Endangered Species of Animals and Plants Ordinance</p> <p>**www.sepa.gov.cn; 2012</p> <p>1. Xing et al. (2000)</p>					

4. CONCLUSION

A total of 79 floral species, distributed in eight habitat types, were identified inside the Survey area and of these 79 species, nine were considered as species of conservation interest (**Appendix D**). Two species (seven ind. of *C. euryoides* and five ind. of *R. farrerae*) of these species of conservation interest will be directly impacted by the construction works in the vicinity of Outfall B. These 12 individuals are recommended for transplantation and the details of the transplantation programme are described in the Floral Transplantation Plan. In-situ preservation of other species of conservation interest from potential indirect impacts of the works are detailed in the Floral Protection Plan.

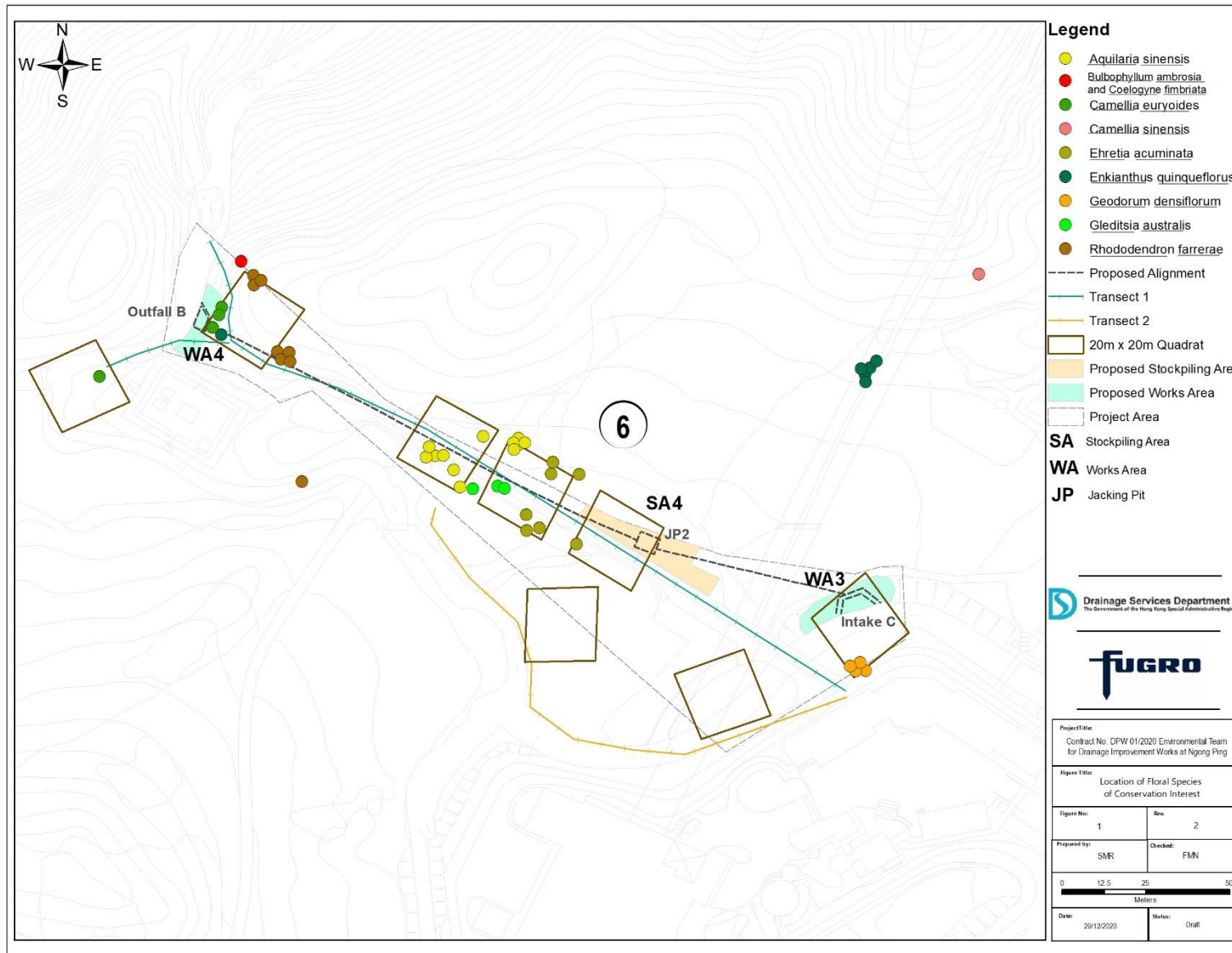
5. REFERENCES

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Appendix A

Survey Area

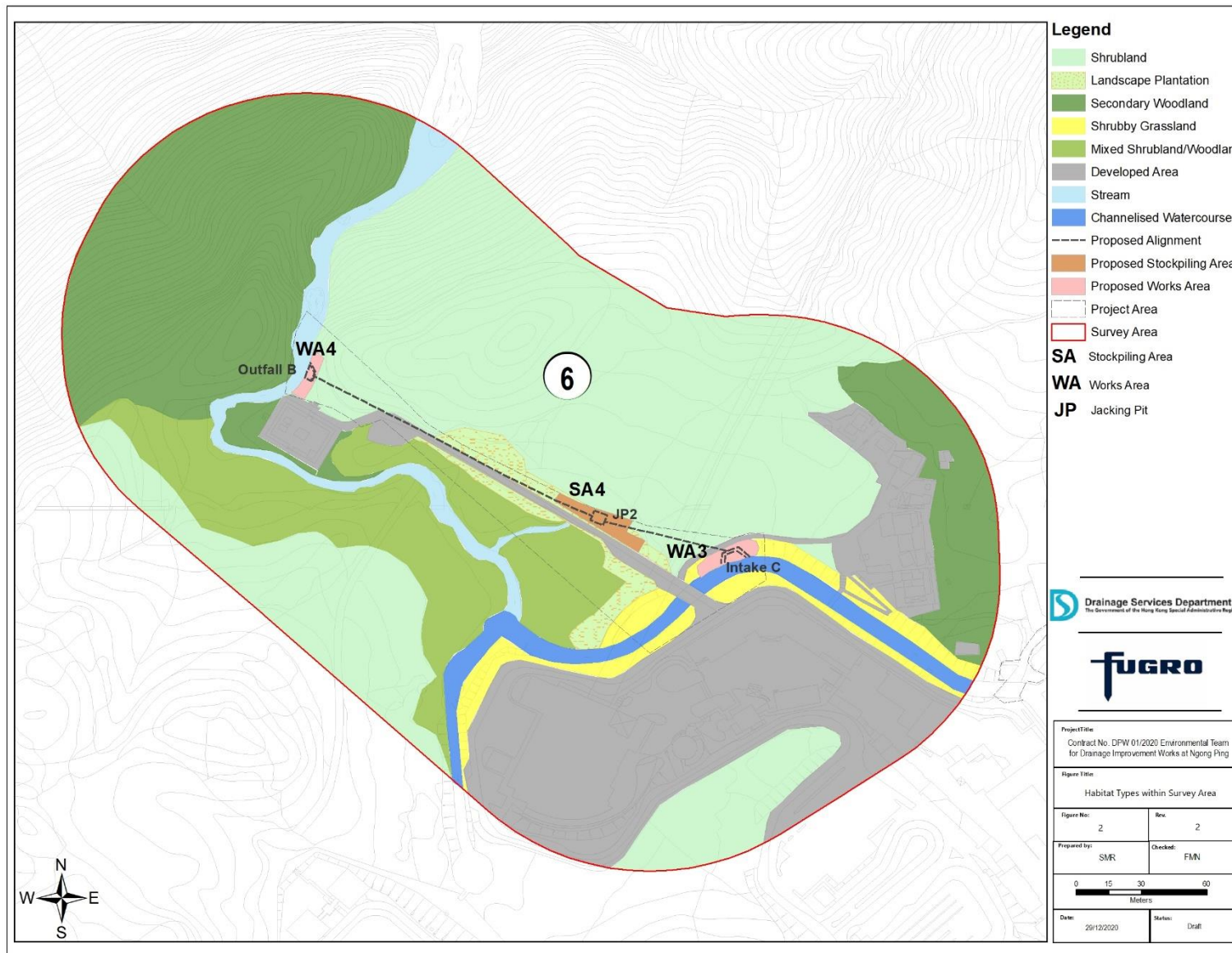
A.1 Survey Area



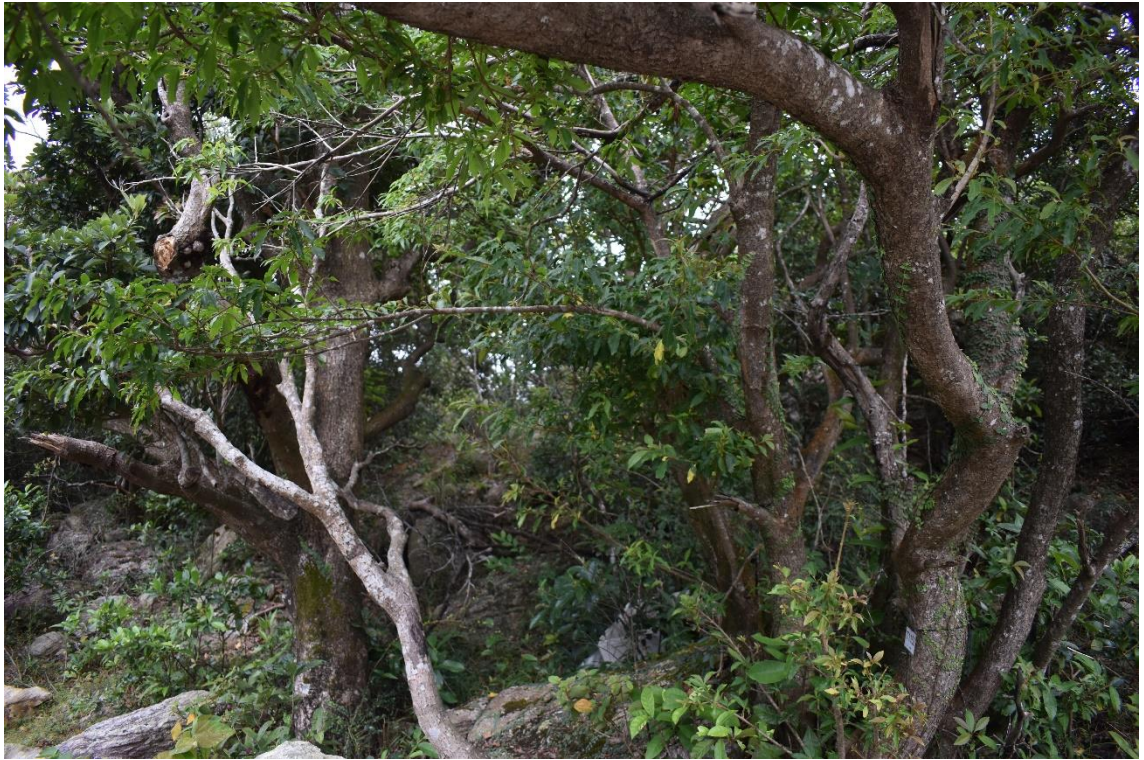
Appendix B

Habitat Types

B.1 Habitat Map



B.2 Photos of Habitat Types



Appendix A.1.1: Secondary woodland behind the columbarium



Appendix A.2.2: Shrubland



Appendix B.2.3: Mixed shrubland/woodland



Appendix B.2.4: Shrubby grassland at the channelized watercourse running to the location of Intake C



Appendix B.2.5: Stream running parallel to the alignment of the drainage pipe



Appendix B.2.6: Channelized watercourse



Appendix B.2.7: Landscape plantation along the roadside of the Private Road to columbarium



Appendix B.2.8: Developed area near the location of Intake C

Appendix C

Species of Conservation Interest

C.1 Survey Findings of the Species of Conservation Interest by the Land Surveyor



Locations of the Floral Species of Conservation Interest - Works Section 6

Date of Survey : 20 October 2020

File Name: KEL/TOPO/20/10

The following table should be read in conjunction with the Plan No. KEL/TOPO/20/10/D1

	Species No.*	DBH	Height	Species Crown Spread	Position of Species		Remarks
		(m)	(m)	(m)	Northing (m)	Easting (m)	
1	A1	0.01	0.20	0.20	813273.9	807765.4	
2	A2	0.01	0.25	0.30	813276.8	807765.8	
3	A3	N/A	N/A	N/A	813279.4	807770.0	Group of <i>Bulbophyllum ambrosia</i>
4	B1	0.04	2.00	1.50	813246.6	807733.9	
5	B2	0.03	1.80	1.80	813251.9	807732.7	
6	B3	0.04	1.80	2.10	813251.7	807733.5	
7	B4	0.08	1.80	1.80	813253.0	807738.1	
8	B5	0.03	0.95	1.10	813254.4	807742.1	
9	B6	0.01	0.06	1.70	813254.1	807742.6	
10	B7	0.05	1.20	2.30	813255.2	807743.2	
11	B8	0.03	2.60	1.60	813255.9	807743.3	
12	B9	0.03	2.00	1.40	813263.2	807755.3	
13	B10	0.04	2.00	1.50	813263.7	807755.5	
14	B11	0.04	2.00	1.20	813263.6	807752.9	
15	B12	0.04	2.50	1.20	813263.7	807752.9	
16	B13	0.04	2.50	1.20	813264.0	807752.9	
17	B14	0.04	2.00	1.20	813263.6	807752.6	
18	B15	0.04	2.50	1.20	813265.8	807753.2	
19	B16	0.04	2.50	1.20	813267.0	807753.8	
20	B17	0.03	2.20	0.90	813267.1	807753.4	
21	B18	0.01	2.00	0.80	813267.0	807752.5	
22	B19	0.01	1.90	1.80	813267.2	807752.6	
23	B20	0.02	1.70	0.90	813267.8	807752.5	
24	B21	0.01	2.20	0.60	813267.9	807752.2	
25	B22	0.02	2.10	1.20	813267.9	807751.6	
26	B23	0.02	2.20	0.90	813268.5	807751.6	
27	B24	0.01	2.70	0.90	813269.0	807752.0	
28	B25	0.03	1.50	2.30	813269.2	807751.5	
29	B26	0.04	2.50	2.00	813269.3	807751.2	
30	B27	0.02	1.60	1.30	813271.2	807751.0	
31	B28	0.03	2.20	1.40	813265.3	807762.2	
32	B29	0.03	1.60	1.30	813263.7	807761.4	
33	B30	0.01	1.30	1.00	813260.3	807759.7	
34	B31	0.02	1.20	0.80	813259.7	807759.7	
35	B32	0.02	1.90	1.00	813259.2	807759.5	
36	B33	0.02	1.70	1.20	813258.8	807760.1	
37	B34	0.01	0.90	0.60	813269.4	807763.7	
38	C1	0.01	0.60	0.30	813270.2	807963.8	
39	C2	0.01	0.70	0.35	813271.9	807964.4	
40	C3	0.01	0.25	0.15	813272.6	807965.9	
41	C4	0.01	0.30	0.30	813272.4	807966.4	
42	C5	0.01	0.30	0.30	813272.3	807967.4	
43	C6	0.01	0.30	0.20	813272.2	807967.8	
44	D1	0.01	0.10	0.60	813265.7	807773.0	
45	D2	0.01	0.25	0.30	813273.9	807766.7	
46	D3	0.01	0.20	0.40	813274.0	807764.1	
47	D4	0.10	0.50	0.30	813277.0	807766.8	
48	D5	N/A	N/A	N/A	813279.2	807767.4	Group of <i>Coelogyne fimbriata</i>
49	E1	0.11	4.00	3.00	813203.9	807869.3	
50	E2	0.11	5.00	4.00	813201.2	807850.4	
51	E3	0.19	6.00	3.00	813202.8	807847.7	
52	E4	0.12	6.00	3.00	813207.4	807840.7	
53	E5	0.10	7.00	2.00	813210.2	807835.3	
54	E6	0.16	7.00	3.00	813212.9	807835.6	
55	E7	0.14	7.00	3.00	813211.5	807832.9	
56	E8	0.19	5.00	4.00	813216.6	807831.4	



Locations of the Floral Species of Conservation Interest - Works Section 6

Date of Survey : 20 October 2020

File Name: KEL/TOPO/20/10

The following table should be read in conjunction with the Plan No. KEL/TOPO/20/10/D1

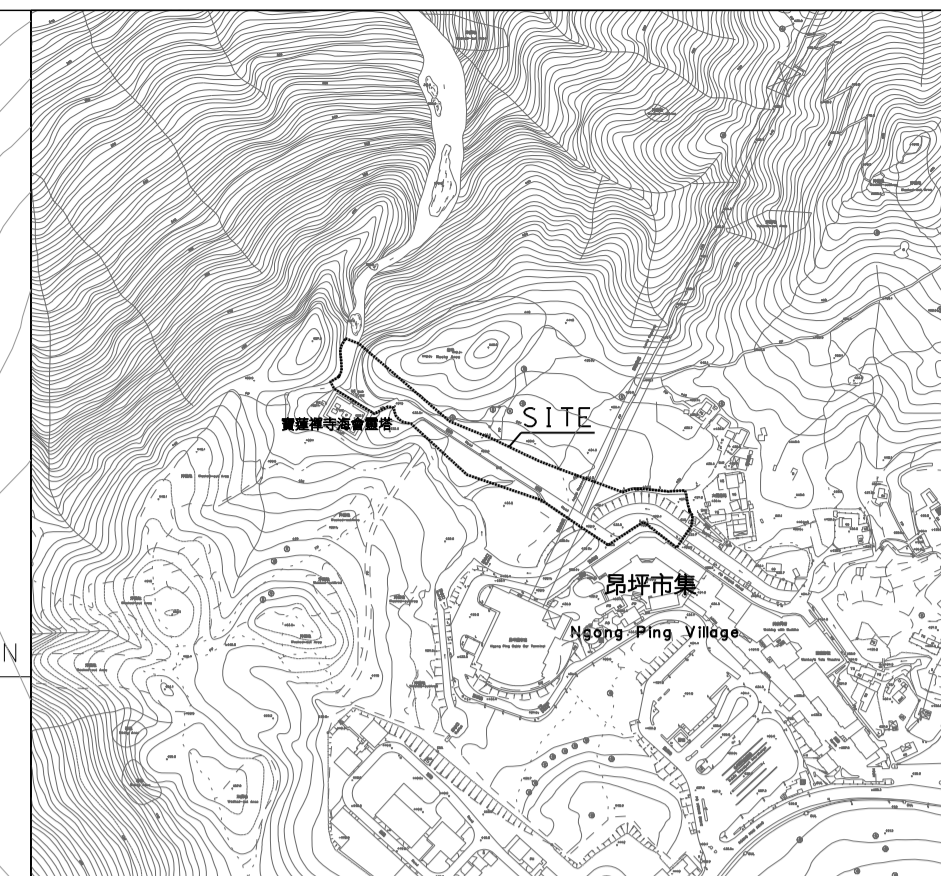
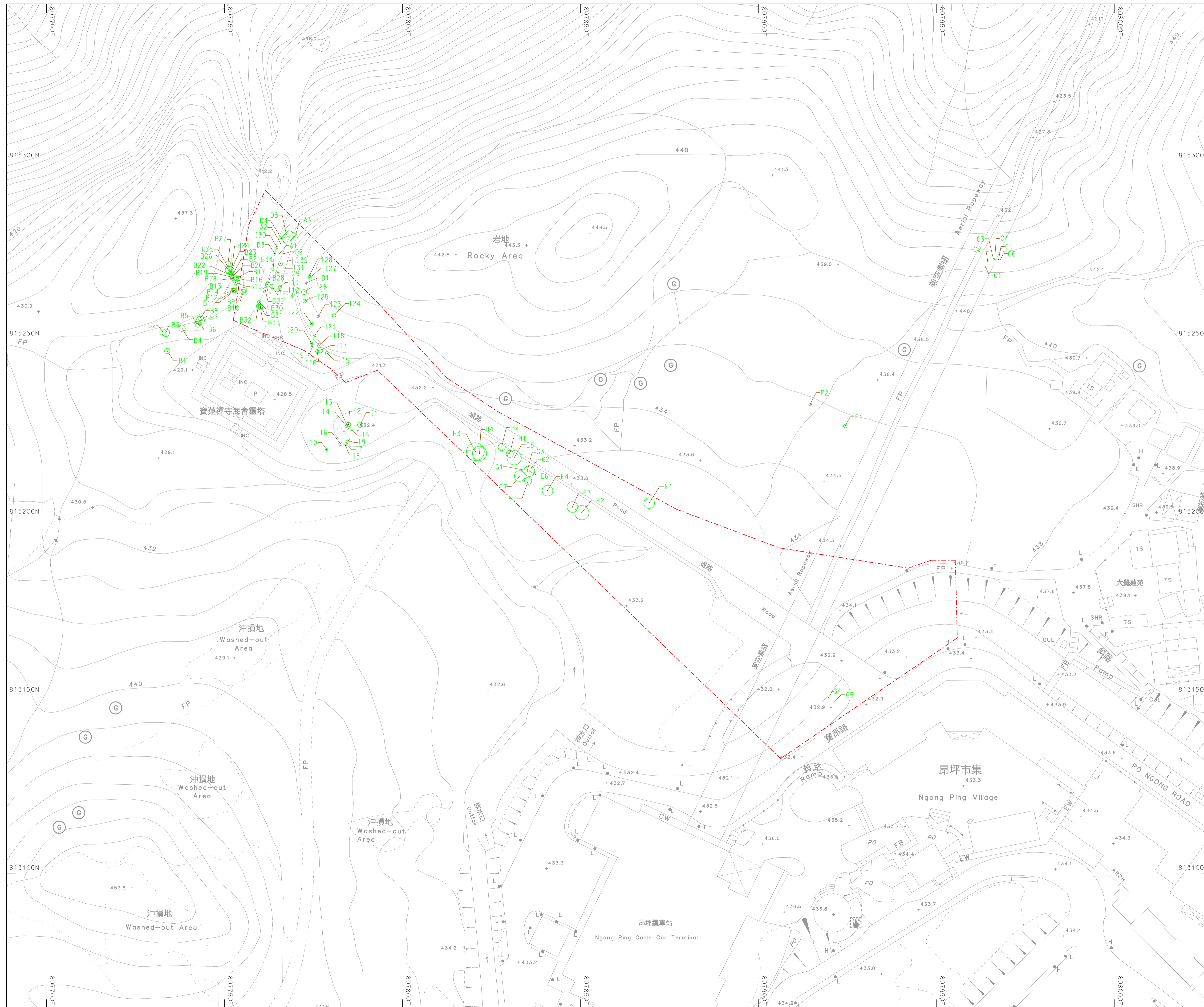
	Species No.*	DBH	Height	Species Crown Spread	Position of Species		Remarks
		(m)	(m)	(m)	Northing (m)	Easting (m)	
57	F1	0.04	3.00	1.00	813225.5	807924.3	
58	F2	0.02	1.60	0.80	813231.6	807914.5	
59	G1	0.01	0.40	0.45	813213.3	807833.5	
60	G2	0.01	0.07	0.20	813213.7	807836.1	
61	G3	0.01	0.08	0.15	813212.9	807835.0	
62	G4	0.01	0.36	0.04	813149.2	807919.6	
63	G5	0.01	0.21	0.16	813148.3	807921.4	
64	H1	0.06	3.00	2.00	813217.7	807830.1	
65	H2	0.05	1.60	2.00	813219.7	807827.9	
66	H3	0.16	6.00	5.00	813218.4	807820.5	
67	H4	0.08	4.00	4.00	813217.9	807821.6	
68	I1	0.03	1.60	1.50	813225.9	807788.1	
69	I2	0.02	0.55	1.20	813226.0	807784.8	
70	I3	0.01	0.88	0.54	813225.8	807784.4	
71	I4	0.01	0.72	0.75	813225.5	807784.2	
72	I5	0.01	0.60	0.50	813224.4	807785.7	
73	I6	0.01	1.50	1.00	813220.6	807782.6	
74	I7	0.01	0.90	0.70	813220.6	807784.2	
75	I8	0.01	0.90	0.40	813220.1	807784.0	
76	I9	0.01	1.10	0.90	813221.5	807784.8	
77	I10	0.01	0.40	0.60	813219.0	807778.7	
78	I11	0.01	0.80	0.70	813225.1	807785.0	
79	I12	0.04	1.35	0.80	813263.7	807765.1	
80	I13	0.02	0.90	0.85	813264.7	807765.6	
81	I14	0.15	1.70	1.20	813264.8	807763.4	
82	I15	0.05	2.15	1.00	813246.0	807778.8	
83	I16	0.02	1.30	0.90	813246.5	807776.0	
84	I17	0.16	1.80	1.50	813246.8	807776.8	
85	I18	0.05	1.00	1.30	813248.1	807776.8	
86	I19	0.02	1.90	0.80	813248.0	807774.8	
87	I20	0.01	1.50	0.60	813248.8	807774.4	
88	I21	0.02	1.30	0.70	813251.0	807775.4	
89	I22	0.01	0.90	0.80	813254.4	807774.4	
90	I23	0.02	1.60	0.70	813256.3	807776.3	
91	I24	0.03	1.30	1.00	813256.6	807780.8	
92	I25	0.03	1.50	1.00	813260.6	807772.5	
93	I26	0.03	1.30	1.40	813263.2	807772.3	
94	I27	0.02	0.80	0.50	813267.1	807773.9	
95	I28	0.01	0.80	0.70	813267.7	807773.8	
96	I29	0.02	1.30	0.80	813268.6	807764.8	
97	I30	0.01	0.70	0.70	813275.7	807764.7	
98	I31	0.03	1.40	1.10	813271.1	807765.7	
99	I32	0.01	0.50	0.30	813271.9	807767.7	

*Remarks:

Species/Groups:

- 'A' denotes *Bulbophyllum ambrosia*
- 'B' denotes *Camellia euryoides*
- 'C' denotes *Camellia sinensis*
- 'D' denotes *Coelogyne fimbriata*
- 'E' denotes *Ehretia acuminata*
- 'F' denotes *Enkianthus quinqueflorus*
- 'G' denotes *Geodorum densiflorum*
- 'H' denotes *Gleditsia australis*
- 'T' denotes *Rhododendron farrerae*

C.2 Survey Plan of Species of Conservation Interest



KEY PLAN 1:5,000

NOTES :

1. MEASUREMENTS ARE BASED ON HONG KONG 1980 METRIC GRID.
2. ALL UNITS ARE IN METRES OR OTHERWISE STATED.
3. BASE MAP SHOWN HEREIN WAS EXTRACTED FROM TOPOGRAPHIC MAP NOS. 9-SE-16C AND 9-SE-21A, LANDS DEPARTMENT.

LEGEND:

--- Project Area of Works Section 6
(Provided by Furgo on 30/10/2020)

- A1 Species & Species No.
- 'A' Bulbophyllum ambrosia
 - 'B' Camellia euryoides
 - 'C' Camellia sinensis
 - 'D' Coelogyne fimbriata
 - 'E' Ehretia acuminata
 - 'F' Enkianthus quinqueflorus
 - 'G' Geodorum densiflorum
 - 'H' Gleditsia australis
 - 'I' Rhododendron farrerae

PROJECT :

Locations of the Floral Species of Conservation Interest - Works Section 6

DATE OF SURVEY
20 October 2020

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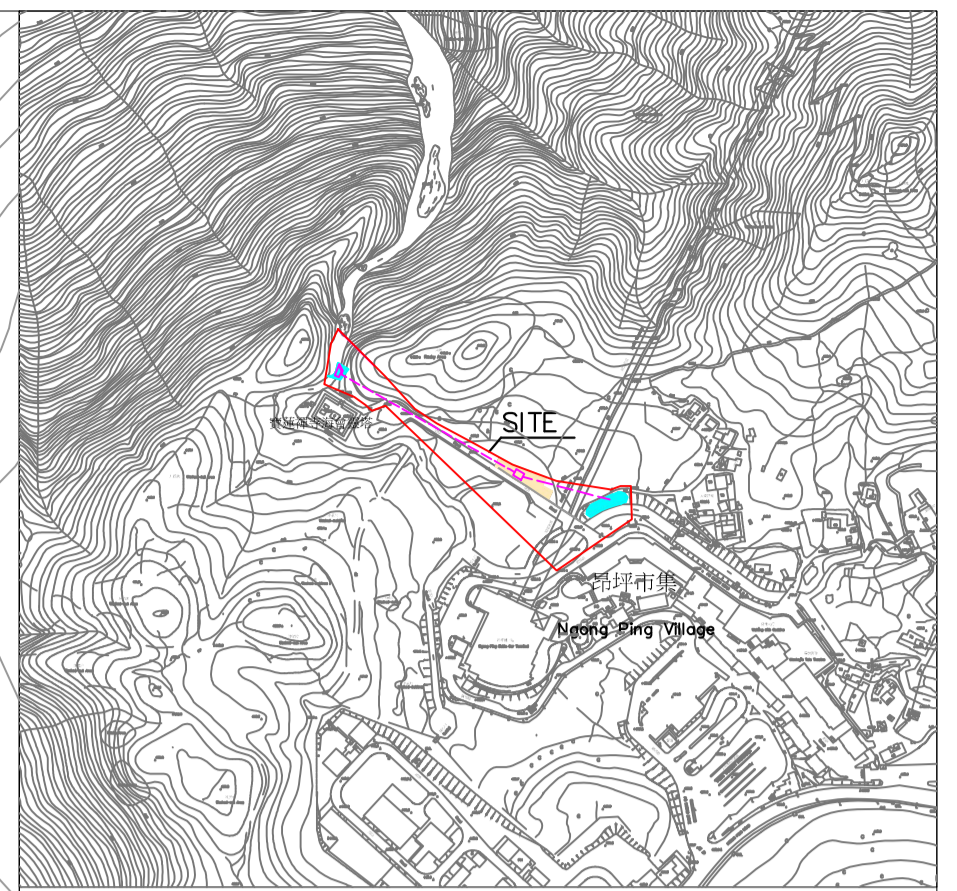
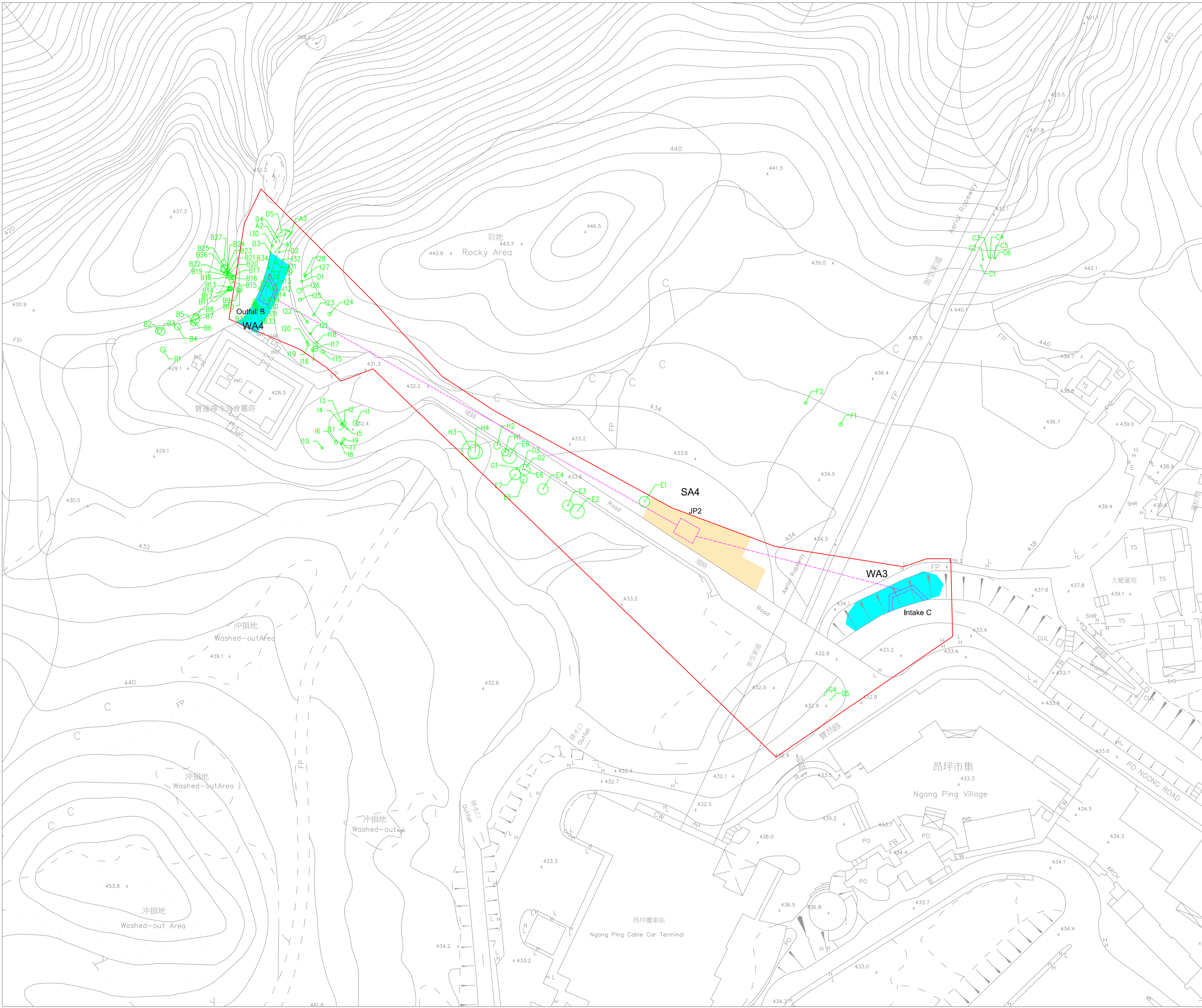
DRAWING NUMBER
KEL/TOPO/20/10/D1

REVISION

Plan Approved By:

Signature _____
Sr Dr. Ching Siu-tong
Authorized Land Surveyor
FHK(S, FRICS, MIS(Aust.), RPS(LS), MC(ARB, MSS) (Aust.)

Dated this: ..30th.. day of ..October..2020.....



KEY PLAN 1:5,000

NOTES :

1. MEASUREMENTS ARE BASED ON HONG KONG 1980 METRIC GRID.
2. ALL UNITS ARE IN METRES OR OTHERWISE STATED.
3. BASE MAP SHOWN HEREIN WAS EXTRACTED FROM TOPOGRAPHIC MAP NOS. 9-SE-16C AND 9-SE-21A, LANDS DEPARTMENT.

LEGEND:

- Project Area
- Proposed Alignment
- Proposed Works Area
- Proposed Stockpiling Area

- A1 Species & Species No.
- 'A' Bulbophyllum ambrosia
- 'B' Camellia euryoides
- 'C' Camellia sinensis
- 'D' Coelogyne fimbriata
- 'E' Ehretia acuminata
- 'F' Enkianthus quinqueflorus
- 'G' Geodorum densiflorum
- 'H' Gleditsia australis
- 'I' Rhododendron farrerae

PROJECT :

Locations of the Floral Species of Conservation Interest – Works Section 6

DATE OF SURVEY 20 October 2020	SCALE AT A1 1:500
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FIGURE NUMBER 1	REVISION 0
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C.3 Photos of Species of Conservation Interest

C.3.1 *Camellia euryoides*

C.3.2 *Rhododendron farrerae*

C.3.3 *Coelogyne fimbriata*

C.3.4 *Bulbophyllum ambrosia*

C.3.5 *Gleditsia australis*

C.3.6 *Ehretia acuminata*

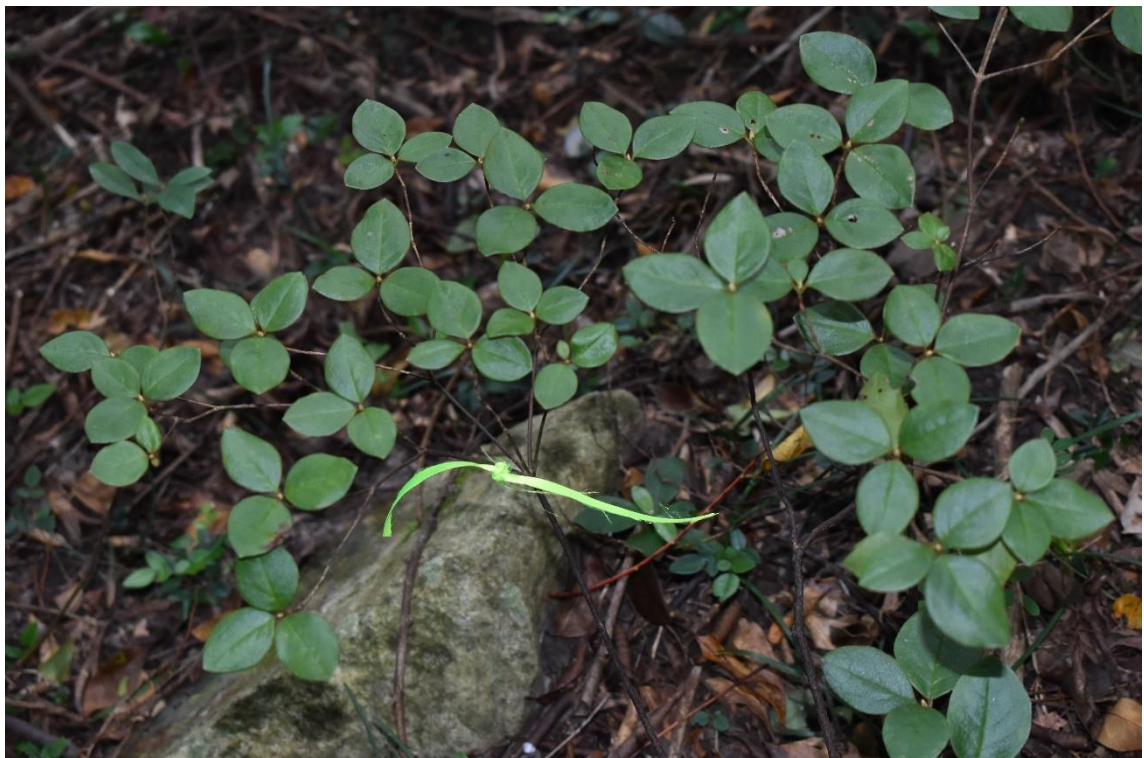
C.3.7 *Geodorum densiflorum*

C.3.8 *Enkianthus quinqueflorus*

C.3.9 *Camellia sinensis*



Appendix C.3.1: *Camellia euryoides*



Appendix C.3.2: *Rhododendron farrerae*



Appendix C.3.3: *Coelogyne fimbriata*



Appendix C.3.4: *Bulbophyllum ambrosia*



Figure C.3.5: *Gleditsia australis*



Figure C.3.6: *Ehretia acuminata*



Figure C.3.7: *Geodorum densiflorum*



Figure C.3.8: *Enkianthus quinqueflorus*



Figure C.3.9: *Camellia sinensis*

Appendix D

Species List

Table D.1: Species List within the Survey Area

Species	Origin	Growth Form	Status in HK	Conservation/ Protection Status	Habitat Type							
					Mixed Shrubland/ Woodland	Shrubland	Secondary woodland	Channelized watercourse	Landscape plantation	Stream	Developed Area	Shrubby Grassland
<i>Acacia auriculiformis</i>	Exotic	Tree	Common, often planted				*					
<i>Acacia confusa</i>	Exotic	Tree	Common, often planted		*							
<i>Acronychia pedunculata</i>	Native	Tree	Very common		*							
<i>Adiantum capillus-veneris</i>	Native	Perennial herb	Common		*							
<i>Ageratum conyzoides</i>	Exotic	Herb	Very common; pantropical herb		*							**
<i>Alocasia macrorrhizos</i>	Native	Perennial herb	Very common					*				
<i>Alternanthera philoxeroides</i>	Exotic	Perennial herb	Common, weedy from South America					*				
<i>Arachis hypogea</i>	Exotic	Herb	Common		*							
<i>Ardisia crenata</i>	Native	Shrub	Common		**							
<i>Axonopus compressus</i>	Exotic	Perennial herb	Common, also cultivated		***							***
<i>Bidens alba</i>	Exotic	Herb	Very common									**
<i>Bischofia javanica</i>	Native	Tree	Common, often planted		*							
<i>Bulbophyllum ambrosia</i>	Native	Herb	Very common	Cap. 586; Cap. 96; Vulnerable ¹		**						
<i>Camellia euryoides</i>	Native	Shrub/ Small tree	Restricted	Cap. 96						**		
<i>Camellia sasanqua</i>	Exotic	Small tree	Often planted for ornamental purpose		*							
<i>Camellia sinensis</i>	Native	Shrub/ Small tree	Rare, commonly planted	Cap. 96		**						
<i>Carex truncatigluma</i>	Native	Herb	-		*							
<i>Celtis sinensis</i>	Native	Tree	Common, often planted		*							
<i>Coelogyne fimbriata</i>	Native	Epiphytic herb	Very common	Cap. 586; Cap. 96; Near Threatened ¹		**						
<i>Colocasia esculenta</i>	Native	Herb	Common, often cultivated					*				
<i>Conyza sumatrensis</i>	Exotic	Herb	Very common		*							
<i>Cyclobalanopsis glauca</i>	Native	Tree	Common			*						
<i>Cyperus iria</i>	Native	Herb	Common		*							
<i>Cyrtococcum patens</i>	Native	Herb	Very common		*		*					
<i>Dicranopteris pedata</i>	Native	Herb	Very common		*							
<i>Digitaria ciliaris</i>	Native	Herb	Common		*							
<i>Drymaria cordata</i>	Native	Herb	Common									**
<i>Ehretia acuminata</i>	Native	Tree	Very rare	Very Rare ²	**							
<i>Enkianthus quinqueflorus</i>	Native	Shrub	Common	Cap 96		*						
<i>Eragrostis tenella</i>	Native	Herb	Very common		*							**
<i>Euphorbia thymifolia</i>	Native	Herb	Common			*						
<i>Ficus hispida</i>	Native	Shrub/ Small tree	Very common		*							
<i>Geodorum densiflorum</i>	Native	Herb	Restricted	Cap. 586; Cap. 96; Vulnerable ²	*							*
<i>Gleditsia austrlais</i>	Native	Tree	Rare	Rare ²	*							
<i>Glochidion eriocarpum</i>	Native	Shrub	Very common		*							
<i>Hedyotis acutangula</i>	Native	Herb	Very common		*							
<i>Ilex asprella</i>	Native	Shrub	Very common		**							
<i>Kyllinga nemoralis</i>	Native	Herb	Common		**							*
<i>Lantana camara</i>	Exotic	Shrub	Very common		*							*

Species	Origin	Growth Form	Status in HK	Conservation/ Protection Status	Habitat Type								
					Mixed Shrubland/ Woodland	Shrubland	Secondary woodland	Channelized watercourse	Landscape plantation	Stream	Developed Area	Shrubby Grassland	
<i>Ligustrum lucidum</i>	Exotic	Shrub	Common			*							
<i>Ligustrum sinense</i>	Native	Shrub/ Small tree	Common, also planted		*	*	*						
<i>Litsea cubeba</i>	Native	Tree	Common		*								
<i>Litsea glutinosa</i>	Native	Tree	Very common		*								
<i>Litsea rotundifolia</i>	Native	Tree	Very common		*								
<i>Machilus breviflora</i>	Native	Tree	Very common		*	*							
<i>Machilus chekiangensis</i>	Native	Tree/Shrub	Very common		**								
<i>Machilus thunbergii</i>	Native	Tree	Common		*	*							
<i>Machilus velutina</i>	Native	Tree	Common		**								
<i>Michelia x alba</i>	Exotic	Tree	Often planted		*								
<i>Mallotus paniculatus</i>	Native	Shrub/ Small tree	Very common		**								
<i>Melastoma dodecandrum</i>	Native	Subshrub	Common		*								
<i>Melastoma malabatricum</i>	Native	Shrub	Common		**								
<i>Melastoma sanguineum</i>	Native	Shrub	Common			*							
<i>Mimosa pudica</i>	Exotic	Sunshrub	Common		*								
<i>Oxalis debilis</i>	Exotic	Herb	Common		*								
<i>Paspalum notatum</i>	Exotic	Perennial herb	Planted		*								
<i>Paspalum conjugatum</i>	Exotic	Herb	Common		*								
<i>Phyllanthus cochinchinensis</i>	Native	Shrub	Very common			*							
<i>Polygonum glabrum</i>	Native	Herb	Common					**					
<i>Polyspora axillaris</i>	Native	Tree	Very common		**	**	*						
<i>Prunus persica</i>	Exotic	Small Tree	Planted		*								
<i>Prunus speciosa</i>	-	Small Tree	Planted							*			
<i>Prunus yunnanensis</i>	-	Small tree	Planted							*			
<i>Psychotria asiatica</i>	Native	Shrub/ Small tree	Very common		*	*							
<i>Rhaphiolepis indica</i>	Native	Shrub/ Small tree	Very common			*							
<i>Rhododendron farrerae</i>	Native	Shrub	Common	Cap. 96	**	**							
<i>Rhododendron simsimii</i>	Native	Shrub	Very common, also planted			**							
<i>Rhodomyrtus tomentosa</i>	Native	Shrub	Very common, also planted		*	*	*						
<i>Rhus hypoleuca</i>	Native	Shrub/ Small tree	Common		*								
<i>Sambucus chinensis</i>	Native	Shrub	-		*		*	*					
<i>Sapium discolor</i>	Native	Tree	Very common		*								
<i>Sapium sebiferum</i>	Native	Tree	Common		*								
<i>Schefflera heptaphylla</i>	Native	Tree	Very common		*								
<i>Schima superba</i>	Native	Tree	Common			*							
<i>Symplocos glauca</i>	Native	Tree	Common		*		*						
<i>Urena lobata</i>	Native	Herb/shrub	Common		*	*							
<i>Vaccinium bracteatum</i>	Native	Shrub	-		*								
<i>Viburnum hanceanum</i>	Native	Shrub	-		*								
<i>Zanthoxylum avicennae</i>	Native	Tree	Common		*								

Notes:
 Relative abundance: * = species present; ** = species is common; *** = species is abundant
 Cap 96 = Forests and Countryside Ordinance; Cap 586 = Protection of Endangered Species of Animals and Plants Ordinance
¹ www.sepa.gov.cn 2012; ² Xing et al. 2000