香港青年協會
the hongkong federation of youth groups

Phase III Redevelopment of The Hong Kong Federation of Youth Groups Jockey Club Sai Kung Outdoor Training Camp

Quarterly EM&A Summary Report for 1 April– 31 July 2014







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1	15 August 2014	Draft Issue
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Executive Summary

This is the twelfth quarterly Environmental and Audit (EM&A) Summary Report for the project "Phase III Redevelopment of The Hong Kong Federation of Youth Groups Jockey Club Sai Kung Outdoor Training Camp" (Variation of Environmental Permit No. EP-410/2010/A).

This report summarised the results and findings of impact monitoring for the activities undertaken during the period of 1 April to 31 July 2014.

Monitoring results of off-site woodland compensatory and replacement planting in April 2014 at Lui Ta Shek showed that the overall conditions of the plantings were satisfactory. As rectification is completed, the monitoring session is finished and the site was handed over to AFCD.

Transplantation of the Incense Trees was completed in March 2012. Monitoring results in May 2014 showed that the transplanted trees were in fair conditions. The monitoring session for transplanted trees is finished. It is recommended that new Incense Tree(s) of similar total girth size be planted as a remedial action to the poor condition of TR766. Site inspection will be made for record when new trees are planted..

Monitoring results of the on-site woodland compensatory planting in April and August 2014 showed that the overall conditions of the plantings various among species. Monitoring will continue in October 2014 as scheduled.

There was no complaint, notification of any summons and successful prosecutions against the project received during the reporting period.

1. BASIC PROJECT INFORMATION

1.1 Project Background

1.1.1 The project "Phase III Redevelopment of The Hong Kong Federation of Youth Groups Jockey Club Sai Kung Outdoor Training Camp (hereinafter referred to as the "Project") is to redevelop the existing Jockey Club Sai Kung Outdoor Training Camp and increase the number of dormitories and canteen capacity in order to meet the increasing public demand. The Project Site is located at the southern extremity of Tai Mong Tsai, at the foothill of Cheung Shan and is accessed via Tai Mong Tsai Road. The Site Location Plan is shown in **Figure 1.1.** The Master Layout Plan is shown in **Figure 1.2**.

1.1.2 An Environmental Permit (EP-410/2010) (EP) for the Project was granted on 10 January 2011. Under the requirements of Condition 4 of the EP, an Environmental Monitoring and Audit (EM&A) programme as set out in the EM&A Manual is required to be implemented. A Further Environmental Permit (FEP-01/410/2010) (FEP) for the Project was granted on 5 January 2012 to the foundation contractor, Konwall Construction & Engineering Co., Ltd., who would take up the responsibility of the foundation and site formation works of the Project. Another Further Environmental Permit (FEP-02/410/2010) for the Project was granted on 19 July 2012 to the main contractor Fat Cheong (Hong Kong) Construction Co. Ltd., who would take up the responsibility of the remaining foundation and site formation works and superstructure works of the Project. Two Variation of Environmental Permits (EP/410/2010/A; EP-02/410/2010/A) (VEP) were granted to HKFYG and the main contractor respectively on 27 March 2013 to extend the construction period of Platform Deck A to 31 May 2013.

1.2 Project Organisation and Management

1.2.1 The foundation contract for the Project was awarded to Konwall Construction and Engineering Co. Ltd. (Foundation Contractor) in June 2011 by the Project Proponent, The Hong Kong Federations of Youth Groups. The foundation works was anticipated to complete in 8 months followed by superstructure works under a separate contract. Due to technical issues, the foundation work at the Canteen Section was extended to September 2012. Meanwhile, the superstructure contract for the Project was awarded to Fat Cheong (Hong Kong) Construction Co. Ltd. (Main Contractor) in June 2012. The Main Contractor commenced the work at the Dormitory Section first followed by Canteen Section after the hand-over of the site by the Foundation Contractor in September 2012. Construction work was completed in November 2013 and the site is under maintenance period.

1.2.2 The contact person and telephone number of key personnel for the Project are shown in **Appendix A**.

1.2.3 The project organisation for environmental management is shown in **Appendix B**.

1.3 Purpose of the Report

1.3.1 This is the twelfth quarterly EM&A Report prepared for the Project, pursuant to the EM&A Manual issued for the Project. The report presents a summary of the EM&A works and lists of activities from 1 April to 31 July 2014.

2. MONITORING AND AUDIT REQUIREMENT

2.1.1 According to the EM&A Manual, weekly site inspections should be conducted to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented. The Implementation Schedule of Mitigation Measures is attached in **Appendix C**. As construction work was completed in November 2013, weekly site inspection had been terminated in December 2013. The ET continues to implement the environmental monitoring & audit programme for the remaining items, including ecological monitoring of transplanted trees, on-site woodland compensatory planting, and replacement planting at off-site woodland compensatory planting site in accordance with the EM&A Manual, Environmental Permit requirement and EIA report. **Appendix D** shows the monitoring and reporting schedule for the remaining part of the post-construction monitoring. **Appendix E** shows the event and action plan for ecological impacts.

2.1.2 The monitoring and audit requirement as described in the EM&A Manual for landscape and visual and ecology are summarised in **Table 2.1**. The monitoring schedule for the reporting quarter and the weather conditions recorded during the monitoring period are shown in **Table 2.2.**

Table 2.1 Summary of Monitoring and Audit Requirement

Monitoring Items	Monitoring Parameter	Monitoring Frequency
Landscape and Visual	Visual Inspection - to check tree protection and transplanting works, and maintenance of newly planted vegetation	At least once every two weeks during site inspections
Ecology	Visual Inspection – survival and growth of transplanted Aquilaria sinensis	First three months after transplanting and quarterly thereafter for two years
	Measure height and percentage survival of planted mangrove	Monthly for the first three months and quarterly thereafter for one year
	Visual Inspection - on-site and off-site compensatory planting	Monthly for the first three month after planting and quarterly thereafter for two years

Table 2.2 Monitoring Schedule and the Weather Conditions recorded during the Reporting Quarter

Survey Date*	28 April 2014	30 May 2014	15 August 2014*
Survey Item	Ecological Monitoring for on-site and off-site woodland compensatory planting	Ecological Monitoring for transplanted trees	Ecological Monitoring for On-Site Woodland Compensatory Planting
Weather Condition	Overcast	Fine	Fine
Monthly Mean Air temperature	22.6° C	26.4° C	29.8° C**
Monthly Total Rainfall	132.4mm	687.3 mm	260.5 mm**

* No monitoring was scheduled in June 2014. Monitoring for On-Site Woodland Compensatory Planting was re-scheduled from July to August 2014 due to adverse weather condition and maintenance issue of a planted site. See Section 4.3
**Figures for July 2014 were used for consistency despite the rescheduling of survey to August 2014

3. LANDSCAPE AND VISUAL

3.1 Tree Protection and Transplanting

3.1.1 Transplantation of Incense Trees [1] was completed on 12 March 2012. The locations of the transplanted trees were fine-tuned in according to the site conditions and are shown in **Figure 3.1**.

4. ECOLOGY

4.1 Monitoring of Transplanted Incense Trees

4.1.1 Monitoring of the 5 transplanted Trees was conducted on 30 May 2014. The transplanted trees were in fair conditions. Photo records were attached in **Figure 4.1**.

4.1.2 The Incense Tree (TR775, TR644, TR639) and TR643 (Tree ID rectified as *Homalium cochinchinensis*) had fairly developed canopy, although the crown TR775, TR644, TR639 considerably leaned on the landward side. Leaves were in healthy condition and the four trees finished blooming, and TR639 was fruiting. The branches of Incense Tree TR766 were bare. No leaves remained on the tree crown although a few new leaves were developing at the water sprouts arise from the tree trunk. It is possible that the tree suffered from aftershock due to slope stabilization work in July 2013 which may have damaged the root systems. Signs of stress /disease developed in August 2013 but the tree was stabilized in November 2013. Should the water sprout develop into stronger branches, the tree will survive. According to the event and action plan, remedial action by replanting an Incense Tree with similar girth size of about 100mm (or if not commercially available, two with similar total girth size) is proposed. Photo records of the transplanted trees are shown in **Figure 4.1**. In spite of the conditions of TR766, the overall conditions of the transplanted trees are considered satisfactory.

4.2 Mangrove Monitoring

4.2.1 The Mangrove Planting Plan is shown in **Figure 4.2**. Mangrove monitoring was completed in August 2012 and planting will be implemented as a conservation education programme from time to time. The average height of mangrove seedlings is shown in **Appendix F**.

4.3 Off-Site Woodland Compensatory Planting

4.3.1 The Tree Whip Planting Plan for Off-Site Woodland Compensatory Planting at Lui Ta Shek is shown in **Figure 4.3**. Due to poor condition of the plantings, and according to the Event and Action Plan for Ecological Impact (**Appendix E**), actions due to non-compliance were taken in accordance with the action plan. Monitoring was increased to monthly in October and November 2011. IEC was informed. The landscape contractor was informed regarding the situation and reminded of the required remedial and maintenance work. It was reported with photo records by the landscape contractor that firming up for the seedlings was conducted in November 2011. A remedial action proposal including replacement planting in April 2012 was submitted to the Project Proponent. Due to issues of

[1] After the transplantation exercise, TR643 was identified as Cochin-china Homalium *Homalium cochinchinensis* during the site inspection in April 2012. Therefore the transplantation record is rectified to include 4 no. of Incense Tree (TR775, TR766, TR639 and TR644) and one no. of Cochin-china Homalium (TR643).

sourcing, the planting exercise was rescheduled to 28 June 2013 and inspected by the Project Landscape Architect, ET and IEC. It was reported to be completed on 29 June 2013. Three species of whips, *Schima superba, Machilus breviflora* and *Sterculia lanceolata* were planted at the same location (**Figure 4.4**).

4.3.2 The last session of monitoring according to the EM&A requirement was conducted on 22 August 2013. Monitoring results ranged from fair to poor. Of the two-year plantings, only individuals of *Schima superba*, which were in fair conditions with new leaves and branches, were observed. Other species, which remained in small number, may have been overgrown by the surrounding vegetation, which flourished probably due to the unusually high rainfall. The replacement plantings in June 2013 were in various conditions. *Sterculia lanceolata* was fair. Most showed leaves or resprout after two months of planting. Almost all individuals of *Machilus breviflora* and a portion of *Schima superba* appeared to suffer from transplant shock or disease and died. Some broken stems were also observed probably due to typhoon damage. According to the Event and Action Plan (**Appendix E**), remedial actions including replanting were discussed with IEC and the landscape contractor. Replanting of two species of tree whips, *Schima superba, and Castanopsis fissa* with a total of 1500 no. at the same location were reported to be completed on 12 April 2014. The tree planting schedule is shown in **Figure 4.5**. A joint site inspection with AFCD and IEC was made on the 28 April 2014. The previous and current planting of *Schima superba* was in fair to good conditions, while others are few in number, not observed or in fair to poor conditions, which were probably due to adverse weather and/or site conditions over the past two years. The overall number of tree whips planted at Lui Ta Shek in 2011, 2013 and 2014 is summarised in **Table 4.1**. The photo record of the plantings was shown in **Figure 4.6**.

Table 4.1 Overall Number of Tree Whips Planted at Lui Ta Shek

Botanical Name	Chinese Name	Quantity
Schima superba	木荷	3610
Sterculia lanceolata	假蘋婆	1504
Machilus breviflora	短花潤楠	693
Castanopsis fissa	鼠蒴錐	1610
Litsea glutinosa	潺槁樹	760
Schefflera heptaphylla	鴨腳木	573
	Total	8750

4.3.3 Considering the total number of trees whips planted and the fair survival of *Schima superba*, which represent a significant portion of the planted tree whips, the overall condition of the plantings was considered satisfactory on-site. Monitoring of the off-site compensatory planting was completed. The planting site was handed over to AFCD.

4.4 On-site Woodland Compensatory Planting

4.4.1 The On-Site Woodland Compensatory Planting Plan was submitted to EPD on 11 September 2012 pursuant to Condition 3.3 of the EP and FEP and was approved on 14 September 2012. An amended On-Site Woodland Compensatory Planting Plan was submitted to EPD on 25 September 2013 and approved on 11 October 2013. **Figure 4.7** shows the approved amended plan and planting specification. Planting was completed on 25 November 2013 and is under the maintenance period. Monitoring will be conducted monthly for the first three months from November 2013 to January 2014 and then will be conducted quarterly for two years.

4.4.2 Monitoring was conducted on 28 April and 15 August 2014 to monitor the conditions of the plantings. Monitoring in July 2014 was re-scheduled to August 2014 due to adverse weather condition and management issue at one planting site. The conditions of the planting sites in April 2014 were fair and well maintained. However, during August 2014, planting site Area B was dominated by banana plantation and weeds which regenerated rapidly after previous clearance exercise. Some of the tree whips were still visible while others were overgrown by the weeds and banana trees, which may eventually outcompete the planted tree whips. Grasses also established quickly at Area A although to a lesser extent. The landscape contractor was reminded to remove /trim the weeds at the on-site woodland compensatory planting area under the maintenance contract as soon as possible.

4.4.3 Overall conditions of the plantings varied among species. The tree whips of *Schefflera heptaphylla, Castanopsis fissa, Sterculia lanceolata* and *Litsea glutinosa* were in good to fair conditions. Leaves are well developed and robust during the April monitoring session but some showing yellowing during August 2014 probably because of the hot weather. Some individuals of *Sterculia lanceolata* were flowering during the April monitoring session. The stems of some individuals of *Sapium discolor* were slender but new leaves regenerated since last monitoring. Many individuals of *Machilus brevifolia* had withered leaves during the April monitoring session but was in fair condition in August 2014. A wrong species of tree whip which was assumed to be *Reevesia thyrsoidea* was planted. The contractor was also notified to replace the remaining dead or mis-planted tree whips with the correct species or other species in the planting plan should *Reevesia thyrsoidea* be not available. Photo records of the planting in April and August 2014 are shown in **Figures 4.8a and 4.8b** respectively. Monitoring will continue in October 2014.

5. SUMMARY OF ENVIRONMENTAL PERMIT AND LICENSES

5.1.1 ET has checked with the Project Proponent for the status of all environmental permits and licenses for this project as of July 2014, which is summarized in **Appendix G**. ET will keep track of the application process of the outstanding permits/licenses to be applied by the Contractor(s) for the Project.

6. CUMULATIVE LOG OF COMPLAINTS AND REMEDIAL ACTION

6.1.1 There was no complaint received in association with installation activities in the reporting quarter. The cumulative log of complaints is referred in **Appendix H**.

7. CUMULATIVE LOG OF NOTIFICATION OF SUMMONS AND PROSECUTIONS

7.1.1 No notification of summons or prosecutions were received or made against the Project in the reporting quarter. The cumulative log of summons and prosecutions is referred in **Appendix H**.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1.1 Monitoring results of off-site woodland compensatory and replacement planting in April 2014 at Lui Ta Shek showed that the overall conditions of the plantings were satisfactory. As rectification is completed, the monitoring session is finished and the site was handed over to AFCD.

8.1.2 Monitoring of the transplanted Incense Trees in May 2014 showed that despite poor conditions of one tree, the overall conditions of the transplanted trees were considered satisfactory. The monitoring session for transplanted trees is finished. It is recommended that new Incense Tree(s) of similar total girth size be planted as a remedial action to the poor condition of TR766. Site inspection will be made for record when new trees are planted.

8.1.3 Monitoring results of the on-site woodland compensatory planting in April and August 2014 showed that the overall conditions of the plantings various among species. Monitoring will continue in October 2014 as scheduled. The landscape contractor was reminded to clear the weeds on the planting site as soon as possible.

8.1.4 The ET will continue to implement the environmental monitoring & audit programme for the remaining items, including ecological monitoring of transplanted trees and on-site woodland compensatory planting in accordance with the EM&A Manual and Environmental Permit requirement.

FIGURES

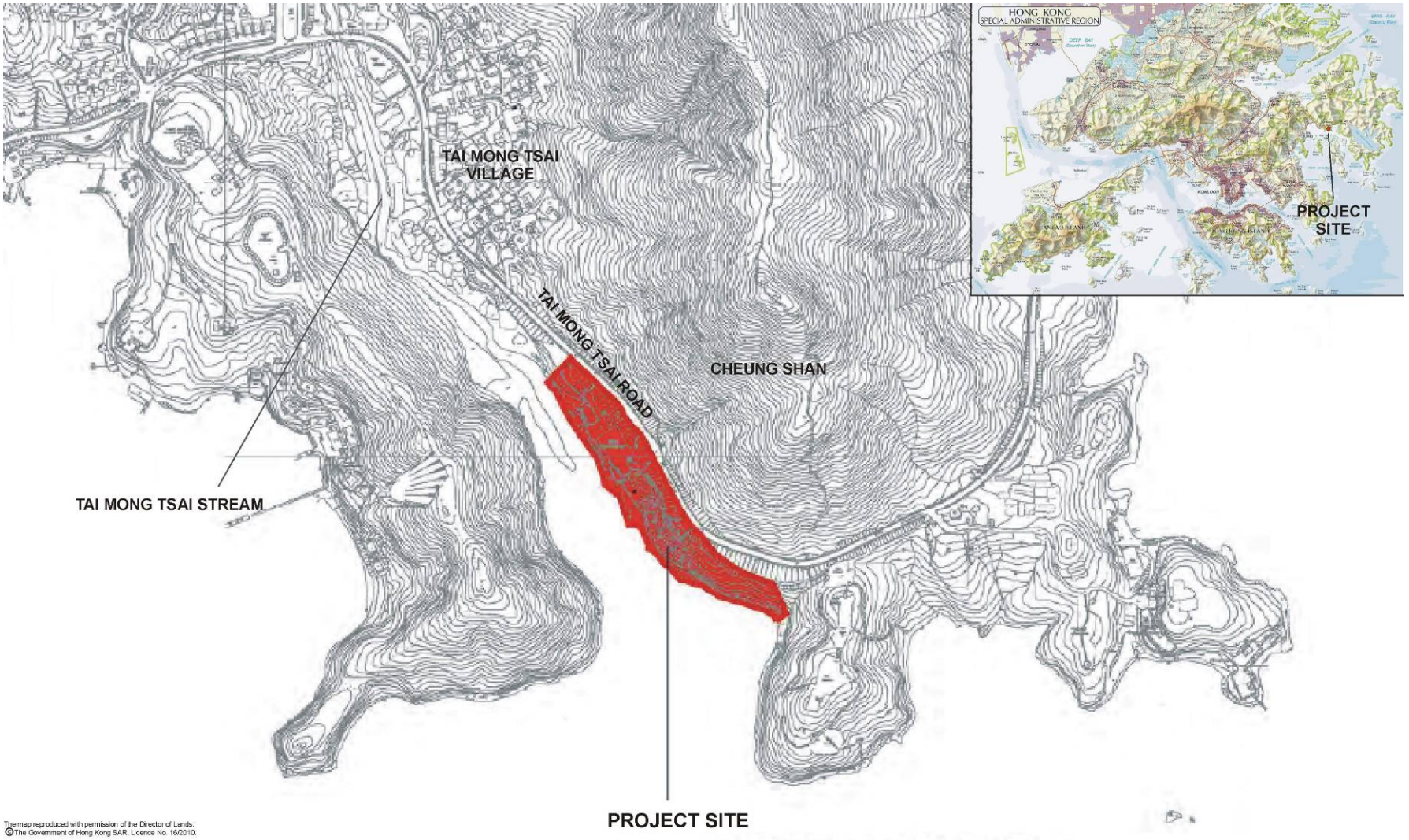
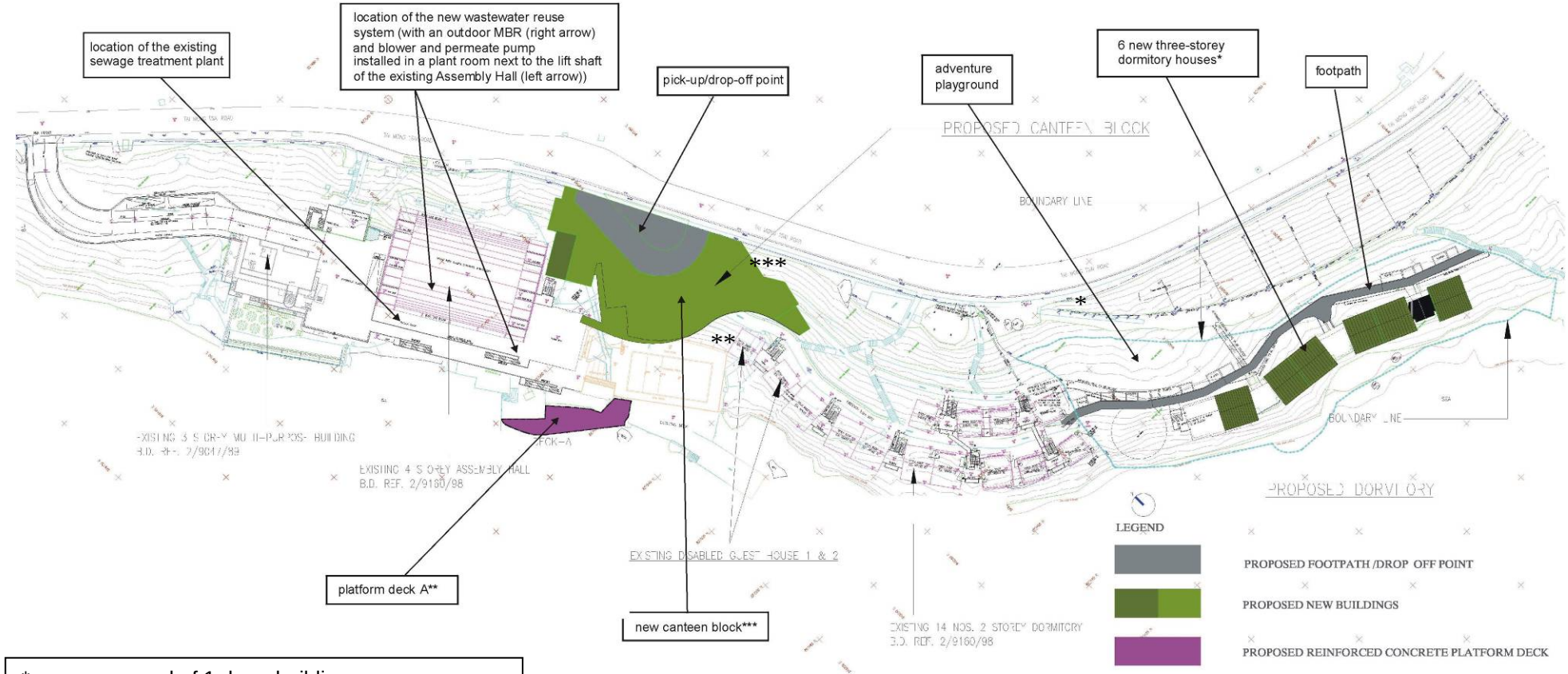


Figure 1.1 Site Location Plan



*	removal of 1 dorm building
**	removal of platform Deck B
***	reduction of size of canteen block

Figure 1.2 Master Layout Plan



Figure 3.1 Location Plan for the Transplanted *Aquilaria sinensis*

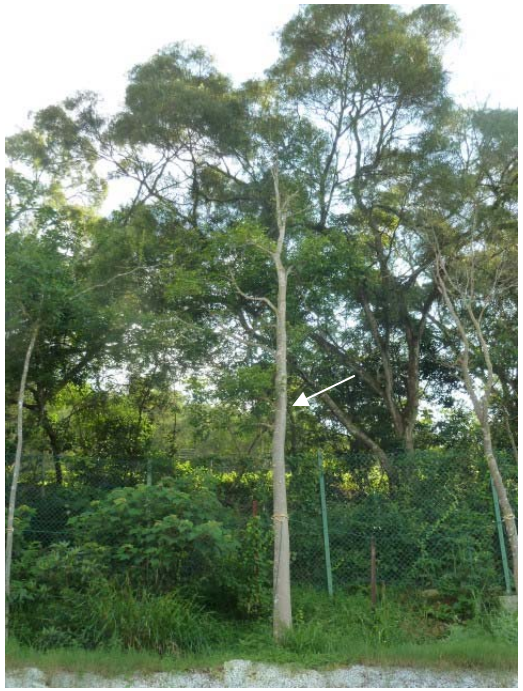
		
Overview	**TR643**	**TR775**

Figure 4.1 Photo Records of the Transplanted Trees, May 2014



Figure 4.1 Photo Records of the Transplanted Trees, May 2014 (cont.)

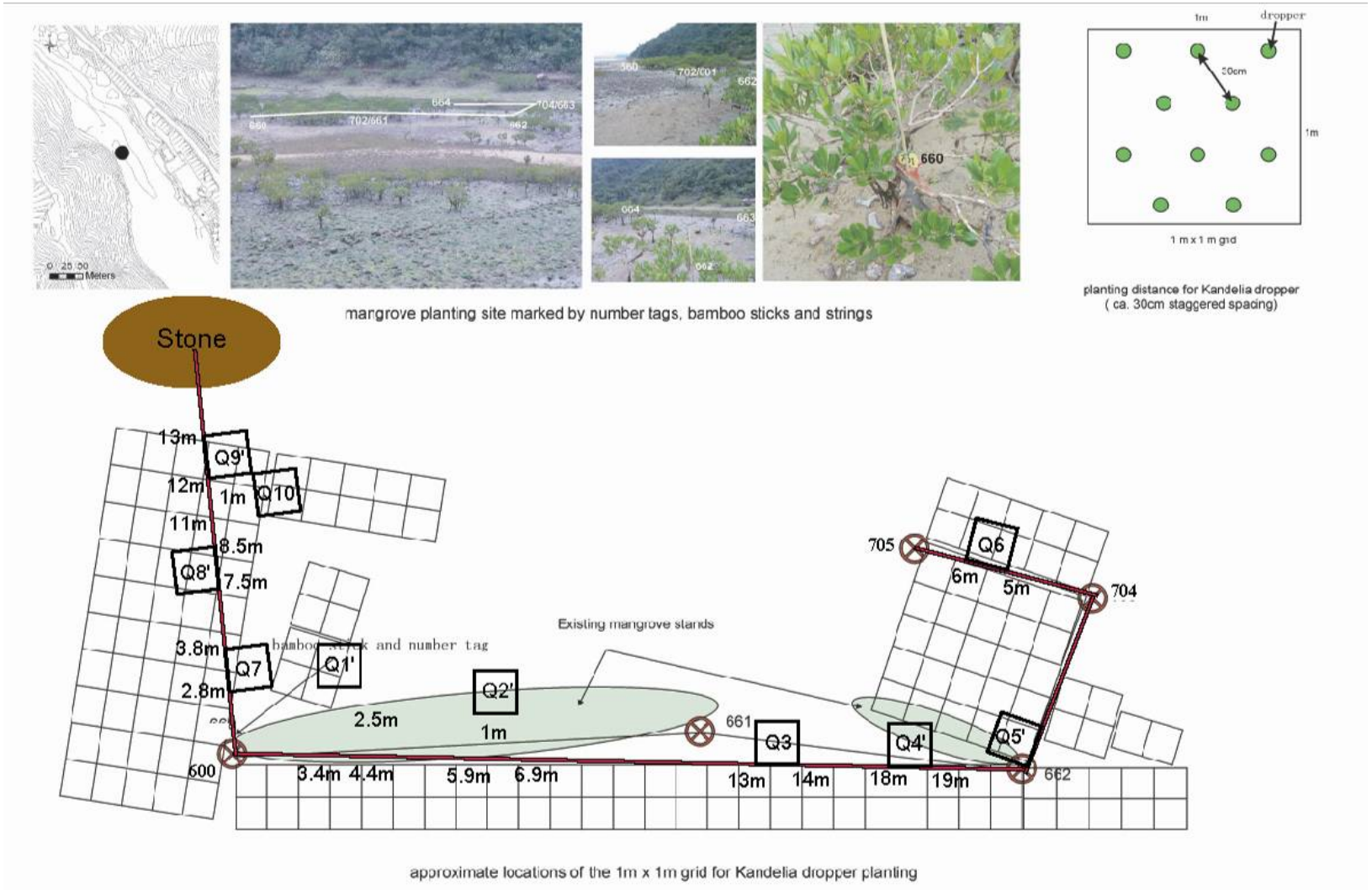
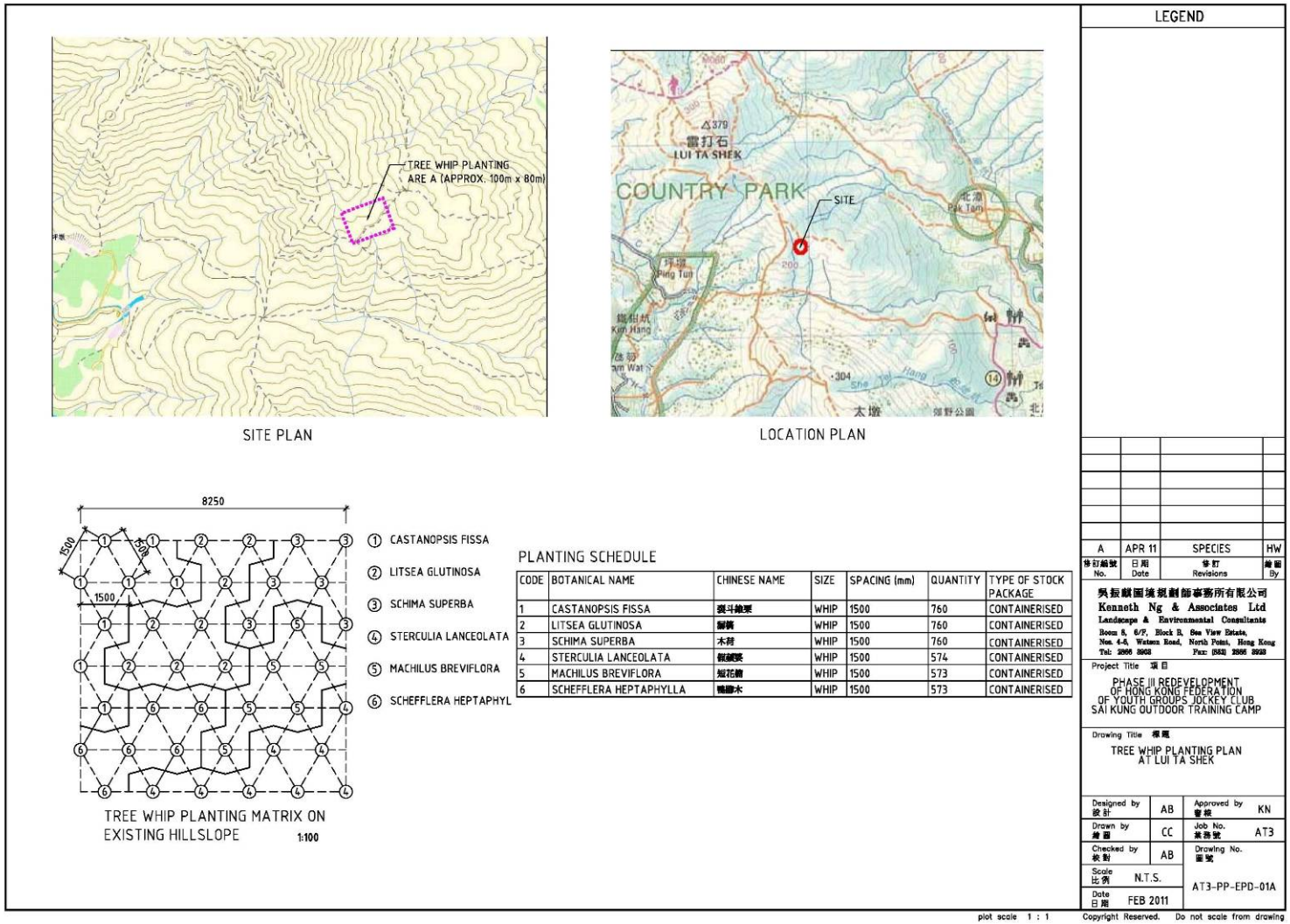


Figure 4.2 Mangrove Compensatory Planting Site and Sampling Locations



CODE	BOTANICAL NAME	CHINESE NAME	SIZE	SPACING (mm)	QUANTITY	TYPE OF STOCK PACKAGE
1	CASTANOPSIS FISSA	褐斗櫟栗	WHIP	1500	760	CONTAINERISED
2	LITSEA GLUTINOSA	潺槁	WHIP	1500	760	CONTAINERISED
3	SCHIMA SUPERBA	木荷	WHIP	1500	760	CONTAINERISED
4	STERCULIA LANCEOLATA	假蘇樂	WHIP	1500	574	CONTAINERISED
5	MACHILUS BREVIFLORA	短花楠	WHIP	1500	573	CONTAINERISED
6	SCHEFFLERA HEPTAPHYLLA	鴨腳木	WHIP	1500	573	CONTAINERISED

Figure 4.3 Tree Whip Planting Plan for Off-Site Woodland Compensatory Planting at Lui Ta Shek

Botanical Name	Chinese Name	Size	Spacing (mm)	Quantity
Schima superba	木荷	Whip	1500	2200
Sterculia lanceolata	假蘋婆	Whip	1500	930
Machilus breviflora	短花潤楠	Whip	1500	120

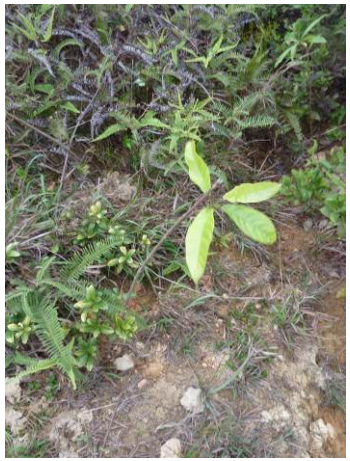
Figure 4.4 Planting Schedule for Off-Site Woodland Replacement Planting at Lui Ta Shek (June 2013)

Botanical Name	Chinese Name	Size	Spacing (mm)	Quantity
Schima superba	木荷	Whip	1500	650
Castanopsis fissa	黧蒴	Whip	1500	850

Figure 4.5 Planting Schedule for Off-Site Woodland Replacement Planting at Lui Ta Shek (Apr 2014)



Overview of the Site



Sterculia lanceolata
Replacement planting in fair condition



Castanopsis fissa
Replacement planting in fair to poor condition



Schima superba
(replacement planting in fair to good condition)



Schima superba
(two-year planting in good condition)



Schima superba
(two-year planting in good condition)

Figure 4.6 Photo Records of the off-Site Woodland Planting, April 2014

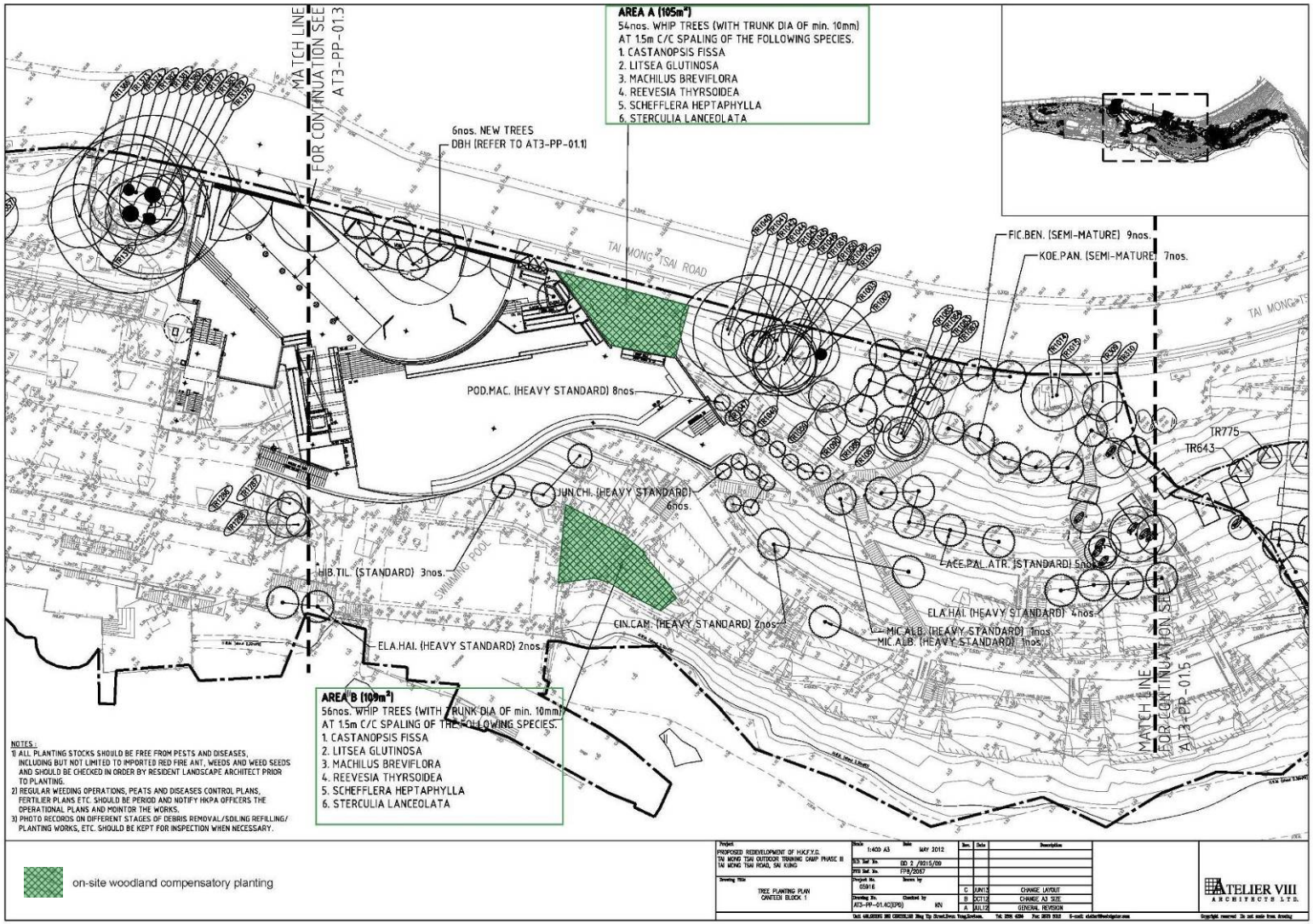


Figure 4.7 Amended On-Site Compensatory Woodland Planting Plan - Schedule of Drawings

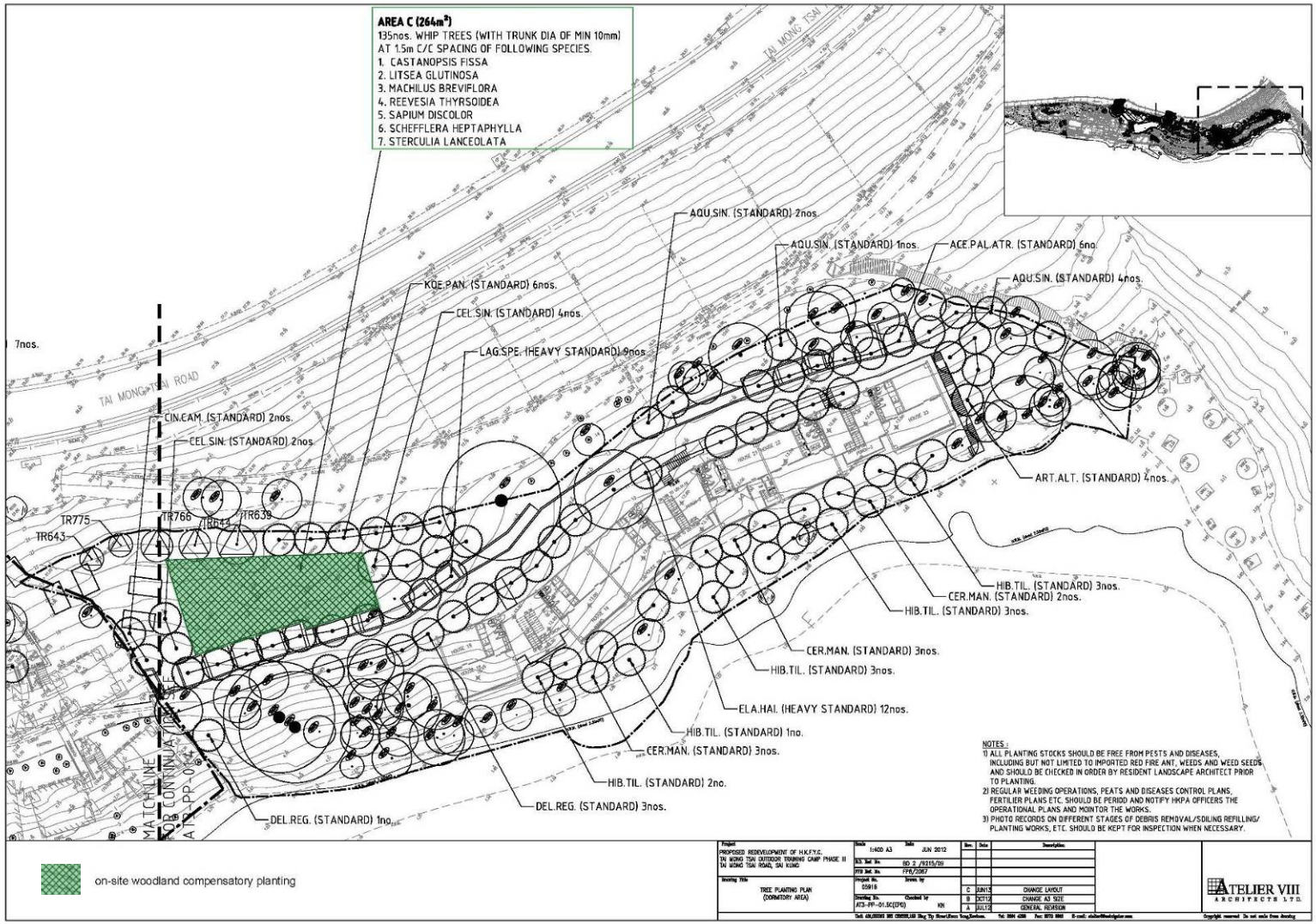


Figure 4.7 Amended On-Site Compensatory Woodland Planting Plan- Schedule of Drawings (cont.)

Type	Botanical Name	Chinese Name	Standard	Spacing	QUANTITY
CAS. FIS.	CASTANOPSIS FISSA	裂斗錐栗	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	39
MAC. BRE.	MACHILUS BREVIFLORA	短花楠	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	39
LIT. GLU.	LITSEA GLUTINOSA	潺槁樹	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	37
REE. THY.	REEVESIA THYRSOIDEA	梭羅樹	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	37
SAP. DIS.	SAPIUM DISCOLOR	山烏桕	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	19
STE. LAN.	STERCULIA LANCEOLATA	假蘋婆	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	37
SCH. HEP.	SCHEFFLERA HEPTAPHYLLA	鴨腳木	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	37

Figure 4.7 Amended On-Site Compensatory Woodland Planting Plan - Schedule of Drawings (cont.)



Area A



Area B



Area C



Schefflera heptaphylla



Litsea glutinosa



Sterculia lanceolata

Figure 4.8a Photo Records of the On-Site Woodland Planting, April 2014

		
Sapium discolor	*Castanopsis fissa*	*Machilus breviflora*

Figure 4.8b Photo Records of the On-Site Woodland Planting April 2014 (cont.)



Area A



Area B



Area C



Schefflera heptaphylla



Litsea glutinosa



Sterculia lanceolata

Figure 4.8a Photo Records of the On-Site Woodland Planting, August 2014

		
Sapium discolor	*Castanopsis fissa*	*Machilus breviflora*

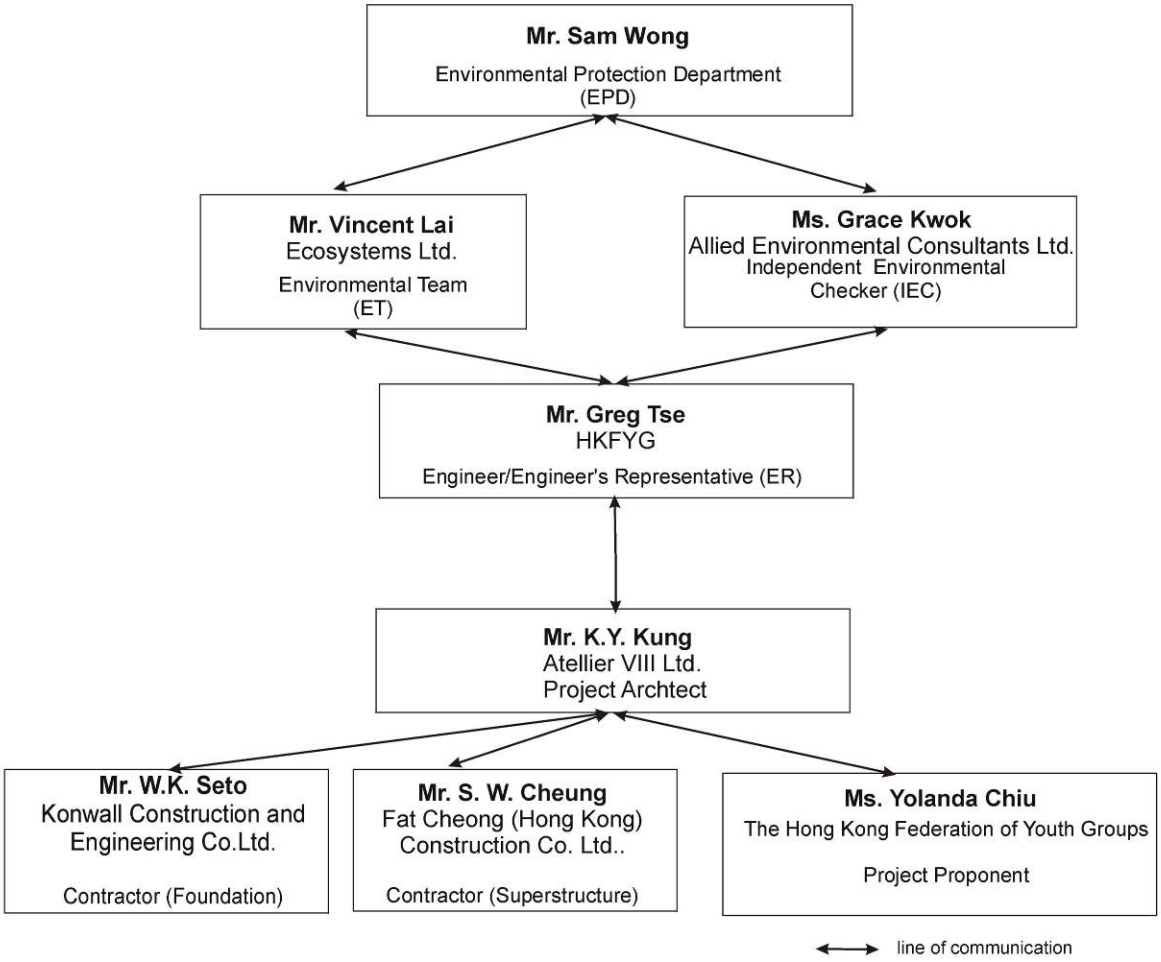
Figure 4.8b Photo Records of the On-Site Woodland Planting August 2014 (cont.)

Appendices

Appendix A The Key Contact Persons, Phone Numbers and Key Personnel

Party	Name	Telephone No.
Project Proponent		
The Hong Kong Federation of Youth Groups		
Deputy Executive Director	Ms. Yolanda CHIU	37557134
Engineer Representative	Mr. Greg TSE	97811411
Architect		
Atelier VIII Ltd.		
Project Architect	Mr. K.Y. KUNG	28914296
Project Architect	Ms. Stella LUK	28914296
Project Officer	Mr. Dennis LEUNG	28914296
Clerk of Works	Mr. Jovi Ha	28914296
Contractor (Foundation)		
Konwall Construction and Engineering Co. Ltd.		
Project Director	Mr. Eric KWOK	25631233
Project Manager	Mr. W. K. SETO	62020195
Site Agent	Mr. H.Y. Cheung	96348220
Environmental Officer	Mr. Joe LAM	63306705
Contractor (Superstructure)		
Project Director	Mr. S.W. Cheung	25272721
Site Agent	Mr. S.T. Kwok	91987112
Project Coordinator	Mr. Simon Lee	62747287
Environmental Officer	Mr. Gary Cheung	27912312
Independent Environmental Checker		
Allied Environmental Consultants Ltd.		
IEC Team Leader	Ms. Grace KWOK	28157028
IEC Team	Mr. Ronan CHAN	28157028
IEC Team	Ms. Viann LAU	28157028
Environmental Team		
Ecosystems Ltd.		
ET Leader	Mr. Vincent LAI	25530468
Deputy/Monitoring Team Leader	Ms. M. L. YAU	25530468
Environmental Pioneers and Solutions Ltd.		
Environmental Technician	Ms. Natalie Lai	36789749
Environmental Technician	Mr. Allen Chan	36789759
Environmental Technician	Mr. Lai Chi Hang	25587142

Appendix B Project Organisation



Appendix C Implementation Schedules for Mitigation Measures

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
Noise								
3.6.1	2.3.1	• Contractor shall comply with and observe the Noise Control Ordinance (NCO) and its current subsidiary regulations; • Before the commencement of any work, the Contractor shall submit to the Engineer for approval the method of working, equipment and sound-reducing measures intended to be used at the Project Site; • Contractor shall devise and execute working methods that will minimise the noise impact on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented; • Only well-maintained plant and equipment should be operated on-site; • Plant/equipment should be serviced regularly during the construction programme; • Machines that may be in intermittent use should be shut down or throttled down to a minimum between work periods; • Silencers and/or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme; • Noisy activities should be scheduled to minimise exposure of nearby NSRs to high levels of construction noise. For	Y Y Y Y Y Y Y Y	Good site practices to minimise construction Noise Impact	The Contractor	Construction Site	Construction Phase	EIAO and Environmental Permit; NCO and its regulations

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		example, noisy activities should be scheduled for midday or at times coinciding with periods of high background noise (such as during peak traffic hours); • Noisy equipment such as emergency generators shall always be sited as far away as possible from noise sensitive receivers; • Mobile plant/equipment should be sited as far away from NSRs as possible; and • Material stockpiles and other structures should be effectively utilised as noise barriers, where practicable.	Y Y N/A					
Water								
4.7.2	3.3.1	• High loading of suspended solids (SS) in construction site runoff shall be prevented through proper site management by the contractor; • The boundary of critical work areas shall be surrounded by sandbags, ditches, or embankments. Accidental release of soil or refuse onto the adjoining land should be prevented by the provision of site hoarding or earth bunds at the site boundary. These facilities should be constructed in advance of site formation works and roadworks; • Consideration should be given to plan construction activities to allow the use of natural topography of the Project Site as a barrier to minimise uncontrolled non-point source discharge of construction site runoff; • Temporary ditches or earthen bunds	Y Y Y Y	Good site practices to minimise construction water quality Impact due to potential site runoff and chemical leakage	The Contractor	Construction Site	Construction Phase	EIAO and Environmental Permit; WPCO and its regulations

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		should be provided to facilitate directed and controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps, silt traps and sediment retention basin. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas;						
		• Sand and silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly by the contractor, and at the onset of and after each rainstorm to ensure that these facilities area functioning properly;	Y					
		• Slope exposure should be minimised where practicable especially during the wet season. Exposed soil surfaces should be protected from rainfall through covering temporarily exposed slope surfaces or stockpiles with tarpaulin or the like;	Y					
		• Haul roads should be hard paved by laying crushed rock, gravel or other granular materials to minimise discharge of contaminated runoff;	Y					
		• Plant workshop/ maintenance areas, if any, should be bunded and constructed on a hard standing. Sediment traps and oil interceptors should be provided at appropriate locations;	Y					
		• Manholes (including newly constructed ones), if any, should be adequately covered or temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage	Y					

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		system; • Construction works should be programmed to minimise soil excavation works where practicable during rainy conditions; • Chemical stores should be contained (bunded) to prevent any spills from contact with water bodies. All fuel tanks and/ or storage areas should be provided with locks and be sited on hard surface; • Chemical waste arising from the construction of the Project Site should be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation; • Drainage facilities must be adequate for the controlled release of storm flows.	Y Y Y Y					
4.7.2	3.3.1	• Sewage generated from the construction workforce should be contained in chemical toilets until connection to public foul sewer can be provided. Chemical toilets should be provided at a minimum rate of about 1 per 50 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals; • Vehicle wheel washing facilities should be provided at the site exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be washed off before the vehicles leave the Project site; • The section of the road between the wheel washing bay and the public road	Y Y Y	Good site practices to control the wastewater generated from the construction site	The Contractor	Construction Site	Construction Phase	

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		should be hard paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.						
4.7.3	3.3.1	• Spillage of fuel oils or other polluting fluids should be prevented at source. It is recommended that all stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds	Y	Good site practices to minimise construction water quality Impact due to avoid spillage of chemical				
4.7.6	3.3.2	• Apart from the online monitoring and control system for the wastewater quality, regular sampling programme will be devised to further safeguard and ensure that the quality of the treated effluent is suitable for reuse. Should the treated effluent not meet the required standards for irrigation and flushing or in case of breakdown of the wastewater system, a contingency plan would be triggered. The wastewater reuse system will be shut down. The canteen wastewater from Phase III will be held in the new holding tank for the MBR. The new holding tank has a capacity of 15m^3 and a minimum storage time of half day capacity. The canteen wastewater will then be diverted to the existing sewage treatment plant via the coarse screen chamber, and it will be held in the equalisation holding tank, with a capacity of 96m^3, for screening and treatment. The existing sewage treatment plant (with maximum treatment capacity of 152.7m^3/d) for	N/A	Contingency plan to further safeguard the water quality of the surrounding environment and ensure that the quality of the treated effluent is suitable for reuse	Proponent	Project Area	During design, construction and operation	EIAO and Environmental Permit; WPCO and its regulations

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		Phase I & II has a daily flow of 35m^3 per day, so it has a spare capacity of more than 50%, which is adequate to treat the canteen wastewater. The treated effluent for direct discharge will not undergo any chlorination process. During this period, both irrigation system and flushing system will use the fresh water from city main as water source. The water reuse system would be fully inspected for problem fixing before re-operation.						
Air Quality								
5.7.2	4.3.1	• The designated haul road should be hard paved; • The site should be water sprayed four times a day during site formation work of the residential portion of the Project Site; • Dump truck beds for material transport should be totally enclosed using impervious sheeting; • any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading; • The stockpiled malodorous materials, if any, should be placed as far as possible from any ASRs and removed from Project Site as soon as possible, and they should be covered entirely by plastic tarpaulin sheets;	Y Y Y Y N/A	Good site practice to minimise construction fugitive dust impact	The Contractor	Construction Site	Construction Phase	EIAO and Environmental Permit; APCO and its regulations

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		• Dusty materials remaining after a stockpile is removed should be wetted with water; • The vehicle washing area and the section of the road between the washing facilities and the exit point should be paved with e.g. concrete, bituminous materials or hardcore or similar; • Stockpile of dusty materials to be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet; • All dusty materials to be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; • Vehicle speed to be limited to 10 kph except on completed access roads; • The portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials; • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites; • The load of dusty materials carried by vehicles leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • The working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to	Y Y Y Y Y Y Y Y Y					

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		maintain the entire surface wet.						
Ecology								
6.9.3	5.2.2	Preserve three no. and transplant five no. of *Aquilaria sinensis*	Y	Minimise construction ecological impacts on species on protected species	Contractor	On Project Site	Construction Phase	ETWB(W) 3/2006: Tree Preservation. Agree on the maintenance requirement and programme
6.9.7	5.2.3	Compensatory mangrove planting (0.01 ha)	Y	Mitigate loss of 0.01 ha of mangrove	Proponent	Sandflat near Project Site	Construction Phase	Agree on the maintenance requirement and programme
6.9.8	5.2.4	Compensatory woodland planting (0.03 ha within Project Site and 0.8 ha in Sai Kung West Country Park)	Y (within Project Site) Y (both original and replacement planting in Sai Kung West Country Park)	Mitigate loss of 0.31 ha of woodland	Contractor	On Project Site and Lui Ta Shek inside Sai Kung West Country Park	Construction Phase	Agree on the maintenance requirement and programme
6.9.4	5.2.6	Good site practices	Y	To minimise environmental impacts and therefore potential ecological impacts within and near the construction site	Contractor	Entire construction site	Construction Phase	N/A
Landscape and Visual								
Table 7.12	Table 6.2	LMM1 – Minimizing construction area and contractor's temporary works area to avoid unnecessary impacts to landscape resources and	Y	Preservation of landscape resources and	Contractor	Project area	During design and construction	EIAO-TM Annex 10, 18

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		minimize visual intrusion.		minimize visual intrusion				
Table 7.12	Table 6.2	LMM2 – Sensitively designed site hoarding in both color and form to screen view to the construction works.	Y	Visual enhancement	Contractor	Project area	During design and construction	EIAO-TM Annex 10, 18
Table 7.12	Table 6.2	LMM3 – Preservation of existing tree to be retained on area not affected by the proposed development.	Y	Conservation of existing trees; Visual screen	Contractor	Project area	During construction	EIAO-TM Annex 10, 18 LAO PN No. 7/2007
Table 7.12	Table 6.2	LMM4 – Demarcation of the tree protection zone for retain trees.	Y	Preservation of existing trees	Contractor	Project area	During construction	EIAO-TM Annex 10, 18 Demarcation of temporary protective fencing shall be agreed and erected before other works commence
Table 7.12	Table 6.2	LMM5 – Operational time restrictions to limit after dark welding and lighting.	Y	Limit night time glare	Contractor	Project area	During construction	EIAO-TM Annex 10, 18
Table 7.12	Table 6.2	LMM6 – Selection of fast growing native trees and shrubs mix in compensation for the removal / disturbance area.	Y	Visual screen; Landscape compensation	Contractor for planting HKFYG for management and maintenance	Project area	During design, construction and operation	EIAO-TM Annex 10, 18 Selection and agree on the specified plant species
Table 7.12	Table 6.2	LMM7 – Landscape treatment such as green roof, vertical greening and screen planting including climber plants to screen and soften surface of built structures and mitigate the landscape and visual impact.	Y	Visual enhancement	Contractor during construction HKFYG for management and maintenance	Project area	During design, construction and operation	EIAO-TM Annex 10, 18 Selection and agree on the specified plant species

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
Table 7.12	Table 6.2	LMM8 – Staggered built form with building height corresponding to the natural sloping landform to enhance visual quality.	Y	To provide an interesting view on the visual receiver and to lower the overwhelming effect as may be created by the proposed building blocks	Contractor during construction HKFYG for management and maintenance	Project area	During design, construction and operation	EIAO-TM Annex 10, 18
Table 7.12	Table 6.2	LMM9 – Sensitive treatment and design to external finishes of the built structure to ensure element with colour, texture and tonal quality being compatible to the existing landscape context.	Y	Visual enhancement	Contractor during construction HKFYG for management and maintenance	Project area	During design, construction and operation	EIAO-TM Annex 10, 18
Table 7.12	Table 6.2	LMM10 – Maintenance of planting works upon completion.	In progress	Landscape compensation	Contractor for planting and maintenance during establishment HKFYG for management and maintenance	Project area	During operation	EIAO-TM Annex 10, 18 Agree on the maintenance requirement and programme
Waste Management								
8.4.6	7.2.5	• Storage of different waste types – different types of waste should be segregated and stored in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. An on-site temporary storage area equipped with required	Y	Waste management measures for construction phase	The Contractor	Construction Site	Construction Phase	EIAO and Environmental Permit; Various guidelines stated in paragraph

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		control measures (e.g. dust) should be provided; • Trip-ticket system – in order to monitor the proper disposal of non-inert C&D waste to landfills and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements and audited by the Environmental Team; • Records of Wastes – a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; • Training – The contractor should provide his workers with proper training of appropriate waste management procedure to achieve waste reduction as far as practicable and cost-effective through recovery, reuse and recycling and avoid contamination of reusable C&D materials; • Incorporate the "Recommended Pollution Control Clauses for Construction Contracts" in respect to removal of waste material from the construction site into the contract of the contractor.	Y Y Y Y					8.2 of the EIA report

*Y = implemented, N = not yet implemented, N/A = not applicable

Appendix D Remaining Post-Construction Monitoring Programme and Submission Schedule

Month	3-14	4-14	5-14	6-14	7-14	8-14	9-14	10-14	11-14	12-14	1-15	2-15	3-15	4-15	5-15	6-15	7-15	8-15	9-15	10-15	11-15	12-15	1-16
Environmental Monitoring																							
Transplanted Trees*			■																				
Off-Site Compensatory Planting**		■																					
On-Site Compensatory Planting***		■			■			■			■			■			■			■			■
Monthly EM&A Report		■	■																				
Quarterly EM&A Report	■				■			■			■			■			■			■			
Final Report																							■

Remarks:

*Transplantation of the Incense Trees Aquilaria sinensis was completed on 12 March 2012 (Para 4.1.1 of Monthly EM&A Report - Jan 2014).
Transplanted tree monitoring was conducted monthly (Mar to May 2012) for the first three months and then quarterly for two years (Para 5.2.2 of the EM&A manual).
Latest monitoring results show that the conditions of the transplanted trees were fair (Para 5.1.1 of the Monthly EM&A Report - Nov 2013)
The last session of monitoring will be conducted on May 2014

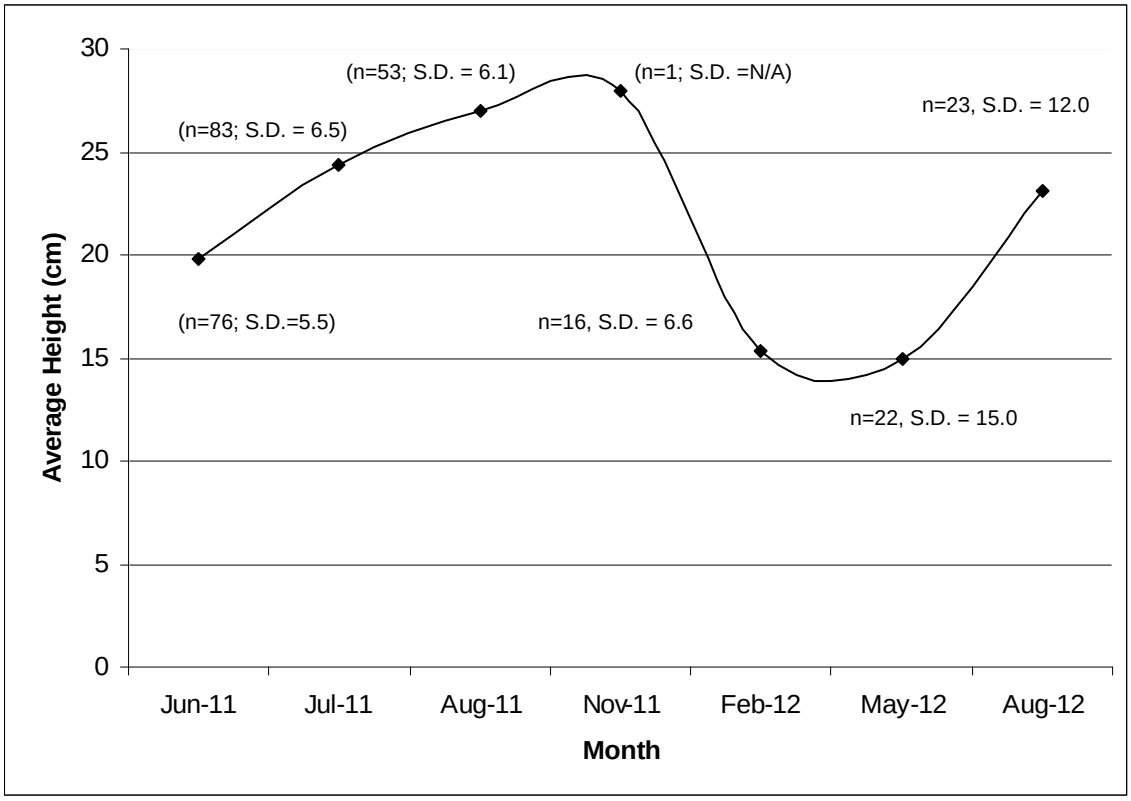
**Off-Site Woodland Compensatory Planting was completed on 13 Jun 2011 (Para 4.3.2 of the Monthly EM&A Report - Jan 2014)
Monitoring was conducted monthly for the first three months and quarterly for two years (Para 5.2.4 of the EM&A manual).
The last session of off-site woodland compensatory planting monitoring according to the EM&A requirement was condcuted on 22 Aug 2013.
Remedial actions (further replanting of 1200 nos. tree whips) will be conducted in Apr 2014 (Para 4.3.3 of the Monthly EM&A Report - Jan 2014).
A joint inspection will be arranged with AFCD upon completion of further planting in Apr 2014.
AFCD's view will be sought on the remedial actions and any further monitoring requirement.

*** On-Site Woodland Compensatory Planting was completed on 25 November 2013 (Para 4.4.1 of the Monthly EM&A Report - Jan 2014).
Monitoring was conducted monthly for the first three months (Nov 2013 to Jan 2014) and will be conducted quarterly (Apr 2014 to Jan 2016) for two years.
(Para 5.2.4 of the EM&A manual and Para 4.4.1 of the monthly EM&A report - Jan 2014)
Latest monitoring result shows that the conditions of the planting varied. Monitoring will continue to check the status of the plantings.
(Para 4.4.2 and 9.1.3 of the monthly EM&A Report - Jan 2014)

Appendix E
Event and Action Plan for Ecological Impact - Construction Phase

Action Level	Environmental Team (ET) Leader	Independent Environmental Checker (IEC)	Camp operator/ Landscape Contractor
Poor survival or health of mangrove planting	1. Identify source 2. Inform the IEC 3. Discuss remedial actions with the IEC and Camp operator 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Discuss with the Camp operator on possible remedial measures 4. Advise the Camp operator on effectiveness of proposed remedial measures	1. Amend planting programme and replant as necessary
Poor survival or health of woodland planting	1. Identify source 2. Inform the IEC 3. Discuss remedial actions with the IEC and Landscape Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Discuss with the Landscape Contractor on possible remedial measures 4. Advise the Landscape Contractor on effectiveness of proposed remedial measures	1. Amend maintenance programme and replant as necessary
Poor survival of transplanted trees	1. Identify source 2. Inform the IEC 3. Discuss remedial actions with the IEC and Landscape Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Discuss with the Landscape Contractor on possible remedial measures 4. Advise the Landscape Contractor on effectiveness of proposed remedial measures	1. Amend maintenance programme and replant as necessary

Appendix F Average Height of Mangrove Seedlings



Appendix G Summary of Status of Environmental Permits/Licenses

Description	License/Permit/ Acc. No. #/Letter Ref. No.	License/ Permit Holder*	Date of Issue	Date of Expiry	Status/ Remarks
Environmental Permit	Permit No. EP-410/2010	HKFYG	10 Jan 2011	-	Issued
Tree Removal Applications	(18) in LM(3) to DLO/SK SX 1557(Pt. 5)	HKFYG	3 May 2011	-	Approved
Billing Account for Disposal of Construction Waste	7013108	KCE	30 Jun 2011	-	To be surrendered
Registration of Chemical Waste Producer	WPN No. 5113-811-K2905-05	KCE	7 Jul 2011	-	To be surrendered
WPCO Effluent Discharge License	WT00009985-2011	KCE	26 Oct 2011	31 Oct 2016	To be surrendered
Further Environmental Permit	FEP-01/410/2010	KCE	5 Jan 2012	-	To be surrendered
Billing Account for Disposal of Construction Waste	701548525	FC	3 July 2012	-	Issued
Registration of Chemical Waste Producer	346354	FC	10 July 2012	-	Account closed
WPCO Effluent Discharge License	WT00014684-2012	FC	28 January 2013	31 Oct 2017	Surrendered
Further Environmental Permit	FEP-02/410/2010	FC	19 July 2012	-	Surrendered
Variation of Environmental Permit	EP-410/2010/A	HKFYG	27 March 2013	-	Issued
Variation of Environmental Permit	EP-02/410/2010/A	FC	27 March 2013	-	Surrendered
WPCO Effluent Discharge License	WT00016060-2013	HKFYG	1 Aug 2013	31 Dec 2015	Issued

*HKFYG = The Hong Kong Federation of Youth Groups;
KCE = Konwall Construction and Engineering Co. Ltd.
FC = Fat Cheong (Hong Kong) Construction Co. Ltd.

Appendix H Cumulative Log of Complaints and Summons/Prosecutions

Reporting Month	No. of complaints in Reporting Month	No. of Summons/Prosecutions in Reporting Month
July 2011	0	0
August 2011	0	0
September 2011	0	0
October 2011	0	0
November 2011	0	0
December 2011	0	0
January 2012	0	0
February 2012	0	0
March 2012	0	0
April 2012	0	0
May 2012	0	0
June 2012	0	0
July 2012	0	0
August 2012	0	0
September 2012	0	0
October 2012	0	0
November 2012	0	0
December 2012	0	0
January 2013	0	0
February 2013	0	0
March 2013	0	0
April 2013	0	0
May 2013	0	0
June 2013	0	0
July 2013	0	0
August 2013	0	0
September 2013	0	0
October 2013	0	0
November 2013	0	0
December 2013	0	0
January 2014	0	0
February 2014	0	0
March 2014	0	0
April 2014	0	0
May 2014	0	0
June 2014	0	0
July 2014	0	0
Overall Total	0	0