

Contract No. GE/2013/06

**Landslip Prevention and Mitigation
Programme, 2008, Package J**

**Landslip Prevention and Mitigation
Works in New Territories**

**Above Leung Fai Tin along Clear Water
Bay Road, Sai Kung**

**Study Area: 12/NW-C/SA1 (Study Area
H)**

**Independent Environmental Checker
(IEC)**

Monthly Audit Report No. 18

July 2015

182663/B&V/018/Issue 1

Kwan On Construction Co Ltd
3E, Yiko Industrial Building
10, Ka Yip Street
Chai Wan,
Hong Kong

Black & Veatch Hong Kong Limited
25/F, Millennium City 6
392 Kwun Tong Road
Kowloon
Hong Kong

August 2015

CONTENTS




	Page
1. INTRODUCTION	1
1.1 Background and Project Description	1
1.2 Types of Designated Project	1
1.3 Location and Scale of Project	2
1.4 Organisation and Reporting Schedule	2
2. PROGRESS OF THE CONTRACT	3
2.1 Status of the Environmental Licence and Permits	3
2.2 Progress of the Construction Works	3
2.3 Summary of Site Inspection and Audit.....	3
2.4 Summary of Complaints and Prosecutions	5
3. CONCLUSIONS.....	5
4. RECOMMENDATIONS.....	5

FIGURES

- Figure 1 Location Plan of the Designated Project
 Figure 2 IEC Site Audit Route and Flexible Barrier on 29 July 2015

APPENDICES

- Appendix A Environmental Inspection Checklist

	<i>Name</i>	<i>Signature</i>	<i>Date</i>
Prepared	Manuel CHUA		3 August 2015
Checked	Benjamin YEUNG		3 August 2015
Reviewed / Authorised	Norman SONG		3 August 2015

1. INTRODUCTION

1.1 Background and Project Description

- 1.1.1 Geotechnical Engineering Office (GEO) of the Civil Engineering and Development Department has identified about 2700 natural hillside catchments with a known history of landslides close to existing buildings and important transport corridors based on interpretation of large-scale historical aerial photographs. Natural hillside catchments affecting individual units of existing development are further grouped into different Study Areas designated for natural terrain hazard studies by GEO.
- 1.1.2 The natural hillside, Study Area No. 12NW-C/SA1, at Leung Fai Tin above Clear Water Bay Road in Clear Water Bay Peninsula, includes a number of hillside catchments which warrant high priority for natural terrain hazard study and mitigation actions. The location and the extent of the Study Area are shown in **Figure 1**.
- 1.1.3 The natural hillside within the Study Area has been disturbed since 1940s, and there were 3 landslides identified to have occurred on the natural hillside in 1970s. A detailed natural terrain hazard study concluded that the natural hillside within the Study Area is highly susceptible to landslide failures and the landslide debris would travel downslope and be channelised along the stream course reaching Clear Water Bay Road and the village houses at Leung Fai Tin.
- 1.1.4 Hence, natural terrain hazard mitigation works (HMW) are required at the lower portion of the Study Area (hereinafter referred to as the "Works Area") to mitigate the potential hazards arising from natural terrain open hillslope landslides, boulder falls and channelised debris flows at the Study Area affecting Clear Water Bay Road and village houses at Leung Fai Tin downhill. The proposed natural terrain HMW includes erection of tensioned steel mesh fences (also known as flexible barrier), construction of masonry maintenance staircases and associated landscape treatments at the Works Area. The extent of the Works Area has been carefully considered to limit the extent of proposed works, necessary working space and the site access.

1.2 Types of Designated Project

- 1.2.1 The Natural Terrain Hazard Mitigating Works at Study Area No. 12NW-C/SA 1 above Leung Fai Tin along Clear Water Bay Road, Sai Kung is referred as "Designated Project" (DP) which includes the works area of the Project falls within a Conservation Area under the approved Clear Water Bay Peninsula South Outline Zoning Plan No. S/SK-CWBS/2 and Item Q.1 Part 1 of Schedule 2 under the Environmental Impact Assessment Ordinance (EIAO). The Project Profile (Register No. PP-480/2013) was submitted for directly application of Environmental Permit (EP) on 18 March 2013. Environmental Protection Department (EPD) granted the EP (EP No.: EP-448/2013) to the GEO/Civil Engineering and Development Department (hereinafter referred to as the "Client") in 10 April 2013 to construct the Designated Project (DP) under the Environmental Impact Assessment Ordinance (EIAO).
- 1.2.2 According to the EP Specific Condition Clause 2.5, the Permit Holder shall employ an

Independent Environmental Checker (IEC) to audit the implementation of all mitigation measures recommended in the Project Profile and the approved Landscape and Compensatory Planting Plan, and to certify in writing in the monthly audit report full implementation of the mitigation measures during and upon completion of the construction works. The IEC shall not be in any way an associated body of the Contractor of the Project.

1.3 Location and Scale of Project

1.3.1 The proposed HMW will be constructed within the Works Area at the lower portion of the Study Area No. 12NW-C/SA1 above Clear Water Bay Road, Leung Fai Tin in Clear Water Bay Peninsula. The Works Area is located within a Conservation Area. Extent of the Works Area is approximately 6,000m² and the project comprises as follows:

- a. Erect about 250m long, 5m-6m high flexible barrier supported by vertical and raking steel bar anchors (about 120 nos.) to be drilled and installed in ground.
- b. Construct of 300m long, 600mm wide masonry maintenance access with handrails
- c. Provision of soft landscape works includes pit-planting of native/shrub seedlings, plant of climbers and hydroseeding.

1.4 Organisation and Reporting Schedule

1.4.1 CEDD commissioned CH2M HILL Halcrow China Limited (CHMHC) as the Engineer. The Contractor of the Project is Kwan On Construction Co. Ltd (KOCCL). Black & Veatch Hong Kong Limited (B&V) was appointed as Independent Environmental Checker (IEC) on 10 February 2014. This Report covers the period of **July 2015**.

2. PROGRESS OF THE CONTRACT

2.1 Status of the Environmental Licence and Permits

2.1.1 **Table 2-1** presents a summary of the status of environmental licenses and permits for this Contract.

Table 2-1 Status of Environmental Permit

Type of Licence	Permit/License No.	Issue Date	Covered Area	Validity	Status
Environmental Permit	EP-448/2013	10 April 2013	Study Area No. 12NW-C/SA1 above Leung Fai Tin along Clear Water Bay Road, Sai Kung	Whole Project	Valid

2.2 Progress of the Construction Works

2.2.1 The Project has been commenced on 15 January 2014. During the reporting period, landscaping works were carried out. Site audit was carried out along the works areas as shown in **Figure 2**.

2.3 Summary of Site Inspection and Audit

2.3.1 Temporary access outside the permitted boundary, recorded in September 2014, was fenced off properly. No further work was carried out outside the permitted boundary.

2.3.2 Joint site audit was carried out with CHMHC and KOCCL on 29 July 2015. No construction works were in progress during the site audit. **Photos 1 to 2** show the construction work progress within permitted works areas. The temporary access was extended beyond to the stream course. Landscaping works (**Photos 3 to 4**) were carried out in accordance with the approved Landscape and Compensatory Planting Plan.

Potential Tree Felling

2.3.3 Trees along the temporary works area were inspected. No tree damage was observed. Temporary tree protective cover to tree trunk were provided. As stated in the EP, a total of 25 individuals (non-protected) were identified along and in the close proximity of the alignment such that tree felling cannot be avoided. They are comprised of 11 tree species whilst all of them are not protected species but either common or very common on hillsides of Hong Kong. Summary of the Non-protected tree individuals which will be felled are shown as follows: T020 (*Machilts chekiangensis*), T021 (*Meliosma rigida*), T024 (*Apomsa dioica*), T025 (*Machilus chekiangensis*), T026 (*Diospyros monisiana*), T027 (*Diospyros morrisiana*), T028 (*Archidendron lucidum*), T190 (*Aporusa dioica*), T305 (*Aporusa dioica*), T489 (*Cinnamomum parthenoxylon*), T494 (*Mallotus paniculatus*), T496 (*Schejflera heptaphylla*), T497 (*Diospyros morrisiana*), T499 (*Machilus chekiangensis*), T543 (*Diospyros monisiana*), T544 (*Machilus chekiangensis*), T792 (*Meliosma rigida*), T793 (*Diospyros momsiana*), T807 (*Eurya nitida*), T855 (*Machilus chekiangensis*), T856 (*Scolopia saeva*), TA001 (*Aporusa dioica*), TA017 (*Machilus chekiangensis*), TA036 (*Schejflera heptaphylla*) and TA062 (*Acrofnychia pedunculata*).

- 2.3.4 In order to fit the existing ground profile on Site and to reduce the numbers of trees being felled as proposed in the Project Profile, the alignment of flexible barriers have been further refined and the number of individuals are reduced to 3. All trees are in the approved list of trees to be felled, native and non-protected. **Table 2-2** shows the potential trees needed to be felled.

Table 2-2 Potential Trees to be Felled

Tree I.D.	Species	Remarks
T489	<i>Cinnamomum parthenoxylon</i>	Subject to confirmation
T792	<i>Meliosma rigida</i>	Subject to confirmation
T793	<i>Diospyros momsiana</i>	Subject to confirmation

Aquilaria sinensis & Pavetta hongkongensis

- 2.3.5 Bright colour tree protection signage was provided at protective trees (**Photo 5**). Protective tree measures have also been provided. Information sheet with colour photos of *Aquilaria sinensis* and *Pavetta hongkongensis* were displayed conspicuously within the construction site.
- 2.3.6 No tree damage was observed and recorded. All trees were protected with tree tags and bright colour signage.
- 2.3.7 The Contractor reported that one individual *Aquilaria sinensis* (T480A) was found felled by others on 31 July 2015 (**Photo 6**). The Contractor has reported the case to HKPF (report no. TKOBI 15023389).

Landscape and Compensatory Planting

- 2.3.8 Landscape and compensatory planting have been carried out by the Contractor in accordance with the approved Landscape and Compensatory Planting Plan. This included hydroseeding, planting of shrubs and climbers as well as planting of 75 nos. of shade-tolerant native trees. Unhealthy / dead species are being replaced by the Contractor. Further verification will be conducted in the next site audit.

Observation

- 2.3.9 No observation was recorded during the site inspection and audit in the reporting month. No tree felling by Contractor was recorded.

Reminder

- 2.3.10 It is reminded that the Contractor shall ensure construction activities shall fully comply with the environmental permit conditions.
- 2.3.11 It is reminded that the Contractor shall provide sufficient induction training to all site personnel (both supervision staff and workers) in order to brief them on tree preservation including the locations of the *Aquilaria sinensis* and *Pavetta hongkongensis* individuals and their importance. The resident site supervisory staff shall closely monitor the conditions of the *Aquilaria sinensis* and *Pavetta hongkongensis* individuals during the construction phase.

2.3.12 As stated in the Project Profile, majority of the excavation works arises from the construction of the flexible barrier and the maintenance staircase. The Contractor shall contain within the Works Area all surface runoff generated from excavation works and dust control mainly. Any trade effluent, foul, contaminated, cooling or hot water shall not be discharged into any public sewers, stormwater drains, channels, stream courses or the sea. Avoid excavation works during rainy season as far as practicable. In addition, good site practice and management to control site runoff are recommended to reduce adverse impacts.

2.4 Summary of Complaints and Prosecutions

2.4.1 No environmental complaint was recorded in the reporting period.

2.4.2 No prosecution was recorded in the reporting month.

2.4.3 The update statistical summary of complaint is presented in **Table 2-3**.

Table 2-3 Status of Complaints and Prosecution

Reporting Period	Complaint Statistics		Area of Concern	Validity	Status
	Number	Cumulative			
1 st July 2015 – 31 st July 2015	0	0	-	-	-

3. CONCLUSIONS

3.1.1 During the reporting period, landscaping works were carried out. The Contractor was reminded to provide protective measures to all *Aquilaria sinensis* (土沉香) and *Pavetta hongkongensis* (香港大沙葉) and retained in-situ. No follow-up action is required.

3.1.2 No environmental complaint was received in the reporting month. No summon or prosecution related to the environmental issues was made against the Project in the reporting month.

4. RECOMMENDATIONS

4.1.1 The Contractor was reminded to implement the relevant mitigation measures as stated in the Environmental Permit and the Contract to prevent any non-compliance throughout the construction period.

Photos

Photo 1
Temporary works area within the project boundary



Photo 2
Temporary works area within the project boundary



Photo 3
Landscape plantings were planted near the flexible barriers



Photo 4
Compensatory tree plantings were provided



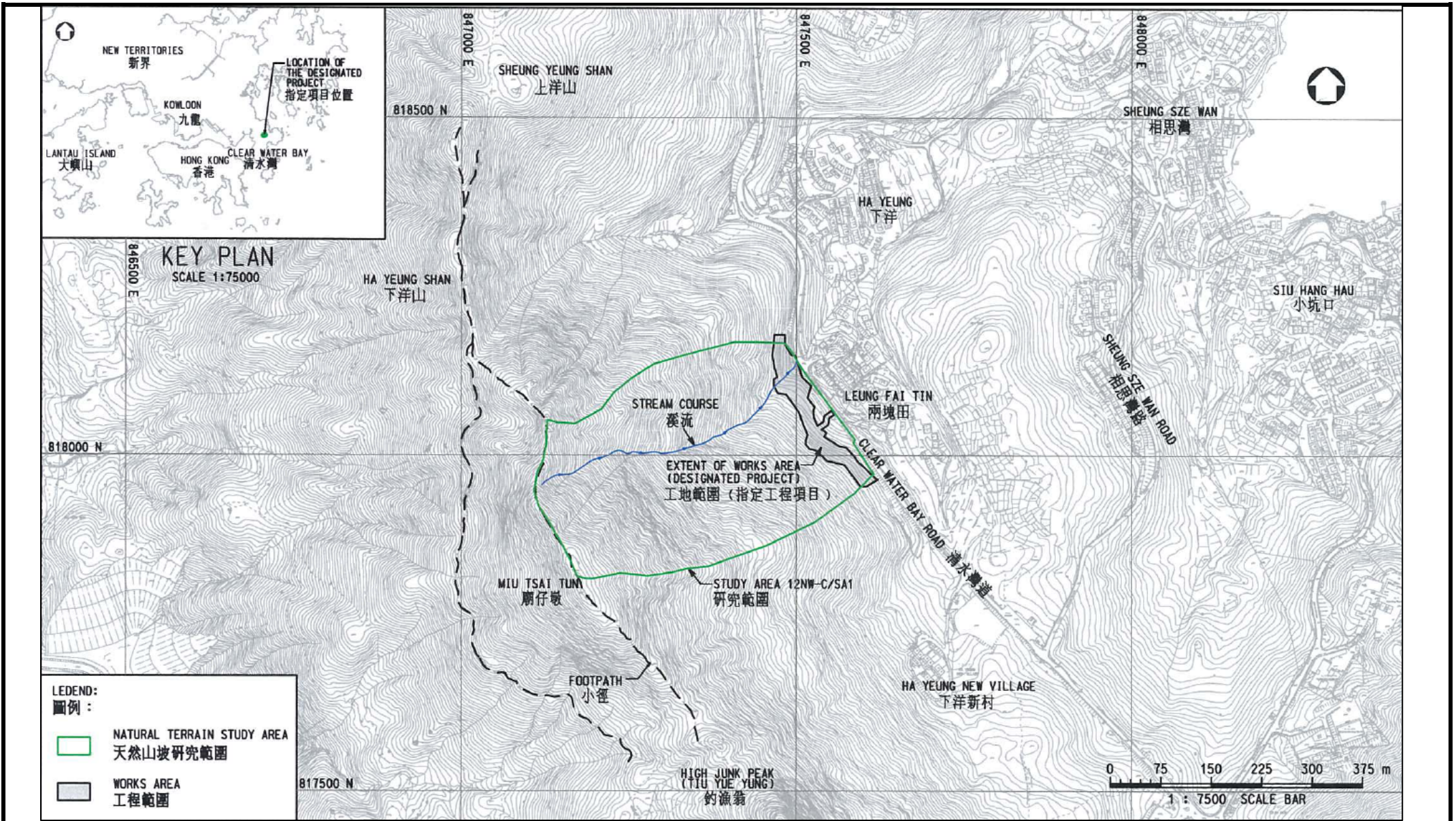
Photo 5
Protected plants were fenced off



Photo 6
Aquilaria sinensis felled by others (T480A)



Figure



Project Title : Natural Terrain Hazard Mitigation Works at Study Area No. 12NW-C/SA1 above Leung Fai Tin along Clear Water Bay Road, Sai Kung
 工程項目名稱: 西貢清水灣道兩塊田天然山坡研究地區編號 12NW/C/SA1 天然山坡災害緩減工程
 Environmental Permit No. : EP-448/2013
 環境許可證編號 : EP-448/2013

Figure 1 : Location of the Project

圖 1 : 工程項目位置

(This figure was prepared based on Figure 1 of the Project Profile (Register No.: PP-480/2013))
 (本圖是根據工程項目簡介(登記冊編號: PP-480/2013) 圖1 編製)

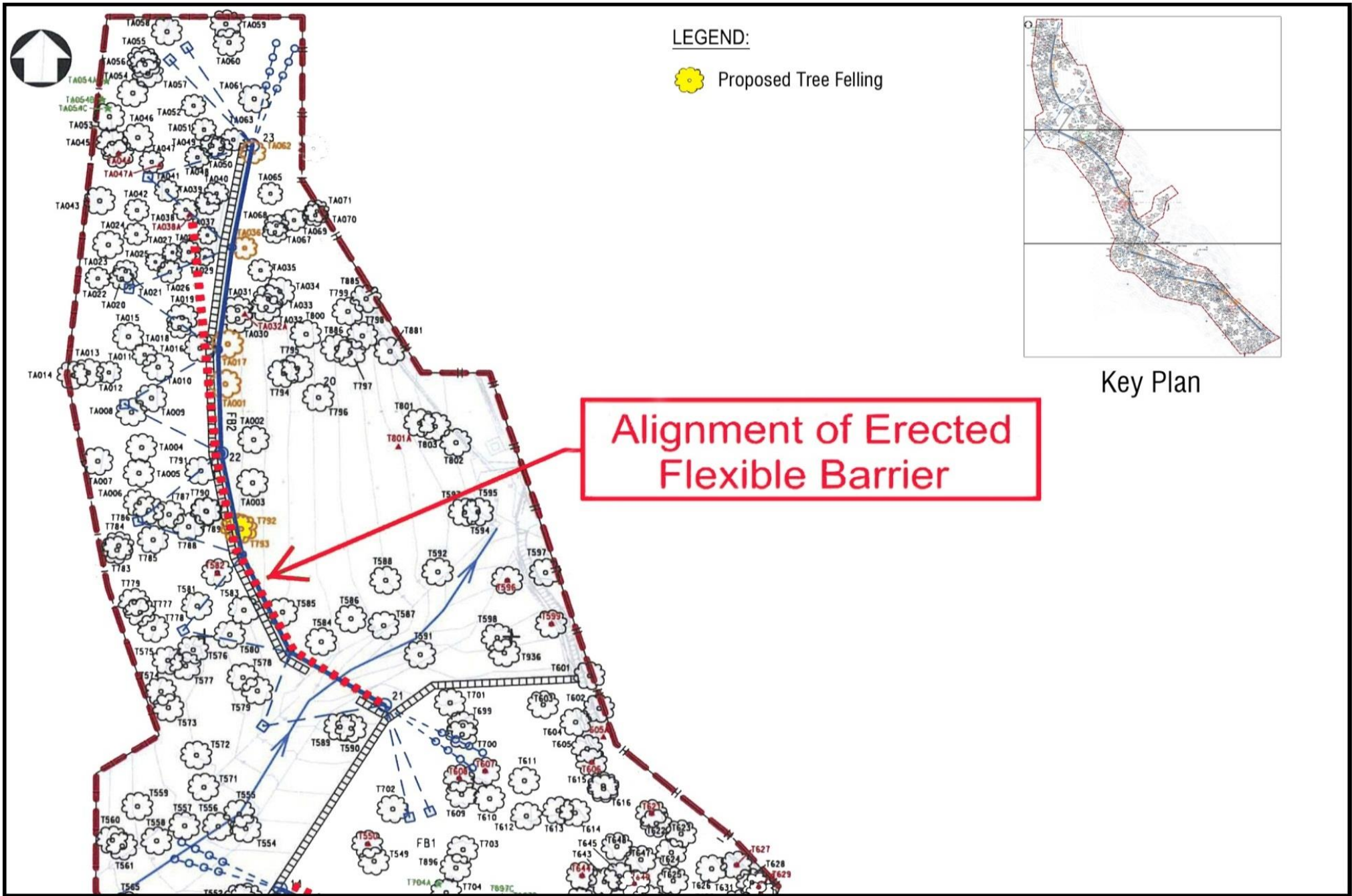


Figure 2 IEC Audit Route along the Erected Flexible Barrier on 29 July 2015 (Sheet 1 of 3)

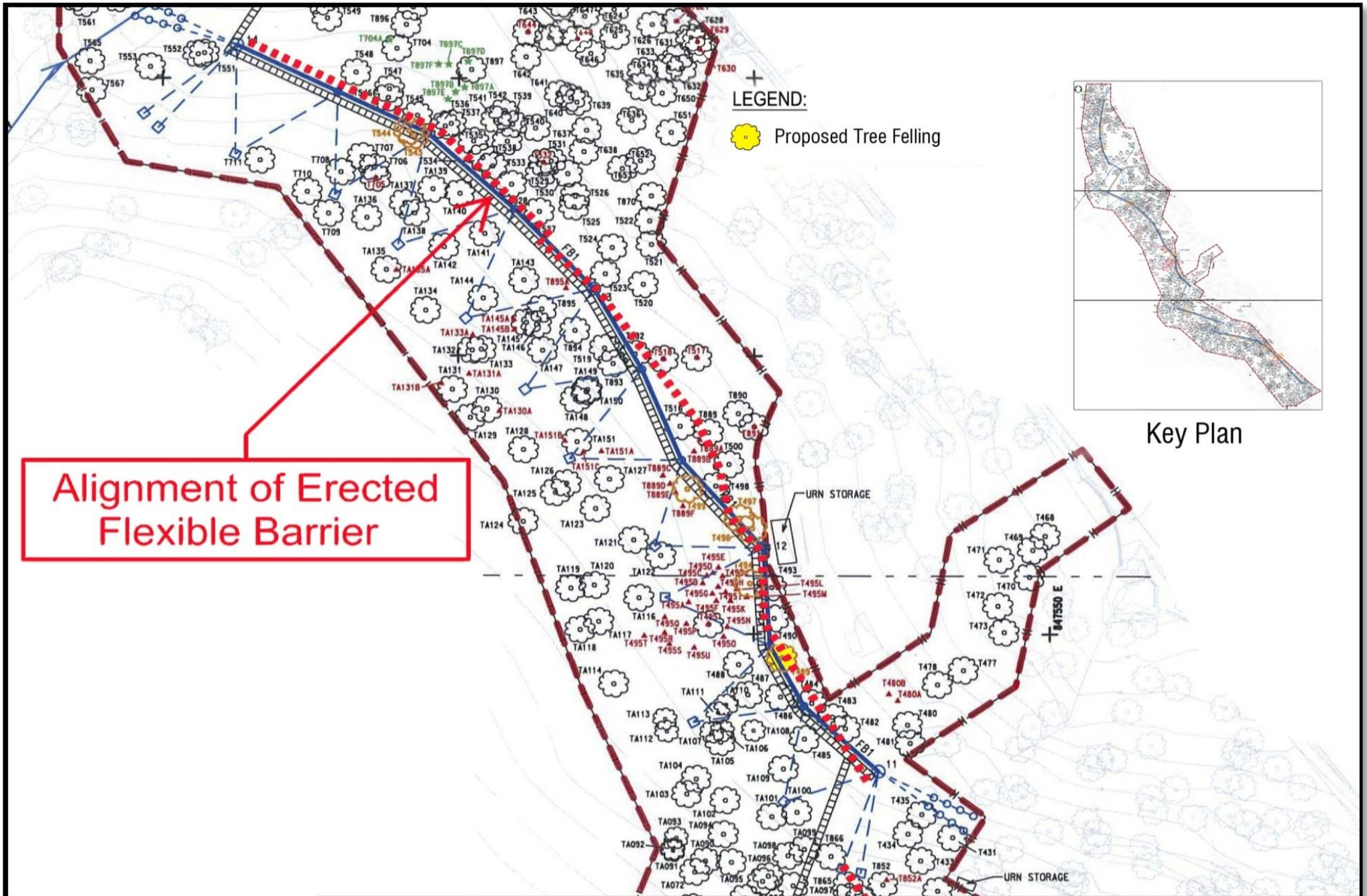


Figure 2 IEC Audit Route along the Erected Flexible Barrier on 29 July 2015 (Sheet 2 of 3)

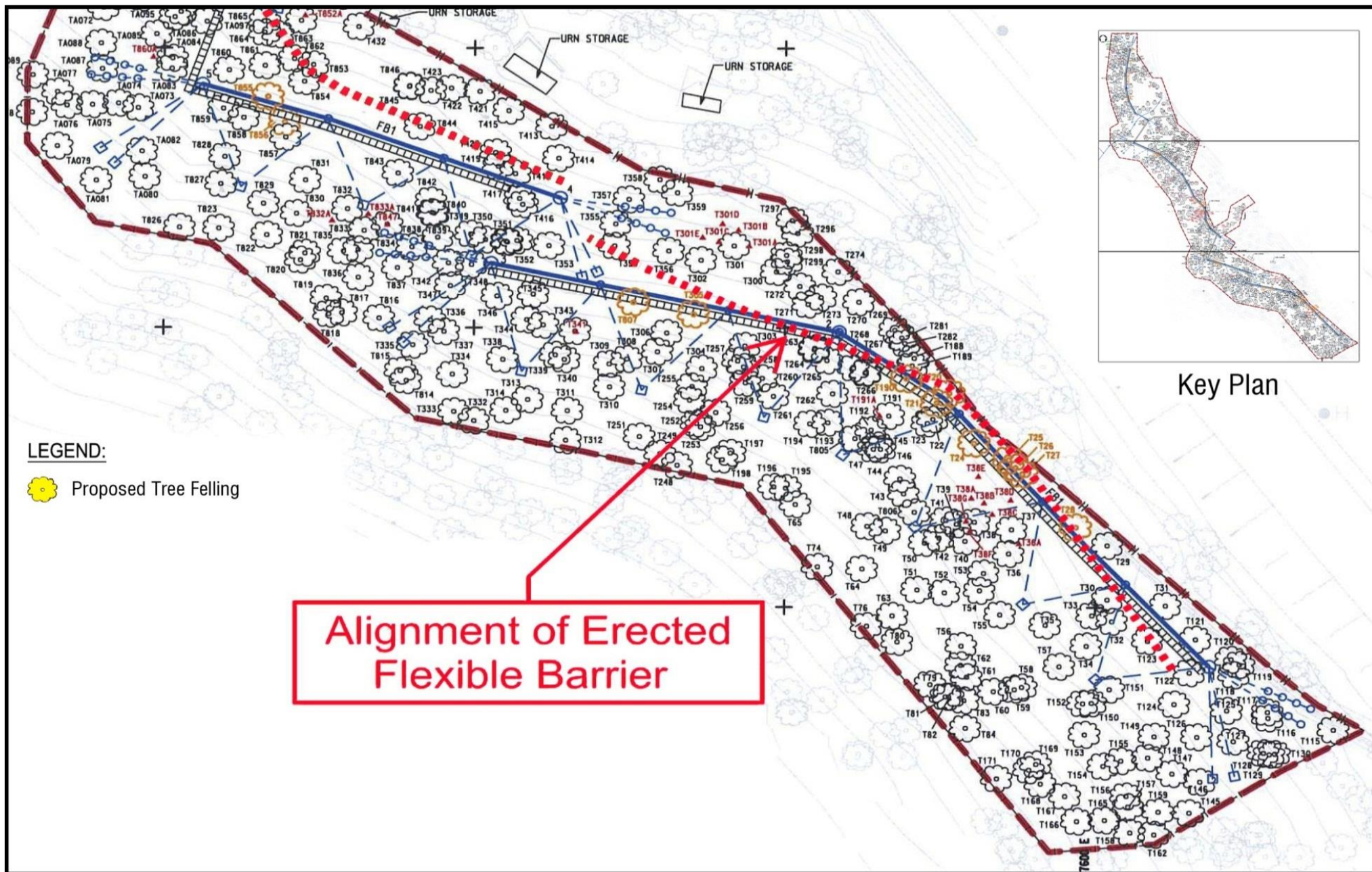


Figure 2 IEC Audit Route along the Erected Flexible Barrier on 29 July 2015 (Sheet 3 of 3)

***Appendix A
Environmental Inspection Checklist***

Project: <u>Contract No. GE/2013/16</u> <u>Leung Fai Tin along Clear Water Bay Road</u> <u>Study Area: 12NW-C/SA1 (Study Area H)</u>	Checklist Number: <u>GE/2013/16_No. 18</u> Inspected by: IEC's Representative: <u>Mr. Manuel Chua</u> RE's Representative: <u>Mr. Felix Sin</u> ET's Representative: <u>-</u> Contractor's Representative: <u>Ms. Isabel Wong</u>
Inspection Date: <u>29 July 2015</u> Time: <u>10:00 am</u>	

PART A: GENERAL INFORMATION

Weather: Sunny Haze Cloudy Rainy Fine
 Temperature: 25 °C
 Humidity: High Moderate Low
 Wind: Strong Breeze Light Calm

Major Construction Works Observed

NO WORKS IN PROGRESS

PART B: SITE AUDIT

Note: N/A: Not Applicable; Yes: Compliance; N/C: Non-Compliance; Follow Up: Observations requiring follow-up actions	N/A	Yes	Follow Up	N/C	Photo/ Remarks
--	-----	-----	-----------	-----	-------------------

Section 1: Construction Noise

		N/A	Yes	Follow Up	N/C	
1.01	Are noisy equipment and activities positioned as far as practicable from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Is silenced equipment adopted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Is idle equipment turned off or throttled down?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are plant and equipment kept to a minimum?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Is parallel use of noisy equipment / machinery avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are all plant and equipment well maintained and in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Are noise barriers or enclosures provided at areas where construction activities cause noise impact on sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Are hand held breakers fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are air compressors fitted with valid noise emission labels during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are flaps and panels of mechanical equipment closed during operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are Construction Noise Permit(s) applied for general construction works during restricted hours?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are valid Construction Noise Permit(s) displayed on the construction site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Checklist Number:

GE/2013/16_No. 18

Note:	N/A: Not Applicable; Yes: Compliance; N/C: Non-Compliance; Follow Up: Observations requiring follow-Up actions	N/A	Yes	Follow Up	N/C	Photo/ Remarks
-------	---	-----	-----	-----------	-----	-------------------

Section 2: Air Quality

2.01	Are the excavated materials sprayed with water during handling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are stockpiles of dusty materials sprayed with water, covered or placed in sheltered areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Is the exposed earth properly treated within six months after the last construction activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Is the surface where any drilling, cutting, polishing or breaking operation continuously sprayed with water?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Are de-bagging, batching and mixing processes carried out in sheltered areas during the use of bagged cement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are there any fencing provided along the site boundary, which adjoins areas accessible to the public?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	N/A: Not Applicable; Yes: Compliance; N/C: Non-Compliance; Follow Up: Observations requiring follow-Up actions	N/A	Yes	Follow Up	N/C	Photo/ Remarks
-------	---	-----	-----	-----------	-----	-------------------

Section 3: Water Quality

3.01	Is the discharge of turbid water avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Are there proper desilting facilities in the drainage systems to reduce SS levels in effluent?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Are there channels, sandbags or bunds to direct surface run-off to sedimentation tanks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are there any perimeter channels provided at site boundaries to intercept storm runoff from crossing the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are the maintenance access and/or anchor built within the stream?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Are temporary exposed slopes properly covered?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.08	Are earthworks final surfaces well compacted or protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are there any procedures and equipment for rainstorm protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are the vehicle and plant servicing areas paved and located within roofed areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Is the oil leakage or spillage avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Are there any measures to collect spilt cement and concrete washings during concreting works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Are the oil interceptors/grease traps maintained properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Concreting wastes water should be neutralized below the pH Action Levels before discharge.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Mobile toilets should provide on-site and located away the stream course.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.16	License collector should be employed for handling the sewage of mobile toilet.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Checklist Number:

GE/2013/16_No. 18

Note:	N/A: Not Applicable; Yes: Compliance; N/C: Non-Compliance; Follow Up: Observations requiring follow-Up actions	N/A	Yes	Follow Up	N/C	Photo/ Remarks
-------	---	-----	-----	-----------	-----	-------------------

Section 4: Ecology

4.01	Are the maintenance access and/or anchor built within the stream?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Is there any opening (at least 0.5m allowed) between the stream bed and the bottom of the flexible barrier provide?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Are protected plants species are retained in-situ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is there any tree pruning to damage the preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are all <i>Aquilaria sinensis</i> (85 nos.) and <i>Pavetta hongkongensis</i> (10 nos.) retained in-situ and fenced off?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are there any tagged provided at retained in-situ trees?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all retained trees closed to the construction works providing protective wrapping properly to minimize the damage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Are only 25 nos. of non-protected trees are felled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.09	Are any native light standard trees provided as compensatory planting (ratio 1:3)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Are the proposed compensatory trees planting native and shade-tolerant trees species according to the recommendation of Project Profile?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.11	Is the positioning the alignment has minimum 1.5m in radius away from the alignment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.12	Any induction training course to all site personnel (both supervision staff and workers) to brief the persevered trees location and importance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.13	Any adjustment of the foundation of flexible barriers and staircases to avoid the damage of root systems of existing trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.14	Is there any re-vegetation area to compensate the temporary loss of 200m ² (due to temporary access) understorey area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.15	Is there any re-vegetation area to compensate the permanent loss of 200m ² (due to maintenance access and anchor) understorey area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Note:	N/A: Not Applicable; Yes: Compliance; N/C: Non-Compliance; Follow Up: Observations requiring follow-Up actions	N/A	Yes	Follow Up	N/C	Photo/ Remarks
-------	---	-----	-----	-----------	-----	-------------------

Section 5: Landscape and Visual

5.01	Is the landscape design including the compensatory planting follow GEO Publication No. 1/2011?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Is there any erecting of hoarding to minimize the unsightly construction activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.03	Is the hoarding with decorative panels with patterns of vegetation mature trees below the hoardings for nature screening) to minimize the visual impact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Any utilization of existing trees located in front of the flexible barrier as natural screening?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Any provision Pit-planting of native light standard trees and planting of climbers in front of the fence to provided screening effect?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.06	Is the dark colour of the flexible barrier used?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

		Checklist Number:				GE/2013/16_No. 18
5.07	Are the concrete footing of the anchor and the handrails along the maintenance access painted with sub-due colour as far as practical?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.08	Are the maintenance accesses apply masonry finished to blend with surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Note:	N/A: Not Applicable; Yes: Compliance; N/C: Non-Compliance; Follow Up: Observations requiring follow-up actions	N/A	Yes	Follow Up	N/C	Photo/Remarks
Section 6: Waste Management						
6.01	Has the Waste Management Plan prepared according to ETWB TC(W) No. 19/2005 and submit to Engineer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.02	Are receptacles available for general refuse collection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Is general refuse sorting or recycling implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.04	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SEE NOTE 1.
6.05	Is the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.06	Are the chemical waste containers properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.07	Are the chemical wastes stored in proper storage areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.08	Is the chemical waste storage area properly labelled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.09	Is the chemical waste storage area used for storage of chemical waste only?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.10	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.11	Are the chemical wastes disposed of by licensed collectors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.12	Are trip tickets for chemical wastes disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.13	Are chemical/fuel storage areas bunded?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.14	Are designated areas identified for storage and sorting of construction wastes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.15	Are construction wastes sorted (inert and non-inert) on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.16	Are construction wastes reused?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.17	Are construction wastes disposed of properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.18	Are site hoardings and signboards made of durable materials instead of timber?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.19	Is trip ticket system implemented for the disposal of construction wastes and records available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.20	Are appropriate procedures followed if contaminated material exists?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.21	Is relevant license/ permit for disposal of construction waste or excavated materials available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.22	Site cleanliness and appropriate waste management training had provided for the site workers.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Checklist Number: GE/2013/16_No. 18

Note:	N/A: Not Applicable; Yes: Compliance; N/C: Non-Compliance; Follow Up: Observations requiring follow-Up actions	N/A	Yes	Follow Up	N/C	Photo/Remarks
--------------	---	-----	-----	-----------	-----	---------------

Section 7: Licence

7.01	Is relevant Environmental Permit posted at all vehicle site entrances/exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.02	Any N/C of EP condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

~~Section 8: Follow-up of the previous monthly environmental audit on date _____ (Checklist No. GE/2013/16_No. _____)~~

Note:	N/A: Not Applicable; Yes: Compliance; N/C: Non-Compliance; Follow Up: Observations requiring follow-Up actions	N/A	Yes	Follow Up	N/C	Photo/Remarks
8.01	Is the situation in item _____ improved / rectified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.02	Is the situation in item _____ improved / rectified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.03	Is the situation in item _____ improved / rectified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.04	Is the situation in item _____ improved / rectified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.05	Is the situation in item _____ improved / rectified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Checklist Number: GE/2013/16_No. 18

Remarks / Observations:

1. NEXT REMOVAL OF GENERAL REFUSE AND CONSTRUCTION MATERIALS
AWAITING APPROVAL OF TTA .

Signature:

IEC's Representative

RE's representative

ET's representative

Contractor's representative


Name: Mr. Manuel Chua


Name: Felix SIU

Name:


Name: ISABEL WONG

Date: 29 July 2015

Date: 29 July 2015

Date:

Date: 29 July 2015