



Our ref.: LES/J2018-05/CS/L033
Date : 18 April 2019

Civil Engineering and Development Department

East Development Office
East Division 2
Suite 1213,
Chinachem Golden Plaza,
77 Mody Road,
Tsim Sha Tsui East, Kowloon

Attn: Mr. Henry Lu

Dear Mr. Lu

**Service Contract No. EDO/01/2017
ENVIRONMENTAL TEAM FOR
Development of Anderson Road Quarry Site –
Road Improvement Works**

Submission of Transplantation Completion Report

We hereby submit the captioned report which certified by the ET Leader and verified by IEC in accordance with Condition 2.14c and 2.15 of EP-513/2016 for your perusal and processing.

Should you have any queries, please contact the undersigned at 6178 3179.

Yours faithfully,
For and On Behalf Of
Lam Environmental Services Limited

A handwritten signature in blue ink, appearing to read "Sam Lam".

Sam LAM
Environmental Team Leader

Encl.

c.c. AECOM
ANewR Consulting Limited

Mr. Dennis Leung
Mr. Adi Lee



Civil Engineering and Development Department
New Territories East Development Office
Suite 1213 Chinachem Golden Plaza
77 Mody Road
Tsim Sha Tsui East
Kowloon

Your reference:

Our reference: HKCEDD12/50/105706

Date: 17 April 2019

Attention: Mr Leung Siu Kau, Kelvin

BY POST

Dear Sirs

Agreement No. EDO/04/2017
Independent Environmental Checker (IEC) for Development of Anderson Road Quarry Site
– Road Improvement Works
Transplantation Completion Report

We refer to the emails on 9 and 16 April 2019 from Environmental Team, Lam Environmental Services Limited attaching a Transplantation Completion Report for the captioned project.

We have no further comment and hereby verify the abovementioned Transplantation Completion Report in accordance with Clause 2.14c and 2.15 of the Environmental Permit no. EP-513/2016.

Should you have any queries, please do not hesitate to contact the undersigned or our Ms Angie Chan on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/CWA/lhnh

cc AECOM head office – Mr Ivan Tsang (email: ivan.tsang@aecom.com)
AECOM – Mr Brad C W Chan (email: c3-srec4@arqaecom.com)
Lam Environmental Services Limited – Mr Sam Lam (email: kclam@lamenviro.com)

CONTRACT NO: NE/2017/03

**DEVELOPMENT OF
ANDERSON ROAD QUARRY SITE -
ROAD IMPROVEMENT WORKS**

TRANSPLANTATION COMPLETION REPORT

CLIENTS:

Civil Engineering and Development Department

PREPARED BY:



Jay WAN
Qualified Ecologist

CERTIFIED BY:



Sam LAM
Environmental Team Leader

Lam Environmental Services Limited

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DATE: 16 April 2019

Transplantation Completion Report for Contract No. NE/2017/03 Development of Anderson Road Quarry Site – Road Improvement Works and Pedestrian Connectivity Facilities Works Phase 2A

1. INTRODUCTION

Lam Environmental Services Limited was appointed by Civil Engineering and Development Department (CEDD) as the Environmental Team (ET) under Environmental Permit No. EP-513/2016 for Contract No. NE/2017/03 Development of Anderson Road Quarry Site – Road Improvement Works and Pedestrian Connectivity Facilities Works Phase 2A.

A total of 51 plant individuals, including two *Aquilaria sinensis* (土沉香) trees and 49 seedlings were recommended for transplantation according to information from the separately submitted vegetation survey report. They include two trees R-T02142-(T) and R-T02157-(F), as well as 49 seedlings A1–A32, A37–A53 at Clear Water Bay Road/ On Sau Road site.

According to the transplantation proposal prepared by Plant Specialist of the ET, an approved method statement for transplanting the 49 seedlings has been separately submitted by the Contractor; while transplantation of the two mature trees R-T02142-(T) and R-T02157-(F) is pending further justification and approval (refers to separately submitted supplementary information).

This transplantation completion report recorded transplantation procedures and results for the 49 target seedlings.

2. METHODOLOGY

Based on the approved method statement, transplantation works were carried out by the Landscape Specialist Contractor on 20 March 2019, with onsite supervision of the Supervisor of the Contract and Plant Specialist of the Environmental Team. The cloudy weather with shower was suitable for transplantation, with lower heat and desiccation stress.

Designed receptor site (RSB as per the transplantation proposal) has received minimum vegetation clearance for building temporary access for the 3-year post-transplantation monitoring and maintenance programme (**Plate 1**). There will be no construction activities at RSB, of which the access is exclusively built for post-transplantation monitoring and maintenance works. Nonetheless, RBS was enclosed with warning tapes. Warning sign was placed at the only entrance against unintentional entry of site staff.

Since RSB is within Project NE/2016/01 which has its security guards and system for the project area. This serves certain protection against potential illegal loggers from entering the area (**Plate 1**).

Locations of each planting pit were agreed by the Plant Specialist and the Supervisor of the Contract with adequate spacing for future growth of seedlings. Each pit was marked by a bamboo stick (**Plate 2**). No plant species of conservation importance were detected at the planting area of seedlings.

By following the transplantation proposal, all target seedlings were dug up with caution by hand-held shovel by Landscape Specialist Contractor, individually placed upright in pots, counted, irrigated and delivered to the receptor site (**Plate 3**). Meanwhile, planting pits were ready right before transplantation at each marked location. They were optimized at two to three times the width; and same depth of the rootball at the surface wherever practical. All seedlings were transplanted in the pits within two hours of lifting.

3. RESULTS

All 49 seedlings (A1-A32 and A37-A53) were successfully transplanted, an additional 6 individuals found *in-situ* were also transplanted. They were named as B1-B6. All missing tags would be added for the first monitoring started on 1st April 2019. Their measurement and condition is detailed in **Table 1**. Photographic record for all 55 seedlings is illustrated in **Appendix 1**.

4. OTHER OBSERVATIONS

We revealed the original growing site of target seedlings is full of boulders after clearance of dense ground vegetation has been carried out. Rocks/ boulders exposed under a few centimetres of top soil around root zones for some seedlings (**Plate 4**). Some other seedlings were even growing among rock crevices.

For closely growing seedlings (in case of A18 & A40; and A23 & A31), their roots may have crossed together. In order to avoid further root damage and loss of soil in rootball, they were dug up together and transplanting in the same planting pit.

Despite a rootball with tap-root, most lateral roots and absorbing roots was maintained as far as possible, some root cuts were unavoidable. Sign of dehydration, leaf yellowing/ wilting, or even die-off is expected in coming monitoring before the transplanted seedlings have recovered and established new root system at the receptor site.

Post- transplantation monitoring and maintenance works (e.g. watering, weeding, spraying off construction dust and fertilization) shall follow the approved transplantation proposal and method statement.

Figure 1. Location plan for the 55 transplanted seedlings at receptor site RSB.

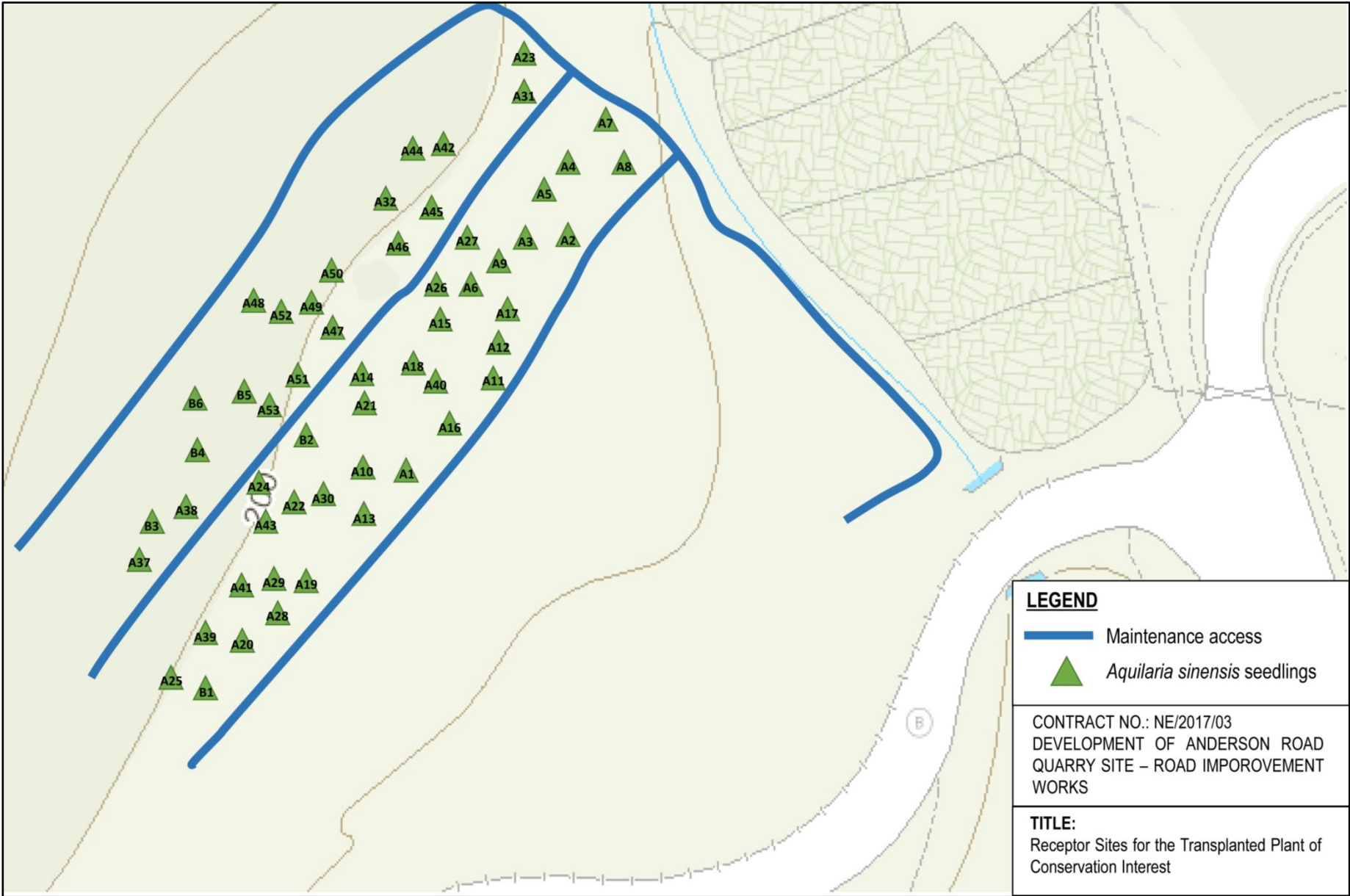


Plate 1. Vegetation clearance was kept at minimum for building temporary access to the transplantation receptor site.



Plate 2. Each planting pit agreed by the Plant Specialist and the Supervisor of the Contract was marked by a bamboo stick prior to transplantation.



Plate 3. All 55 seedlings were dug up with caution by hand-held shovel by Landscape Specialist Contractor, individually placed upright in pots and delivered to the receptor site.



Plate 3 cont'd. All 55 seedlings were counted and irrigated before transplanting to the receptor site.



Plate 4. Original growing site of target seedlings is full of boulders as revealed by digging up the top soil (left). Some seedlings were even growing among rock crevices (right).



Table 1. Individuals of 55 seedlings being transplanted.

No.	Height (m)	Crown spread (m)	Form	Health condition	Structural condition	Amenity value
A1	0.43	0.5	Fair	Fair	Fair	Fair
A2	0.47	0.68	Fair	Fair	Fair	Fair
A3	0.55	0.6	Fair	Fair	Fair	Fair
A4	1.07	1	Fair	Fair	Fair	Fair
A5	0.95	0.62	Fair	Fair	Fair	Fair
A6	0.35	0.48	Fair	Fair	Fair	Fair
A7	0.75	0.74	Fair	Fair	Fair	Fair
A8	0.5	0.43	Fair	Fair	Fair	Fair
A9	0.7	0.8	Fair	Fair	Fair	Fair
A10	0.37	0.32	Fair	Fair	Fair	Fair
A11	0.5	0.55	Fair	Fair	Fair	Fair
A12	0.32	0.28	Fair	Fair	Fair	Fair
A13	0.29	0.27	Fair	Fair	Fair	Fair
A14	0.72	0.48	Fair	Fair	Fair	Fair
A15	0.48	0.44	Fair	Fair	Fair	Fair
A16	0.49	0.41	Fair	Fair	Fair	Fair
A17	0.53	0.5	Fair	Fair	Fair	Fair
A18	0.65	0.47	Fair	Fair	Fair	Fair
A19	0.32	0.39	Fair	Fair	Fair	Fair
A20	0.3	0.25	Fair	Fair	Fair	Fair
A21	0.43	0.55	Fair	Fair	Fair	Fair
A22	0.5	0.4	Fair	Fair	Fair	Fair
A23	0.9	0.83	Fair	Fair	Fair	Fair
A24	0.31	0.22	Fair	Fair	Fair	Fair
A25	0.34	0.32	Fair	Fair	Fair	Fair
A26	0.41	0.22	Fair	Fair	Fair	Fair
A27	0.46	0.53	Fair	Fair	Fair	Fair
A28	0.4	0.32	Fair	Fair	Fair	Fair
A29	0.56	0.28	Fair	Fair	Fair	Fair
A30	0.51	0.34	Fair	Fair	Fair	Fair
A31	0.44	0.3	Fair	Fair	Fair	Fair
A32	0.33	0.27	Fair	Fair	Fair	Fair
A37	0.26	0.41	Fair	Fair	Fair	Fair
A38	0.36	0.29	Fair	Fair	Fair	Fair

Table 1 (cont'd). Individuals of plant species of conservation importance recommended for transplantation.

No.	Height (m)	Crown spread (m)	Form	Health condition	Structural condition	Amenity value
A39	0.35	0.32	Fair	Fair	Fair	Fair
A40	0.17	0.15	Fair	Fair	Fair	Fair
A41	0.25	0.2	Fair	Fair	Fair	Fair
A42	0.34	0.34	Fair	Fair	Fair	Fair
A43	0.3	0.27	Fair	Fair	Fair	Fair
A44	0.27	0.2	Fair	Fair	Fair	Fair
A45	0.29	0.25	Fair	Fair	Fair	Fair
A46	0.31	0.43	Fair	Fair	Fair	Fair
A47	0.23	0.17	Fair	Fair	Fair	Fair
A48	0.14	0.15	Fair	Fair	Fair	Fair
A49	0.3	0.26	Fair	Fair	Fair	Fair
A50	0.34	0.35	Fair	Fair	Fair	Fair
A51	0.24	0.29	Fair	Fair	Fair	Fair
A52	0.36	0.28	Fair	Fair	Fair	Fair
A53	0.35	0.29	Fair	Fair	Fair	Fair
B1	0.4	0.2	Fair	Fair	Fair	Fair
B2	0.25	0.19	Fair	Fair	Fair	Fair
B3	0.12	0.11	Fair	Fair	Fair	Fair
B4	0.64	0.17	Fair	Fair	Fair	Fair
B5	0.18	0.1	Fair	Fair	Fair	Fair
B6	0.25	0.2	Fair	Fair	Fair	Fair

Note:

DBH are not measured for seedlings

Appendix 1

Photographic records of 55 transplanted *Aquilaria sinensis* seedlings

(49 previously recorded individuals plus 6 additional seedlings).



A1



A2



A3



A4



A5



A6



A7



A8



A9



A10



A11



A12



A13



A14



A15



A16



A17



A18



A19



A20



A21



A22



A23



A24



A25



A26



A27



A28



A29



A30



A31



A32



A37



A38



A39



A40



A41



A42



A43



A44



A45



A46



A47



A48



A49



A50



A51



A52



A53



B1



B2



B3



B4



B5



B6