




**Landscape and Visual (L&V) Monitoring Report for
Harbour Area Treatment Scheme Stage 2A
(Operational Phase) (August 2022)**

Report No.: OT_2022011

Prepared by : 
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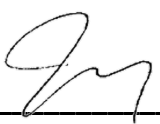
Reviewed by : 
Lo Ting Yi, Ivy

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1. Introduction

1.1. Background

1.1.1. Bestwise – Sun Fook Kong Joint Venture (the Contractors) appointed 3NV Technology Limited (3NV) to undertake the Landscape and Visual Monitoring for the Operational Phase of the “Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works” (hereafter referred to as “the Project”).

1.1.2. The Project is part of the Harbour Area Treatment Scheme (HATS) Stage 2A. According to Environmental Permit No. EP-322/2008/G issued on 9th May 2014 by the Environmental Protection Department (hereinafter called EPD) to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder and the EM&A Manual for the HATS Stage 2A, all landscape and visual mitigation measures shall be monitored monthly on-site during the first year of the Operational Phase at 8 preliminary treatment works (PTW) and the Stonecutters Island Sewage Treatment Works (SCISTW).

1.2. Objectives

1.2.1. The objective is to monitor and audit the contractor’s landscape works, in particular, to ensure the existing trees retained on-site are being well preserved, tree transplanting and felling operations are being undertaken in accordance with the requirements, procedures, and specifications as stipulated in the contract and the approvals granted by concerned authorities, and all the newly planted vegetations are being maintained properly during the establishment period.

2. Landscape and Visual (L&V)

2.1. Monitoring Requirement

Under the EM&A Manual, Landscape and Visual Monitoring audit should be undertaken during the first year of the Operational Phase to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are carried out by a Registered Landscape Architect (RLA).

2.2. Monitoring Frequency

2.2.1. Site inspections should be undertaken once every month through the first year of the Operational Phase.

2.3. Monitoring Locations

2.3.1. Under this Project, there are 8 PTW and SCISTW that should be monitored. The details of the monitoring location are summarized in **Table 1.1**.

Table 1.1 L&V Monitoring Locations

No.	Description
1	North Point PTW
2	Wan Chai East PTW
3	Central PTW
4	Sandy Bay PTW
5	Cyberport PTW
6	Wah Fu PTW
7	Aberdeen PTW
8	Ap Lei Chau PTW
9	Stonecutters Island STW

2.4. Monitoring Methodology

2.4.1. A Registered Landscape Architect is employed to monitor and audit the contractor's landscape works, in particular, to ensure the existing trees retained on-site are being well preserved, tree transplanting and felling operations are being undertaken in accordance with the requirements, procedures, and specifications as stipulated in the contract and the approvals granted by concerned authorities, and all the newly planted vegetations are being maintained properly during the establishment period by complete a checklist.

3. L&V Monitoring Result

3.1. Inspection Result

3.1.1. Four new observations were found at Wah Fu PTW, Ap Lei Chau PTW and Stonecutters Island STW. Two observations from last inspection had been follow up at Sandy Bay PTW and Stonecutters Island STW. The completed checklist is shown in **Appendix A**.

3.2. Result Discussion

3.2.1. Generally, all L&V mitigation measures listed in EM&A were applied at 8 PTWs and SCISTW. **Table 3.1** summarized the reminders and new observations of the 8 PTWs and SCISTW.

Table 3.1 Summary of Reminders and New Observations for the 8 PTWs and SCISTW

Monitoring Location	Reminders	New Observations
North Point PTW	<ol style="list-style-type: none"> 1. Carry out proper maintenance to plantings 2. Increase the frequency of watering in the period of extreme hot weather 	N/A
Wan Chai East PTW	<ol style="list-style-type: none"> 1. Carry out proper maintenance to plantings 2. Increase the frequency of watering in the period of extreme hot weather 	N/A
Central PTW	<ol style="list-style-type: none"> 1. Keep maintenance and pay attention to the plant conditions on the marked tree near site entrance. 2. Increase the frequency 	N/A

	of watering in the period of extreme hot weather	
Sandy Bay PTW	<ol style="list-style-type: none"> 1. Carry out proper maintenance to plantings 2. Increase the frequency of watering in the period of extreme hot weather 3. Carry out tree replacement for compensation of removed tree. 	N/A
Cyberport PTW	<ol style="list-style-type: none"> 1. Keep maintenance of pot plants 2. Increase the frequency of watering in the period of extreme hot weather. 	<ol style="list-style-type: none"> 1. Weeds and undesirable species (<i>Leucaena leucocephala</i>) were observed among shrubs plantings. It is recommended to carry out necessary weeding and maintenance work.
Wah Fu PTW	<ol style="list-style-type: none"> 1. Carry out proper maintenance to plantings 2. Increase the frequency of watering in the period of extreme hot weather 	<ol style="list-style-type: none"> 1. Dead leaves were observed at the marked tree. It is recommended that maintenance party to review if pruning is required.
Aberdeen PTW	<ol style="list-style-type: none"> 1. Carry out proper maintenance to plantings 2. Increase the frequency of watering in the period of extreme hot weather 	N/A

<p>Ap Lei Chau PTW</p>	<ol style="list-style-type: none"> 1. Carry out proper maintenance to plantings 2. Increase the frequency of watering in the period of extreme hot weather 3. Pay attention to the plant conditions at the planter near vehicular exit 	<ol style="list-style-type: none"> 1. Dead tree was observed at entrance area. It is recommended that maintenance party to review if replacement is required.
<p>Stonecutters Island STW</p>	<ol style="list-style-type: none"> 1. Carry out proper maintenance to plantings 2. Increase the frequency of watering in the period of extreme hot weather 	<ol style="list-style-type: none"> 1. Poor health of replacement tree is observed. It is recommended that maintenance party to review if replacement is required. 2. Dead branches with fungal growth are observed. Pruning is recommended.

- End of Report -

Appendix A

L&V Checklist

Landscape and Visual Impact Assessment Checklist for Site Audit – North Point PTW

Inspection Date: 29/08/2022

Weather: Sunny/~~Fine/~~Cloudy/~~Rainy~~

Time: 9:00

Wind: Strong/~~Breeze/~~Light/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?	✓			
2.2	Is the vertical greening maintained properly?			✓	
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?	✓			
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?	✓			
3.2	Is all new planting maintained properly to ensure further establishment?	✓			
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?	✓			
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?	✓			

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

- N/A

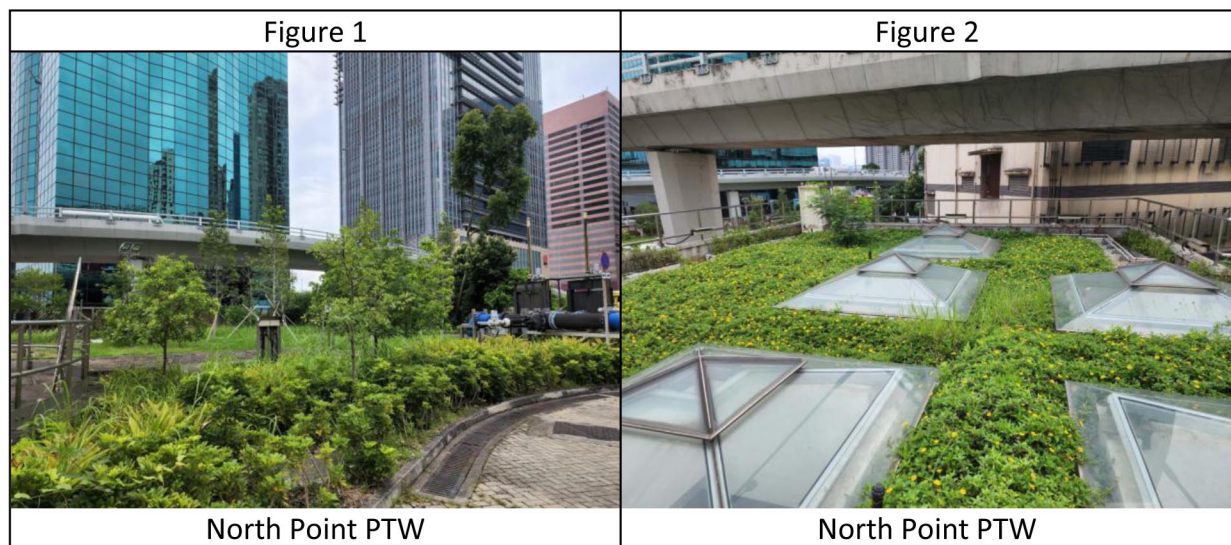
New Observation:

No Particular Observations.

Reminders:

- Contractor was reminded to carry out proper maintenance to plantings and was recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect		29/8/2022

Landscape and Visual Impact Assessment Checklist for Site Audit – Wan Chai East PTW

Inspection Date: 29/08/2022

Weather: Sunny/~~Fine~~/~~Cloudy~~/~~Rainy~~

Time: 11:20

Wind: Strong/~~Breeze~~/~~Light~~/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?	✓			
2.2	Is the vertical greening maintained properly?	✓			
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?	✓			
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?	✓			
3.2	Is all new planting maintained properly to ensure further establishment?	✓			
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?	✓			
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?	✓			

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

- N/A

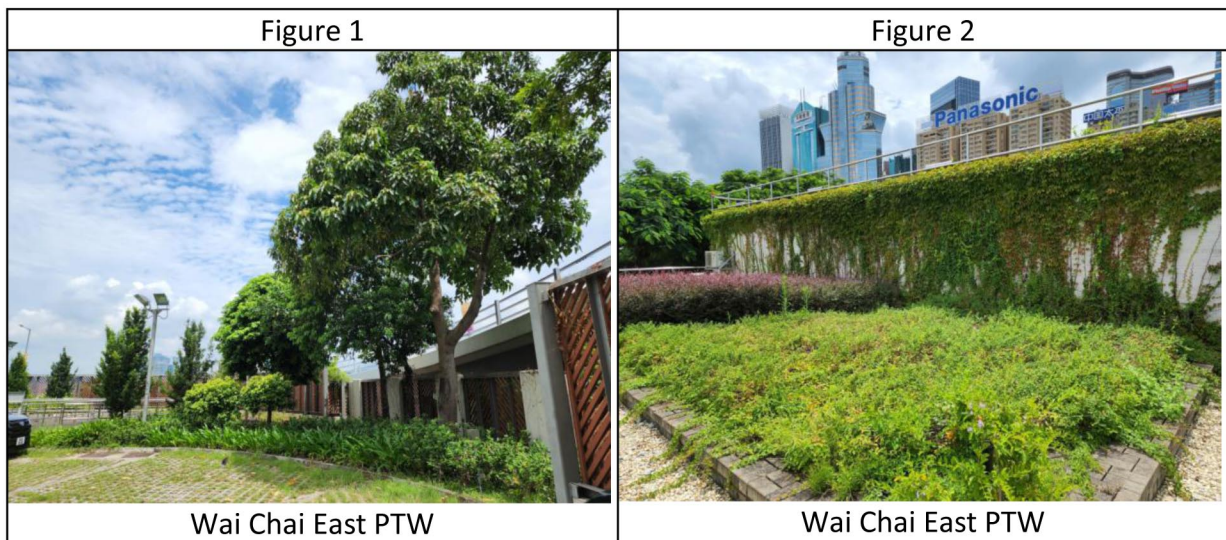
New Observation:

No Particular Observations.

Reminders:

1. Contractor was reminded to carry out proper maintenance to plantings and recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect		



Landscape and Visual Impact Assessment Checklist for Site Audit –Central PTW

Inspection Date:29/08/2022

Weather: Sunny/~~Fine/~~Cloudy/~~Rainy~~

Time: 11:00

Wind: Strong/~~Breeze/~~Light/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?	✓			
2.2	Is the vertical greening maintained properly?	✓			
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?	✓			
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?	✓			
3.2	Is all new planting maintained properly to ensure further establishment?	✓			
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?	✓			
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?	✓			

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

- N/A

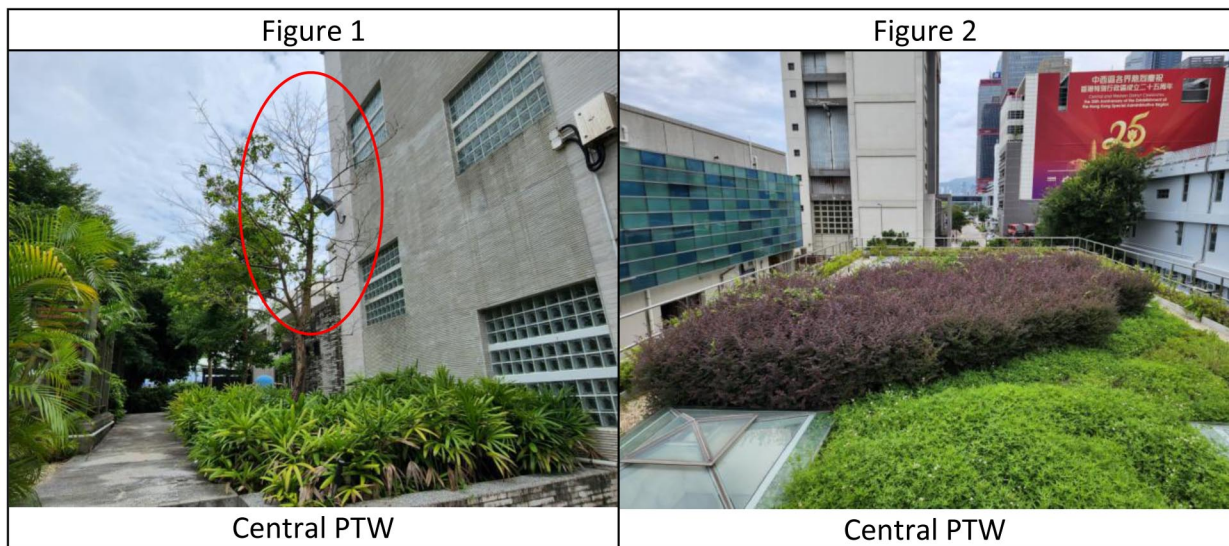
New Observation:

- N/A

Reminders:

1. Contractor was reminded to keep maintenance and pay attention to the plant conditions on the marked tree (Figure 1) and recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect		29/8/2022

Landscape and Visual Impact Assessment Checklist for Site Audit – Sandy Bay PTW

Inspection Date: 29/08/2022

Weather: Sunny/~~Fine~~/~~Cloudy~~/~~Rainy~~

Time: 10:45

Wind: Strong/~~Breeze~~/~~Light~~/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?			✓	
2.2	Is the vertical greening maintained properly?			✓	
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?			✓	
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?	✓			
3.2	Is all new planting maintained properly to ensure further establishment?		✓		Refer to Rectification Item No. 1
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?	✓			
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?	✓			

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

1. Follow up rectification item no.1 on 29/07/2022, the marked tree was removed but the compensation tree is missing. The Contractor is reminded to carry out tree replacement.

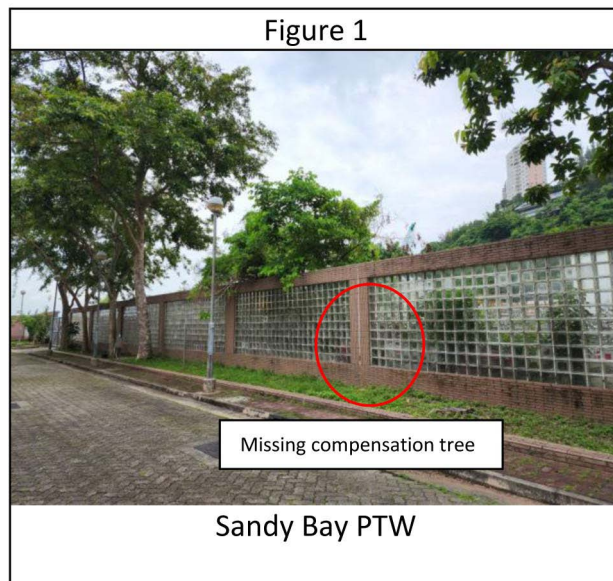
New Observation:

- N/A

Reminders:

1. Contractor was reminded to carry out proper maintenance to plantings and was recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect	<i>[Handwritten Signature]</i>	28/8/2022

Landscape and Visual Impact Assessment Checklist for Site Audit – Cyberport PTW

Inspection Date: 29/08/2022

Weather: Sunny/~~Fine/~~Cloudy/~~Rainy~~

Time: 10:35

Wind: Strong/~~Breeze/~~Light/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?	✓			
2.2	Is the vertical greening maintained properly?	✓			
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?	✓			
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?	✓			
3.2	Is all new planting maintained properly to ensure further establishment?	✓			
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?	✓			
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?		✓		Refer to Observation Item No.1

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

- N/A

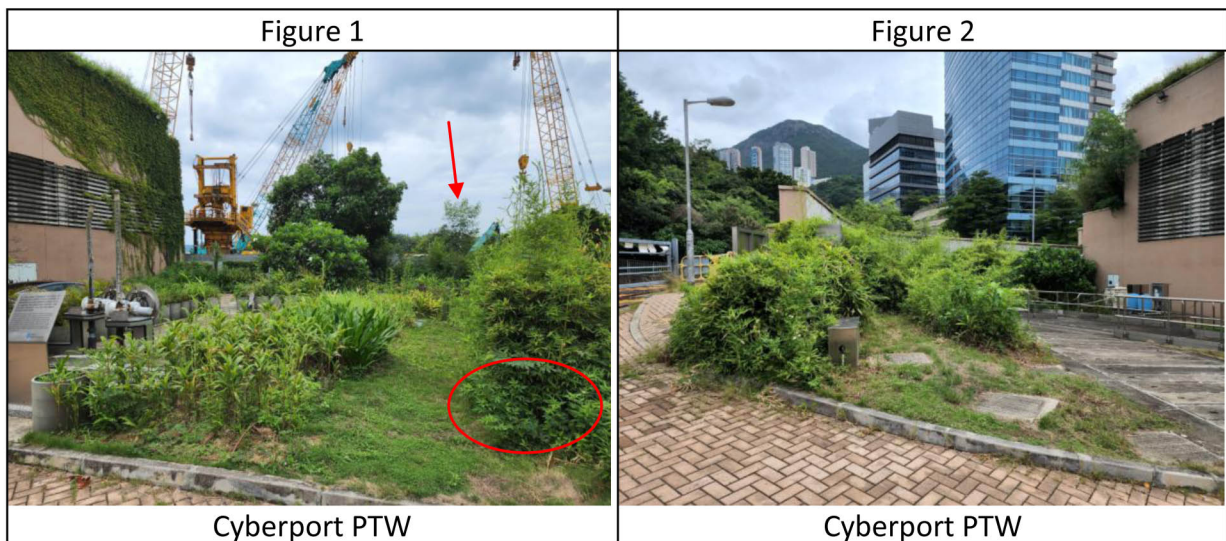
New Observation:

1. Weeds and undesirable species (*Leucaena leucocephala*) were observed among shrubs planting. It is recommended to carry out necessary weeding and maintenance work.

Reminders:

1. Contractor was reminded to carry out proper maintenance to plantings and was recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect		

Landscape and Visual Impact Assessment Checklist for Site Audit – Wah Fu PTW

Inspection Date: 29/08/2022

Weather: Sunny/~~Fine/~~Cloudy/~~Rainy~~

Time: 10:15

Wind: Strong/~~Breeze/~~Light/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?			✓	
2.2	Is the vertical greening maintained properly?			✓	
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?			✓	
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?	✓			
3.2	Is all new planting maintained properly to ensure further establishment?	✓			
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?		✓		Refer to Observation Item No.1
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?	✓			

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

- N/A


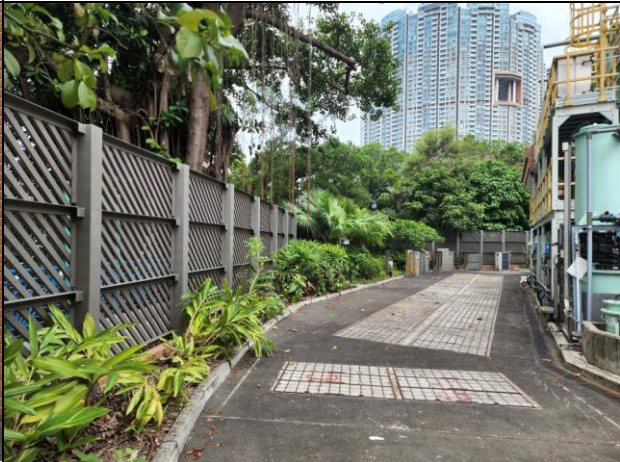

New Observation:

1. Dead leaves were observed at the marked tree (as shown in Figure 3). It is recommended that maintenance party to review if pruning is required.

Reminders:

1. Contractor was reminded to carry out proper maintenance to plantings and recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:

<p>Figure 1</p> 	<p>Figure 2</p> 
<p>Wah Fu PTW</p>	<p>Wah Fu PTW</p>
<p>Figure 3</p> 	
<p>Wah Fu PTW</p>	

Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect	<i>[Handwritten Signature]</i>	<i>28/8/2022</i>

Landscape and Visual Impact Assessment Checklist for Site Audit –Aberdeen PTW

Inspection Date:29/08/2022

Weather: Sunny/~~Fine/~~Cloudy/~~Rainy~~

Time: 10:00

Wind: Strong/~~Breeze/~~Light/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?	✓			
2.2	Is the vertical greening maintained properly?	✓			
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?	✓			
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?	✓			
3.2	Is all new planting maintained properly to ensure further establishment?	✓			
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?	✓			
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?	✓			

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

- N/A



New Observation:

No Particular Observations.

Reminders:

1. Contractor was reminded to carry out proper maintenance to plantings and recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:

Figure 1	Figure 2
	
Aberdeen PTW	Aberdeen PTW

Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect		28/8/2022

Landscape and Visual Impact Assessment Checklist for Site Audit –Ap Lei Chau PTW

Inspection Date: 29/08/2022

Weather: Sunny/~~Fine~~/~~Cloudy~~/~~Rainy~~

Time: 9:50

Wind: Strong/~~Breeze~~/~~Light~~/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?	✓			
2.2	Is the vertical greening maintained properly?			✓	
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?	✓			
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?		✓		Refer to Observation Item No.1
3.2	Is all new planting maintained properly to ensure further establishment?	✓			
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?	✓			
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?	✓			

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

- N/A

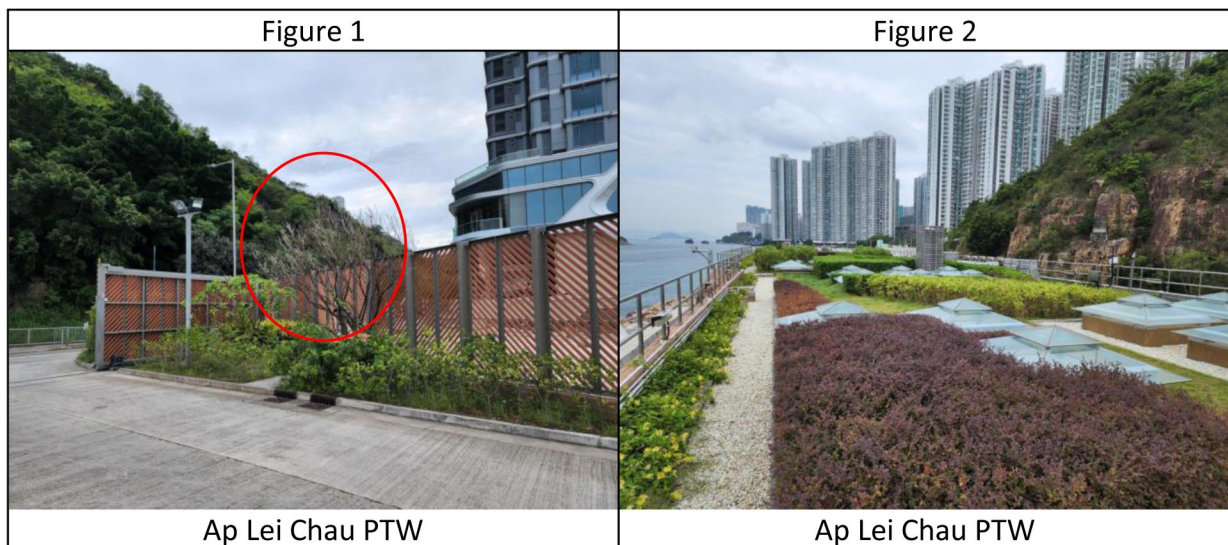
New Observation:

1. Dead tree was observed at entrance area (shown in Figure 1). It is recommended that maintenance party to review if replacement is required.

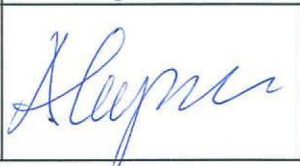
Reminders:

1. Contractor was reminded to carry out proper maintenance to plantings and was recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:



Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect		29/8/2022

Landscape and Visual Impact Assessment Checklist for Site Audit – Stonecutters Island STW

Inspection Date: 29/08/2022

Weather: ~~Sunny~~/~~Fine~~/~~Cloudy~~/~~Rainy~~

Time: 12:00

Wind: ~~Strong~~/~~Breeze~~/~~Light~~/~~Calm~~

Item	Description	Yes	No	N/A	Actions / Remarks
1	Aesthetic design of the façade of PTW and associated structures to harmonize with the surrounding settings				
1.1	Is the aesthetic design match the surrounding environment?	✓			
1.2	Are the buildings maintained properly that do not cause any visual impact?	✓			
2	Shrub and Climbing Plants to soften proposed structures / Roof Greening / Vertical Greening				
2.1	Is the roof greening maintained properly?	✓			
2.2	Is the vertical greening maintained properly?	✓			
2.3	Are the Shrub and Climbing Plants free from sign of deterioration of health?	✓			
3	Buffer Tree and Shrub Planting to screen proposed associated structures				
3.1	Are the health of those buffer trees and shrub plantings generally in order?		✓		Refer to Observation Item No. 1 and No. 2
3.2	Is all new planting maintained properly to ensure further establishment?	✓			
4	Reinstatement of disturbed area				
4.1	Are the compensated planting covered the disturbed area?	✓			
5	Others				
5.1	Are existing trees retained on-site are being well preserved?		✓		Refer to Rectification Item No.1
5.2	Are newly planted vegetations are being generally maintained during the establishment period (12 months)?		✓		Refer to Rectification Item No.1

Summary / Remarks:

Follow up action taken by Contractor for previous comments:

- N/A

The contractor was reminded to rectify the following:

1. Some existing trees adjacent to T110 & T109 are still found severely tilted and span over driveway (shown in Figure 3). It is recommended that maintenance party to review if pruning is required.




New Observation:

- 1: Poor health is observed for replacement tree (shown in Figure 1).
- 2: Dead branches (shown in Figure 2) with fungal growth are observed. Pruning is recommended.


Reminders:

1. Contractor was reminded to carry out proper maintenance to plantings and recommended to further increase the frequency of watering in the period of extreme hot weather.

Photo Record:

<p style="text-align: center;">Figure 1</p>  <p style="text-align: center;">Stonecutters Island STW</p>	<p style="text-align: center;">Figure 2</p>  <p style="text-align: center;">Stonecutters Island STW</p>
<p style="text-align: center;">Figure 3</p>  <p style="text-align: center;">Stonecutters Island STW</p>	

Signature:

		Signature	Date
Inspected & Recorded by	Registered Landscape Architect		29/8/2022