

Ocean Park Tai Shue Wan Water World Project

Operation Phase Monthly EM&A Report
December 2021

January 2022

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This Operation Phase Monthly EM&A Report for December 2021 has been reviewed and certified by the Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC) as having complied with the requirements as set out in the EM&A Manual in accordance with Condition 3.4 of Environmental Permit

No. EP-487/2014/A.

Certified by:



Gary Chow
Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date:

11 JAN 2022

Verified by:



Mandy To
Independent Environmental Checker (IEC)
ERM-Hong Kong Limited

Date:

11 Jan 2022

Information class: Standard

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Executive summary

Mott MacDonald Hong Kong Ltd. (“MMHK”) has been commissioned by the Ocean Park Corporation, to undertake the Environmental Team (ET) services to carry out environmental monitoring and audit (EM&A) for the operation phase of Ocean Park Tai Shue Wan Water World (the Project).

This is the 2nd Monthly EM&A Report for the operation phase of the Project summarising the findings on EM&A during the period from 1 to 31 December 2021, and is submitted under the Environmental Permit (No. EP-487/2014/A).

Environmental Monitoring and Audit Progress

A summary of the operation phase monitoring activities during the reporting period is listed as below:

- Monitoring of the Ecological Enhancement Area (monthly): 16 December 2021
- Landscape and visual monitoring (bi-monthly): To be conducted during next reporting period

1 Introduction

1.1 Background

On 27 August 2014, the Environment Impact Assessment (EIA) Report and Environmental Monitoring and Audit (EM&A) Manual (Register No.: AEIAR-184/2014) for the “Tai Shue Wan Development at Ocean Park” (the Project) was approved and an Environmental Permit (EP) (Permit No.: EP-487/2014) was issued to the Ocean Park Corporation (Project Proponent). Based on the Application for Variation of Environmental Permit No. VEP-539/2017, the current valid EP (Permit No.: EP-487/2014/A) was issued on 10 January 2018. The location and layout of the Project are presented in **Appendix A**.

Upon the completion of construction of the Project in May 2021 and the approved termination of construction phase EM&A programme in July 2021, the Water World opened on 21 September 2021. Mott MacDonald Hong Kong Ltd. (“MMHK”) has been commissioned by the Project Proponent to undertake the Environmental Team (ET) services to carry out operation phase EM&A for the Ocean Park Tai Shue Wan Water World Project.

Under the requirements of Section 3 of EP and the EM&A Manual, environmental monitoring of ecology, landscape and visual are required for one year during operation phase. This is the 2nd Operation Phase Monthly EM&A Report summarising the monitoring results for the Project during the Reporting Period from 1 to 31 December 2021.

1.2 Project Organisation

The project organisation and the contacts of key personnel of the Project are shown in **Appendix B**.

1.3 Environmental Status and Programme

The current monitoring is under the operation phase of the Project with all construction activities completed, thus there were no construction works involved.

Monitoring of ecological enhancement area was conducted with a monitoring programme for once per month for 12 months during operation phase.

Landscape and visual monitoring was conducted with a monitoring programme for once in bi-monthly intervals throughout the 12-month establishment period in operation phase.

Submissions required under the EP that were approved by the EPD and deposited to the EIA Ordinance Register Office are as listed below:

- Detailed Vegetation Survey Report
- Woodland Compensation Plan
- Ardeid Inspection Report
- Short-nosed Fruit Bat Inspection Report
- Baseline Monitoring Report
- Ecological Enhancement Plan
- Visual and Landscape Plan
- Detailed Design Report for the Sewerage Facilities
- Noise Audit Report

2 Monitoring of Ecological Enhancement Area

2.1 Monitoring Requirement

As required under the Section 8.3.2.4 of the approved EM&A Manual and the approved Ecological Enhancement Plan under EP Condition 2.8, the Ecological Enhancement Area (EEA) should be monitored monthly after establishment, for one year during operation phase to check the effectiveness of the setting.

Direct observation and counting of ardeids was made from a vantage point (i.e., point count method) at the evening time from an hour before sunset, and last until the nightfall. Before conducting point count survey, the EEA was also inspected and searched for any ardeids, other birds or faunal groups utilising the habitat. Any aggregation of night roosting ardeids in the EEA or adjacent area would be located, and the ardeid species would be identified and counted throughout the monitoring. Moreover, day roost of Black-crowned Night Heron in the EEA or adjacent area would also be recorded if any.

2.2 Monitoring Findings

Monitoring of the EEA was undertaken on 16 December 2021. The EEA was inspected, but no ardeids or day roost of Black-crowned Night Heron were found in the EEA. Field signs i.e. diggings left by wild boars were observed next to the pond within the EEA as represented in **Figure 2.1** below. Individuals of Black Kite (*Milvus migrans*) were observed soaring over the area. Plumbeous Water Redstart (*Phoenicurus fuliginosus*), Black-collared Starling (*Gracupica nigricollis*) and a common butterfly species Dark Brand Bush Brown (*Mycalesis mineus mineus*) were also observed within the EEA. Plumbeous Water Redstart is a species considered as of Local Concern (Fellowes *et al.*, 2002)¹ and it was observed perching at the edge of the pond. A group of Short-nosed Fruit Bat (*Cynopterus sphinx*), which is a species listed as “Near Threatened” in Red List of China’s Vertebrates (Jiang *et al.*, 2016)², was also observed roosting under Chinese Fan-palm within the EEA (see **Figure 2.2**), which echoes the findings of the Short-nosed Fruit Bat Inspection Report submitted prior the construction phase.



Figure 2.1 Diggings left by wild boars within the EEA



Figure 2.2 Short-nosed Fruit Bat roosting on frond of Chinese Fan-palm

¹ Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Carey, G.J., Chan, B.P.L., Kendrick, R.C., Lee, K.S., Leven, M.R., Wilson, K.D.P., and Yu, Y.T. (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society*, 25, 123-160.

² Jiang, Z. G., Jiang, J.-P., Wang, Y. Z., Zhang, E., Zhang, Y. Y., Li, L.L., Xie, F., Cai, B., Cao, L., Zheng, G. M., Dong, L., Zhang, Z. W., Ding, P., Luo, Z. H., Ding, C. Q., Ma, Z. J., Tang, S. H., Cao, W. X., Li, C. W., Hu, H. J., Ma, Y., Wu, Y., Wang, Y. X., Zhou, K. Y., Liu, S. Y., Chen, Y. Y., Li, J. T., Feng, Z. J., Wang, Y., Wang, B., Li, C., Song, X. L., Cai, L., Zang, C. X., Zeng, Y., Meng, Z. B., Fang, H. X. and Ping, X. G. (2016). Red List of China’s Vertebrates. *Biodiversity Science*, 24(5): 500–551.

Point count survey was conducted covering the period from one hour before sunset until nightfall (16:40 to 18:20). Direct observation was made at the vantage point next to the EEA with an unobstructed view covering the EEA, seawall at Tai Shue Wan, Aberdeen Channel and a portion of the East Lamma Channel. The location of the vantage point is indicated in **Appendix C**. Throughout the monitoring period, no ardeids were noted roosting within or flying towards the EEA. On the other hand, an individual of Little Egret was observed flying pass the Aberdeen Channel towards typhoon shelter.

3 Landscape & Visual Monitoring

3.1 Monitoring Requirement

Landscape and visual mitigation measures for the operation phase are listed in Table 9.2 of the Approved EM&A Manual, while the detailed implementation plans are presented in the approved Visual and Landscape Plan.

According to Section 9.1 of the approved EM&A Manual, a Registered Landscape Architect (RLA), as a member of the ET team, would be responsible for monitoring the implementation of landscape and visual measures during the operation phase.

As required under the Section 9.5 of the approved EM&A Manual, all landscape planting shall be monitored bi-monthly during the first year of the operation phase to ensure proper establishment and its effectiveness as landscape and visual mitigation measures. The scope of the site audit during this 12-month establishment period in operation phase shall include the following:

- All necessary horticultural operations and replacement planting are undertaken throughout the 12-month establishment period to ensure healthy establishment.

Any observation of unsatisfactory horticultural maintenance works, failure of establishment of soft landscape or poor condition of established planting shall be recorded for Ocean Park operator to undertake any necessary actions to improve the conditions of the landscape planting.

3.2 Audit Summary

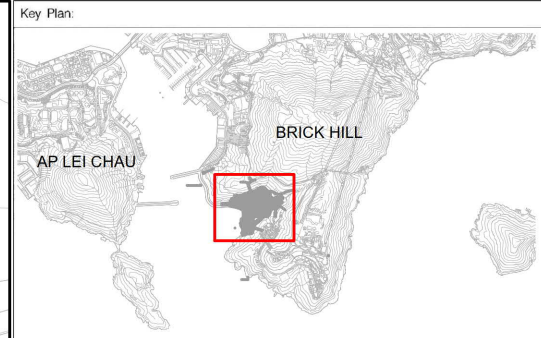
In the reporting period, no landscape and visual site inspection was conducted. Landscape and visual site inspection was last conducted on 26 November 2021, while the next site inspection will be conducted tentatively on 19 January 2021 for the next reporting period.

4 Conclusions

Operation phase EM&A works including the monitoring of the EEA was conducted in accordance with the EM&A Manual during the reporting period.

In this month of monitoring of the EEA, survey was conducted on 16 December 2021 covering the period from one hour before sunset until nightfall. No ardeids were noted roosting in the EEA, while two species of conservation importance, Plumbeous Water Redstart and Short-nosed Fruit Bat, were observed within the EEA.

Appendix A Project Layout



Notes:

Key to symbols:

LEGEND

 PROJECT AREA



Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	JUL 2021	KN		HL	GC

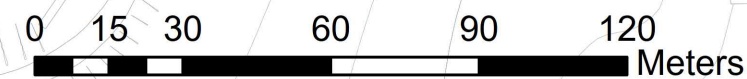
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**TAI SHUE WAN DEVELOPMENT
AT OCEAN PARK**

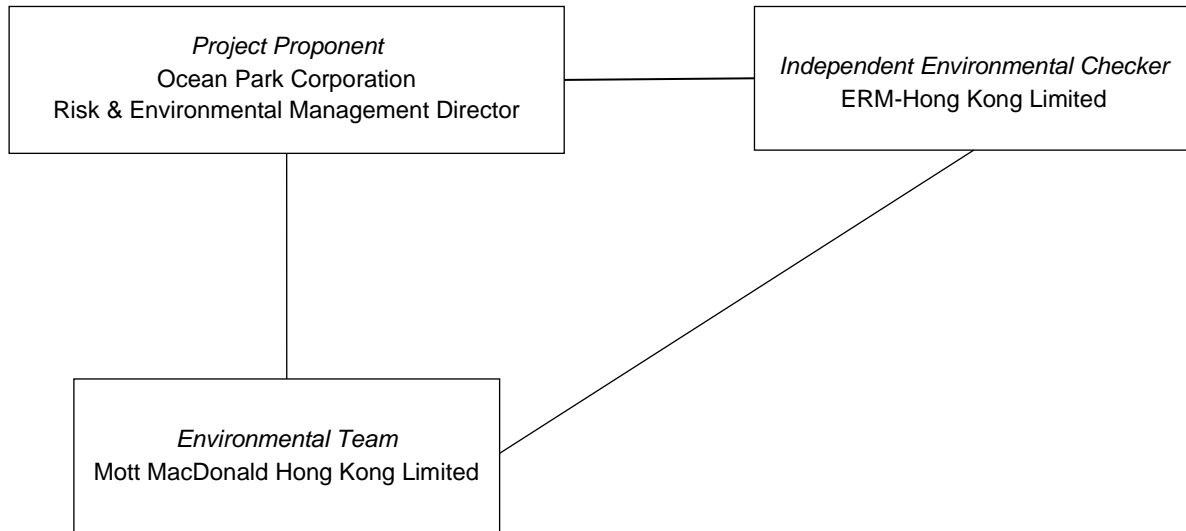
LOCATION OF THE PROJECT

Designed		Eng check	
Drawn		Coordination	
Dwg check		Approved	
Scale at A3	Status	Rev	



Drawing Number **FIGURE 1.1**

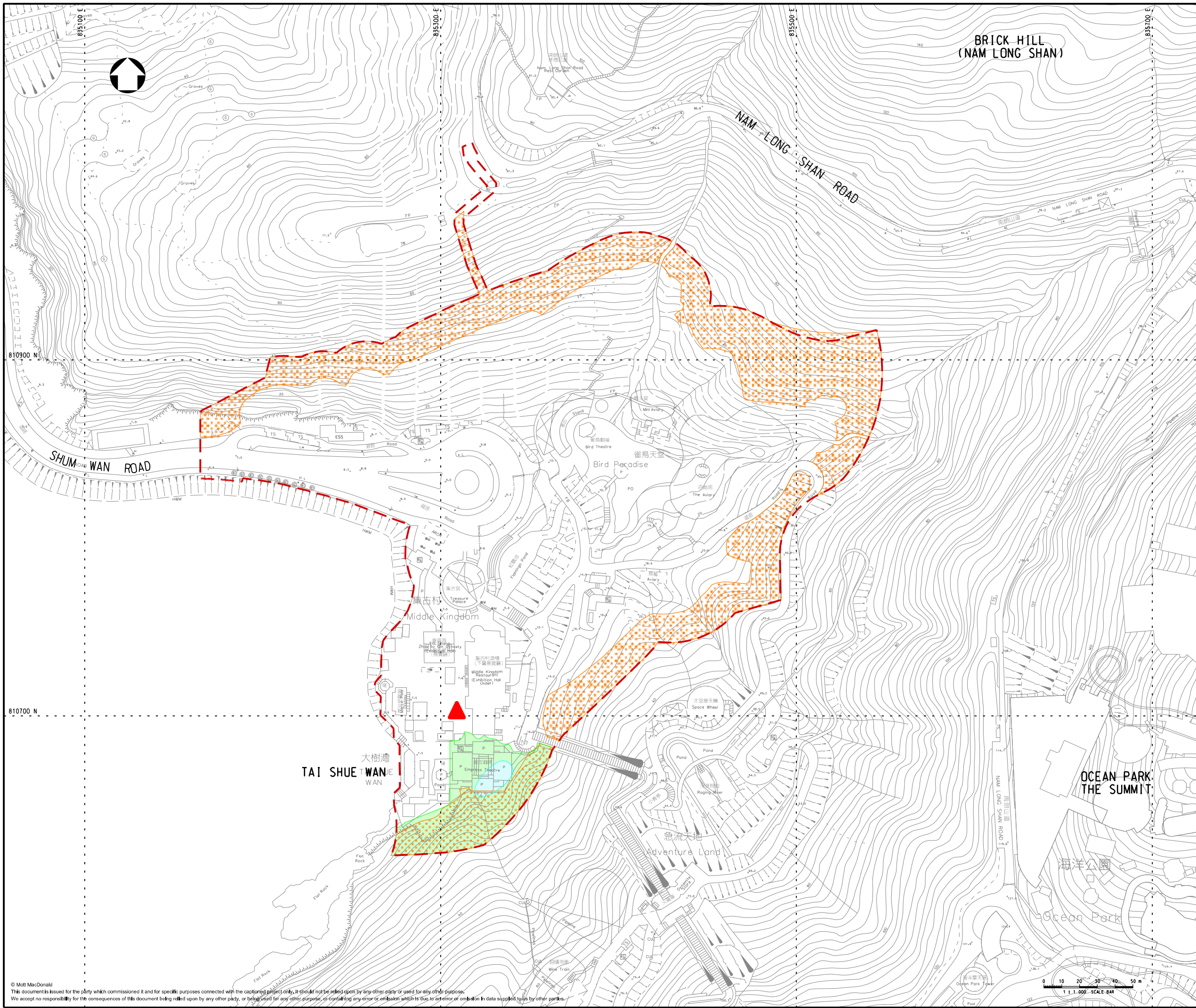
Appendix B Project Organisation



Contact information

Company / Department	Position	Name	Telephone / Mobile	Fax No.
Ocean Park Corporation	Risk & Environmental Management Director	Mr Frankie Hau	3923 2528	2518 4738
ERM-Hong Kong Ltd.	Independent Environmental Checker	Ms Mandy To	2271 3113	3015 8052
Mott MacDonald Hong Kong Ltd.	Environmental Team Leader	Mr Gary Chow	2828 5874	2827 1823

Appendix C Location of Vantage Point



Notes

Key to symbols

- PROPOSED PROJECT BOUNDARY
- PROPOSED WOODLAND COMPENSATION AREA
- PROPOSED ECOLOGICAL ENHANCEMENT AREA
- PROPOSED FRESHWATER POND
- ▲ PROPOSED VANTAGE POINT

Reference drawings

Rev	Date	Drawn	Description	Ch'k'd	App'd
P1	DEC 19	MING	FIRST ISSUE	HY	EC

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Client

Project

TAI SHUE WAN DEVELOPMENT AT OCEAN PARK

Title

LOCATION OF VANTAGE POINT FOR MONITORING

Designed	HY	Eng check	HY
Drawn	MING	Coordination	HY
Dwg check	HY	Approved	EC
Scale at A1	1:1000	Status	PRE
Rev			P1
Drawing Number	APPENDIX C		

