

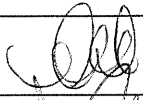
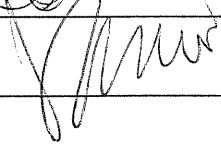


Agreement No. CE 51/2002 (DS)

**Upgrading of Pillar Point Sewage Treatment Works  
- Investigation, Design and Construction**

**EIA Study Report**

**[January 2008]**

	Name	Signature
Reviewed & Checked:	Amy Cheung	
Approved:	Josh Lam	

Version: Final

Date: 30<sup>th</sup> January 2008

The information contained in this report is, to the best of our knowledge, correct at the time of printing. The interpretation and recommendations in the report are based on our experience, using reasonable professional skill and judgment, and based upon the information that was available to us. These interpretations and recommendations are not necessarily relevant to any aspect outside the restricted requirements of our brief. This report has been prepared for the sole and specific use of our client and ENSR accepts no responsibility for its use by others.

This report is copyright and may not be reproduced in whole or in part without prior written permission.

**ENSR ASIA (HK) LTD**

11/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong  
Tel: (852) 2893 1551 Fax: (852) 2891 0305

## TABLE OF CONTENTS

<b>1.</b>	<b>INTRODUCTION .....</b>	<b>1-1</b>
1.1	Background of the Project .....	1-1
1.2	The Assignment .....	1-1
1.3	Objectives of the Assignment .....	1-2
1.4	Assessment Area .....	1-3
1.5	Organisation of the Report .....	1-3
<b>2.</b>	<b>PROJECT DESCRIPTION .....</b>	<b>2-1</b>
2.1	Project Background .....	2-1
2.2	Need of the Project .....	2-1
2.3	Project Description .....	2-1
2.4	Project Location .....	2-3
2.5	Consideration of Sewage Treatment Options .....	2-3
2.6	Comparison of Sewage Treatment Options .....	2-4
2.7	Preliminary Layout and Process Flow Diagram .....	2-9
2.8	Project Programme .....	2-10
2.9	Interactions with Other Projects .....	2-10
2.10	Construction Methods for the Upgrading Works .....	2-10
<b>3.</b>	<b>AIR QUALITY .....</b>	<b>3-1</b>
3.1	Introduction .....	3-1
3.2	Environmental Legislations, Policies, Plans, Standards and Criteria .....	3-1
3.3	Description of the Environment .....	3-2
3.4	Air Sensitive Receivers .....	3-2
3.5	Initial Assessment and Control Measures .....	3-3
3.6	Prediction and Evaluation of Environmental Impacts .....	3-16
3.7	Mitigation of Adverse Environmental Impacts .....	3-17
3.8	Evaluation of Residual Impact .....	3-21
3.9	Environmental Monitoring and Audit .....	3-21
3.10	Conclusions .....	3-21
<b>4.</b>	<b>WATER QUALITY .....</b>	<b>4-1</b>
4.1	Introduction .....	4-1
4.2	Water Sensitive Receivers .....	4-1

4.3	Environmental Legislations, Policies, Plans, Standards and Criteria .....	4-1
4.4	Description of the Environment.....	4-10
4.5	Assessment Methodology.....	4-17
4.6	Identification of Environmental Impacts.....	4-25
4.7	Prediction and Evaluation of Environmental Impacts .....	4-26
4.8	Mitigation of Adverse Environmental Impacts .....	4-38
4.9	Evaluation of Residual Impact .....	4-40
4.10	Environmental Monitoring and Audit.....	4-41
4.11	Conclusions .....	4-41
<b>5.</b>	<b>NOT USED</b>	
<b>6</b>	<b>MARINE ECOLOGY .....</b>	<b>6-1</b>
6.1	Introduction .....	6-1
6.2	Environmental Legislation, Policies, Plans, Standards and Criteria.....	6-1
6.3	Assessment Methodology.....	6-2
6.4	Description of Environment .....	6-3
6.5	Ecological Value .....	6-21
6.6	Identification and Evaluation of Environmental Impact.....	6-28
6.7	Mitigation of Environmental Impact .....	6-32
6.8	Evaluation of Residual Impact .....	6-32
6.9	Environmental Monitoring and Auditing .....	6-32
6.10	Conclusions .....	6-33
6.11	References .....	6-33
<b>7.</b>	<b>WASTE MANAGEMENT IMPLICATIONS.....</b>	<b>7-1</b>
7.1	Introduction .....	7-1
7.2	Environmental Legislations, Policies, Plans, Standards and Criteria .....	7-1
7.3	Assessment Methodology.....	7-2
7.4	Identification and Evaluation of Environmental Impacts .....	7-3
7.5	Mitigation of Adverse Environmental Impacts .....	7-6
7.6	Evaluation of Residual Impacts.....	7-10
7.7	Environmental Monitoring and Audit.....	7-10
7.8	Conclusion.....	7-10
<b>8.</b>	<b>LANDSCAPE AND VISUAL IMPACT .....</b>	<b>8-1</b>
8.1	Introduction .....	8-1

---

8.2	Project Overview .....	8-2
8.3	Review of Planning and Development Control Framework .....	8-2
8.4	Environmental Legislation and Standards.....	8-2
8.5	Assessment Methodology.....	8-3
8.6	Baseline Study .....	8-10
8.7	Landscape Impact Assessment (LIA) .....	8-14
8.8	Visual Impact Assessment (VIA) .....	8-16
8.9	Recommendation on Landscape and Visual Mitigation Measures.....	8-21
8.10	Conclusions .....	8-23
<b>9.</b>	<b>ENVIRONMENTAL MONITORING &amp; AUDIT .....</b>	<b>9-1</b>
9.1	Introduction .....	9-1
9.2	Air Quality Impact .....	9-1
9.3	Water Quality Impact.....	9-2
9.4	Waste Management Implications.....	9-2
9.5	Landscape and Visual Impact.....	9-2
<b>10.</b>	<b>CONCLUSIONS &amp; SUMMARY OF ENVIRONMENTAL OUTCOMES .....</b>	<b>10-1</b>
10.1	Introduction .....	10-1
10.2	Air Quality Impact .....	10-1
10.3	Water Quality Impact.....	10-2
10.4	Ecological Impact .....	10-3
10.5	Waste Management Implications.....	10-3
10.6	Landscape and Visual Impact.....	10-3
10.7	Overall Conclusion .....	10-4
<b>11.</b>	<b>IMPLEMENTATION SCHEDULE .....</b>	<b>11-1</b>

## **LIST OF APPENDICES**

- Appendix 2-1 Sewage Treatment Process options
- Appendix 2-2 UV Irradiation
- Appendix 2-3 Details and Technique for Bored Pile
- Appendix 3-1 Calculation of Odour Emission Rate
- Appendix 4-1 Near Field Modelling Results
- Appendix 4-2 Assumed Effluent Flow and Concentrations for Pillar Point Effluent
- Appendix 4-3 Pollution Loading Inventory for Deep Bay
- Appendix 4-4 Model Results at Indicator Points for 2012 – Dry Season
- Appendix 4-5 Model Results at Indicator Points for 2012 – Wet Season
- Appendix 4-6 Model Results at Indicator Points for UDS – Dry Season
- Appendix 4-7 Model Results at Indicator Points for UDS – Wet Season
- Appendix 4-8 Emergency Response Procedures
- Appendix 6.1 Photographic Records of Representative Habitats and Species of Conservation Interest
- Appendix 6.2 Relative Abundance (%) of Major Taxa at 6 Study Sites from HATS EEFS WP9 (2004)
- Appendix 6.3 Relative Biomass (%) of Major Taxa in the Study Sites from HATS EEFS WP9 (2004)
- Appendix 6.4 Relative Abundance of the 5 Most Dominant Species at East Site from HATS EEFS WP9 (2004)
- Appendix 6.5 Relative Biomass of the 5 Most Dominant Species at Each Sampling Site from HATS EEFS WP9 (2004)
- Appendix 6.6 Community Structure of Sandy Bay from HATS EEFS WP9 (2004)
- Appendix 6.7 List of Coral Species found in Ap Lei Chau and Sandy Bay and their Conservation Status from HATS EEFS WP9 (2004) and AFCD (2005)
- Appendix 7-1 ETWB TCW No. 31/2004 “Trip Ticket System for Disposal of Construction and Demolition Materials”

## **List of Tables**

- Table 2.1 Projected ADWF and PWWF for PPSTW Upgrading
- Table 2.2 Corrected Pollution Loads for PPSTW Upgrading
- Table 2.3 Recommended Effluent Standards for Upgraded PPSTW
- Table 2.4 Shortlisting of Promising Processes
- Table 3.1 Hong Kong Air Quality Objectives

Table 3.2	Background Air Quality
Table 3.3	Details of Representative Air Sensitive Receivers
Table 3.4	Potential Odour Sources of Existing Treatment Facilities
Table 3.5	Potential Odour Sources of New Sewage Treatment Facilities after Upgrading
Table 3.6	Odour Emission Rate of Upgraded PPSTW (Unmitigated)
Table 3.7	Conversion Factors to 5-second Mean Concentration
Table 3.8	Predicted Unmitigated Odour Levels at ASRs after PPSTW Upgrading
Table 3.9	Odour Emission Rate of Upgraded PPSTW (Mitigated)
Table 3.10	Predicted Mitigated Odour levels at ASRs after PPSTW Upgrading
Table 4.1	Summary of Water Quality Objectives for North Western WCZ
Table 4.2	Summary of Water Quality Objectives for Western Buffer WCZ
Table 4.3	Summary of Water Quality Objectives for Deep Bay Water Control Zone
Table 4.4	WSD Standards at Flushing Water Intakes
Table 4.5	Not Used
Table 4.6	Baseline Water Quality Condition for North Western WCZ in 2005
Table 4.7	Baseline Water Quality Condition for Western Buffer WCZ in 2005
Table 4.8	Baseline Water Quality Condition for Deep Bay WCZ in 2005
Table 4.9	Typical Hourly Flow Pattern for the Project Effluent
Table 4.10	Design Influent and Effluent TSS and BOD5 of the Upgraded PPSTW
Table 4.11	Not Used
Table 4.12	Comparison of Effluent E.coli Discharge Standards for Existing CEPT Plants in Hong Kong
Table 4.13	Assumed Effluent Loadings from the Upgraded PPSTW
Table 4.14	Assumed Effluent Quality of Secondary Treatment with Nitrogen Removal and Disinfection
Table 4.15	Modelling Scenarios for Emergency Discharge of Untreated Effluent from PPSTW
Table 4.16	Modelling Scenarios for Emergency Bypass of Treated Effluent from PPSTW
Table 4.17	Coastal Developments to be Incorporated in the 2012 and UDS Coastline Configurations
Table 4.18	Occurrence and Distribution of Red Tides in Hong Kong
Table 6.4.1	The vertical zonation of abundant invertebrates recorded in Sandy Bay intertidal rocky shore
Table 6.5.1	Ecological value of marine benthos within potential impacted areas (Western Buffer and Northwestern WCZs)
Table 6.5.2	Ecological value of coral community in potentially impacted areas (Western Buffer and Northwestern WCZs)

Table 6.5.3	Ecological value of intertidal community in potentially impacted areas (Western Buffer and Northwestern WCZs)
Table 6.5.4	Ecological value of Artificial Reefs in potentially impacted areas (Western Buffer and Northwestern WCZs)
Table 6.5.5	Ecological value of Chinese White Dolphin within potentially impacted areas (Western Buffer and Northwestern WCZs)
Table 6.5.6	Ecological value of Horseshoe Crab within potentially impacted areas (Western Buffer and Northwestern WCZs)
Table 6.5.7	Ecological value of Seagrass within potentially impacted areas (Western Buffer and Northwestern WCZs)
Table 6.6.1	Potential ecological impacts on Benthos habitats within potential impacted areas (Western Buffer and Northwestern WCZs)
Table 6.6.2	Potential ecological impacts of Coral community within potential impacted areas (Western Buffer and Northwestern WCZs)
Table 6.6.3	Potential ecological impacts of Intertidal communities within potential impacted areas (Western Buffer and Northwestern WCZs)
Table 6.6.4	Ecological impact on artificial reefs within potential impacted areas (Western Buffer and Northwestern WCZs)
Table 6.6.5	Ecological impact of Chinese White Dolphin within potential impacted areas (Western Buffer and Northwestern WCZs)
Table 7.1	Summary of Waste Handling Procedures and Disposal Routes for Construction Phase
Table 8.1	Illustration of the Sensitivity of LRs in Study area
Table 8.2	Identity of key visual sensitive receivers (VSRs) and their sensitivity to change
Table 8.3	Visual sensitive receivers (VSRs) and their magnitude of impacts
Table 8.4	Significance of landscape impacts in the construction and operational phases (Note: All impacts adverse unless otherwise noted. Only those resources or character areas that are impacted are listed in the table - resources not impacted are not listed.)
Table 8.5	Significance of visual impacts in the construction and operational phases (Note: All impacts adverse unless otherwise noted. Only those VSRs that are impacted are listed in the table - VSRs not impacted are not listed.)
Table 8.6	Proposed Landscape and Visual Mitigation Measures in Construction Phase
Table 8.7	Proposed Landscape and Visual Mitigation Measures in Operation Phase
Table 10.1	Summary of Key Environmental Outcomes / Benefits
Table 11.1	Implementation Schedule for Air Quality Impact

Table 11.2	Implementation Schedule for Water Quality Impact
Table 11.3	Implementation Schedule for Waste Management Implications
Table 11.4	Implementation Schedule for Landscape and Visual Impact



## List of Figures

- Figure 2.1 Location Plan
- Figure 2.2 Existing Sewage Treatment Plant
- Figure 2.3 Layout Plan of Upgraded PPSTW
- Figure 2.4 Process Flow Schematic Diagram
- Figure 3.1 Locations of Air Quality Sensitive Receivers
- Figure 3.2 Locations of Potential Odour Emission Sources of Pillar Point Sewage Treatment Works
- Figure 3.3 Recommended Odour Mitigation Measures
- Figure 3.4 Contours of Mitigated Odour Concentration at 1.5m above ground level
- Figure 4.1 Locations of Water Quality Sensitive Receivers
- Figure 4.2 Not Used
- Figure 4.3 Not Used
- Figure 4.4 Ultimate Coastline Configurations
- Figure 4.5 10 Percentile Depth-averaged Dissolved Oxygen – Normal Operation - Overview
- Figure 4.6 10 Percentile Bottom Dissolved Oxygen - Normal Operation - Overview
- Figure 4.7 Arithmetic Mean Depth-averaged Total Inorganic Nitrogen - Normal Operation – Overview
- Figure 4.8 Arithmetic Mean Depth-averaged Suspended Solids - Normal Operation – Overview
- Figure 4.9 Arithmetic Mean Depth-averaged Unionized Ammonia - Normal Operation – Overview
- Figure 4.10 Geometric Mean Depth-averaged *E.coli* Levels - Normal Operation – Overview
- Figure 4.11 Arithmetic Mean Depth-averaged 5-day Biochemical Oxygen Demand - Normal Operation – Overview
- Figure 4.12 Not Used
- Figure 4.13 Not Used
- Figure 4.14 10 Percentile Depth-averaged Dissolved Oxygen – Normal Operation – Close up at North Western WCZ
- Figure 4.15 10 Percentile Bottom Dissolved Oxygen - Normal Operation - Close up at North Western WCZ
- Figure 4.16 Arithmetic Mean Depth-averaged Total Inorganic Nitrogen - Normal Operation – Close up at North Western WCZ
- Figure 4.17 Arithmetic Mean Depth-averaged Suspended Solids - Normal Operation –

- Close up at North Western WCZ
- Figure 4.18 Arithmetic Mean Depth-averaged Unionized Ammonia - Normal Operation – Close up at North Western WCZ
- Figure 4.19 Geometric Mean Depth-averaged *E.coli* Levels - Normal Operation – Close up at North Western WCZ
- Figure 4.20 Arithmetic Mean Depth-averaged 5-day Biochemical Oxygen Demand - Normal Operation – Close up at North Western WCZ
- Figure 4.21 Not Used
- Figure 4.22 Not Used
- Figure 4.23 10 Percentile Depth-averaged Dissolved Oxygen – Normal Operation – Change of Treatment Level – 2012
- Figure 4.24 10 Percentile Depth-averaged Dissolved Oxygen – Normal Operation – Change of Treatment Level - UDS
- Figure 4.25 10 Percentile Bottom Dissolved Oxygen - Normal Operation – Change of Treatment Level – 2012
- Figure 4.26 10 Percentile Bottom Dissolved Oxygen - Normal Operation – Change of Treatment Level - UDS
- Figure 4.27 Arithmetic Mean Depth-averaged Total Inorganic Nitrogen - Normal Operation – Change of Treatment Level – 2012
- Figure 4.28 Arithmetic Mean Depth-averaged Total Inorganic Nitrogen - Normal Operation – Change of Treatment Level - UDS
- Figure 4.29 Arithmetic Mean Depth-averaged Suspended Solids - Normal Operation – Change of Treatment Level – 2012
- Figure 4.30 Arithmetic Mean Depth-averaged Suspended Solids - Normal Operation – Change of Treatment Level - UDS
- Figure 4.31 Arithmetic Mean Depth-averaged Unionized Ammonia - Normal Operation – Change of Treatment Level – 2012
- Figure 4.32 Arithmetic Mean Depth-averaged Unionized Ammonia - Normal Operation – Change of Treatment Level - UDS
- Figure 4.33 Geometric Mean Depth-averaged *E.coli* Levels - Normal Operation – Change of Treatment Level – 2012
- Figure 4.34 Geometric Mean Depth-averaged *E.coli* Levels - Normal Operation - Change of Treatment Level - UDS
- Figure 4.35 Arithmetic Mean Depth-averaged 5-day Biochemical Oxygen Demand - Normal Operation – Change of Treatment Level – 2012
- Figure 4.36 Arithmetic Mean Depth-averaged 5-day Biochemical Oxygen Demand - Normal Operation – Change of Treatment Level - UDS

- Figure 4.37 Minimum Depth-averaged Dissolved Oxygen – Emergency Discharge at Twin Submarine Outfalls
- Figure 4.38 Minimum Bottom Dissolved Oxygen – Emergency Discharge at Twin Submarine Outfalls
- Figure 4.39 Maximum Depth-averaged Suspended Solids – Emergency Discharge at Twin Submarine Outfalls
- Figure 4.40 Maximum Depth-averaged *E.coli* Levels – Emergency Discharge at Twin Submarine Outfalls
- Figure 4.41 Maximum Depth-averaged 5-day Biochemical Oxygen Demand – Emergency Discharge at Twin Submarine Outfalls
- Figure 4.42 Minimum Depth-averaged Dissolved Oxygen – Emergency Discharge at Bypass Location
- Figure 4.43 Minimum Bottom Dissolved Oxygen – Emergency Discharge at Bypass Location
- Figure 4.44 Maximum Depth-averaged Suspended Solids – Emergency Discharge at Bypass Location
- Figure 4.45 Maximum Depth-averaged *E.coli* Levels – Emergency Discharge at Bypass Location
- Figure 4.46 Maximum Depth-averaged 5-day Biochemical Oxygen Demand – Emergency Discharge at Bypass Location
- Figure 4.47 Maximum Depth-averaged Total Inorganic Nitrogen – Emergency Discharge at Bypass Location
- Figure 4.48 Maximum Depth-averaged Unionized Ammonia – Emergency Discharge at Bypass Location
- Figure 4.49 Emergency Discharge of Untreated Effluent at Twin Submarine Outfalls – UDS Dry Season – Dissolved Oxygen
- Figure 4.50 Emergency Discharge of Untreated Effluent at Twin Submarine Outfalls – UDS Wet Season – Dissolved Oxygen
- Figure 4.51 Emergency Discharge of Untreated Effluent at Twin Submarine Outfalls – UDS Dry Season – Suspended Solids
- Figure 4.52 Emergency Discharge of Untreated Effluent at Twin Submarine Outfalls – UDS Wet Season – Suspended Solids
- Figure 4.53 Emergency Discharge of Untreated Effluent at Twin Submarine Outfalls – UDS Dry Season – *E.coli*
- Figure 4.54 Emergency Discharge of Untreated Effluent at Twin Submarine Outfalls – UDS Wet Season – *E.coli*
- Figure 4.55 Emergency Discharge of Untreated Effluent at Twin Submarine Outfalls –

- UDS Dry Season – 5-day Biochemical Oxygen Demand
- Figure 4.56 Emergency Discharge of Untreated Effluent at Twin Submarine Outfalls – UDS Wet Season – 5-day Biochemical Oxygen Demand
- Figure 4.57 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Dry Season – Dissolved Oxygen
- Figure 4.58 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Wet Season – Dissolved Oxygen
- Figure 4.59 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Dry Season – Suspended Solids
- Figure 4.60 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Wet Season – Suspended Solids
- Figure 4.61 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Dry Season – *E.coli*
- Figure 4.62 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Wet Season – *E.coli*
- Figure 4.63 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Dry Season – 5-day Biochemical Oxygen Demand
- Figure 4.64 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Wet Season – 5-day Biochemical Oxygen Demand
- Figure 4.65 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Dry Season – Total Inorganic Nitrogen
- Figure 4.66 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Wet Season – Total Inorganic Nitrogen
- Figure 4.67 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Dry Season – Unionized Ammonia
- Figure 4.68 Emergency Discharge of Untreated Effluent at Bypass Location – UDS Wet Season – Unionized Ammonia
- Figure 4.69 Minimum Depth-averaged Dissolved Oxygen – Emergency Bypass of Treated Effluent
- Figure 4.70 Minimum Bottom Dissolved Oxygen – Emergency Bypass of Treated Effluent
- Figure 4.71 Maximum Depth-averaged Suspended Solids –Emergency Bypass of Treated Effluent
- Figure 4.72 Maximum Depth-averaged *E.coli* Levels – Emergency Bypass of Treated Effluent
- Figure 4.73 Maximum Depth-averaged 5-day Biochemical Oxygen Demand – Emergency Bypass of Treated Effluent
- Figure 4.74 Maximum Depth-averaged Total Inorganic Nitrogen – Emergency Bypass of

- Treated Effluent
- Figure 4.75 Maximum Depth-averaged Unionized Ammonia – Emergency Bypass of Treated Effluent
- Figure 4.76 Not Used
- Figure 4.77 Emergency Bypass of Treated Effluent – UDS Dry Season – Dissolved Oxygen
- Figure 4.78 Emergency Bypass of Treated Effluent – UDS Wet Season – Dissolved Oxygen
- Figure 4.79 Emergency Bypass of Treated Effluent – UDS Dry Season – Suspended Solids
- Figure 4.80 Emergency Bypass of Treated Effluent – UDS Wet Season – Suspended Solids
- Figure 4.81 Emergency Bypass of Treated Effluent – UDS Dry Season – *E.coli*
- Figure 4.82 Emergency Bypass of Treated Effluent – UDS Wet Season – *E.coli*
- Figure 4.83 Emergency Bypass of Treated Effluent – UDS Dry Season – 5-day Biochemical Oxygen Demand
- Figure 4.84 Emergency Bypass of Treated Effluent – UDS Wet Season – 5-day Biochemical Oxygen Demand
- Figure 4.85 Emergency Bypass of Treated Effluent – UDS Dry Season – Total Inorganic Nitrogen
- Figure 4.86 Emergency Bypass of Treated Effluent – UDS Wet Season – Total Inorganic Nitrogen
- Figure 4.87 Emergency Bypass of Treated Effluent – UDS Dry Season – Unionized Ammonia
- Figure 4.88 Emergency Bypass of Treated Effluent – UDS Wet Season – Unionized Ammonia
- Figure 4.89 Area with Water Quality Improvement and Approximate Location of Initial Dilution Zone
- Figure 6.1 Locations of Ecological Resources
- Figure 6.2 120 Sampling Stations on Marine Benthos
- Figure 6.3 Survey Locations on Benthos and Intertidal Shores
- Figure 6.4 Survey Locations on Coral Community
- Figure 6.5 Seagrass and Horseshoe Crab Locations
- Figure 6.6 Sightings of Chinese White Dolphin from Jefferson (2005)
- Figure 6.7 Sightings of Chinese White Dolphin from Hung (2006)
- Figure 6.8 Locations for the Records of Horseshoe Crab
- Figure 8.1.1 Existing Aerial Photo
- Figure 8.1.2 Planning & Development Framework (OZP)

- Figure 8.2.1 Landscape Resource
- Figure 8.2.2 Photos of Landscape Resource (Sheet 1 of 2)
- Figure 8.2.3 Photos of Landscape Resource (Sheet 2 of 2)
- Figure 8.3.1 Landscape Character Area
- Figure 8.3.2 Photos of Landscape Character Area
- Figure 8.4.1 Zone of Visual Influence & Visual Sensitive Receivers
- Figure 8.4.2 Photos of Visual Sensitive Receivers Group
- Figure 8.4.3 Views for Visual Sensitive Receivers (Sheet 1 of 2)
- Figure 8.4.4 Views for Visual Sensitive Receivers (Sheet 2 of 2)
- Figure 8.5.1 Residual Landscape Resource Impacts in Construction Phase
- Figure 8.5.2 Residual Landscape Resource Impacts in Operation Phase
- Figure 8.5.3 Residual Landscape Character Impacts in Construction Phase
- Figure 8.5.4 Residual Landscape Character Impacts in Operation Phase
- Figure 8.5.5 Residual Visual Impacts in Construction Phase
- Figure 8.5.6 Residual Visual Impacts in Operation Phase
- Figure 8.6.1 Landscape and Visual Mitigation Measures in Operation Phase
- Figure 8.7.1 Photomontage – Residual Visual Impact for GIC1
- Figure 8.7.2 Photomontage – Residual Visual Impact for OU1
- Figure 8.9.1 Location of Transplanted Trees and Additional Compensatory Planting
- Figure 8.9.2 Approximate Location of Existing Trees
- Figure 8.9.3 Location of Affected Trees and Tree Assessment Schedule