



Supplemental Agreement No. 1
to
Agreement No. CE 54/2001 (CE)

Wan Chai Development Phase II Planning and Engineering Review

**ENVIRONMENTAL IMPACT ASSESSMENT REPORT
FOR WAN CHAI DEVELOPMENT PHASE II
AND CENTRAL-WAN CHAI BYPASS**

VOLUME 3 – Marine Works (Text)

December 2007
Document Ref. 97103_EIA9 (Dec07)

MAUNSELL CONSULTANTS ASIA LTD

SA1 to Agreement No. CE 54/2001 (CE)

**WAN CHAI DEVELOPMENT PHASE II
PLANNING AND ENGINEERING REVIEW**

**ENVIRONMENTAL IMPACT ASSESSMENT REPORT
FOR**

WAN CHAI DEVELOPMENT PHASE II AND CENTRAL-WAN CHAI BYPASS

CONTENTS

	Page
VOLUME 3 – MARINE WORKS	
Part D - Schedule 2 DP4: Temporary typhoon shelter	
1 INTRODUCTION.....	1-1
1.1 Project Background.....	1-1
1.2 WDII Review	1-2
1.3 Harbour-Front Enhancement Review	1-3
1.4 Environmental Impact Assessment.....	1-4
1.5 Objectives and Scope of the EIA Study.....	1-5
1.6 Designated Projects under the EIAO	1-6
1.7 Relevant Approved EIA Reports	1-6
1.8 Structure of this Volume 3 – Part D.....	1-7
2 PROJECT DESCRIPTION	2-1
2.1 Site Location.....	2-1
2.2 EIA Study Area.....	2-1
2.3 Project Requirements, Scope and Benefits	2-1
2.4 Consideration of Alternatives	2-2
2.5 Construction Methods and Engineering Requirements	2-2
2.6 Operation of the Project.....	2-2
2.7 Works Programme	2-3
2.8 Related Projects	2-3
3 AIR QUALITY	3-1
3.1 Introduction.....	3-1
3.2 Environmental Legislation, Policies, Plans, Standards and Criteria.....	3-1
3.3 Description of the Environment.....	3-2
3.4 Sensitive Receivers	3-2
3.5 Identification of Environmental Impacts	3-3
3.6 Mitigation of Adverse Environmental Impacts.....	3-3
3.7 Evaluation of Residual Impacts	3-3
3.8 Environmental Monitoring and Audit.....	3-3
3.9 Conclusion	3-3

4	NOISE.....	4-1
4.1	Introduction.....	4-1
4.2	Environmental Legislation, Policies, Plans, Standards and Criteria.....	4-1
4.3	Description of the Environment.....	4-3
4.4	Sensitive Receivers	4-3
4.5	Assessment Methodology	4-4
4.6	Identification of Environmental Impacts	4-7
4.7	Prediction and Evaluation of Environmental Impacts	4-7
4.8	Mitigation of Adverse Environmental Impacts.....	4-8
4.9	Evaluation of Residual Impacts	4-8
4.10	Environmental Monitoring and Audit.....	4-8
4.11	Conclusion	4-9
5	HYDRODYNAMICS AND WATER QUALITY	5-1
5.1	Introduction.....	5-1
5.2	Water Sensitive Receivers	5-1
5.3	Environmental Legislation, Policies, Plans, Standards and Criteria.....	5-2
5.4	Description of the Environment.....	5-6
5.5	Identification of Environmental Impact.....	5-10
5.6	Assessment Methodology	5-12
5.7	Prediction and Evaluation of Environmental Impacts	5-31
5.8	Mitigation of Adverse Environmental Impacts.....	5-53
5.9	Evaluation of Residual Impacts	5-67
5.10	Environmental Monitoring and Audit.....	5-68
5.11	Conclusion	5-68
6	WASTE MANAGEMENT	6-1
6.1	Introduction.....	6-1
6.2	Environmental Legislation, Policies, Plans, Standards and Criteria.....	6-1
6.3	Assessment Methodology	6-2
6.4	Baseline Conditions	6-6
6.5	Identification of Potential Sources of Impact	6-7
6.6	Prediction and Evaluation of Environmental Impacts	6-8
6.7	Mitigation Measures	6-12
6.8	Evaluation of Residual Impacts	6-15
6.9	Environmental Audit.....	6-15
6.10	Conclusion	6-15
7	LAND CONTAMINATION	7-1
8	SEWERAGE IMPACT AND SEWAGE TREATMENT IMPLICATIONS	8-1
9	MARINE ECOLOGY	9-1
9.1	Introduction.....	9-1
9.2	Environmental Legislation, Policies, Plans, Standards and Criteria.....	9-1
9.3	Assessment Methodology	9-2
9.4	Description of the Environment.....	9-5
9.5	Identification of Ecological Impacts	9-14
9.6	Evaluation of Ecological Impacts	9-16
9.7	Mitigation of Adverse Environmental Impact	9-19
9.8	Evaluation of Residual Impacts	9-19
9.9	Evaluation of Cumulative Impacts.....	9-20
9.10	Environmental Monitoring and Audit.....	9-20
9.11	Conclusion	9-21
9.12	References.....	9-21

10.	LANDSCAPE AND VISUAL IMPACT ASSESSMENT.....	10-1
10.1	Introduction.....	10-1
10.2	Environmental Legislation, Standards and Guidelines	10-1
10.3	Assessment Methodology	10-2
10.4	Scope and Content of the Study.....	10-6
10.5	Review of Planning and Development Control Framework.....	10-8
10.6	Comments on Landscape and Visual Issues received during Consultations	10-11
10.7	Baseline Study	10-12
10.8	Landscape Impact Assessment	10-32
10.9	Visual Impact Assessment	10-39
10.10	Conclusion	10-44
11	CULTURAL HERITAGE.....	11-1
11.1	Introduction.....	11-1
11.2	Review of Report NO: SDA8827	11-1
11.3	Mitigation of Adverse Impacts	11-1
11.4	Residual Environmental Impact.....	11-1
11.5	Environmental Monitoring and Audit Requirements.....	11-1
11.6	Conclusion	11-2
12	ENVIRONMENTAL MONITORING AND AUDIT	12-1
12.1	Introduction.....	12-1
12.2	Air Quality Impact	12-1
12.3	Noise Impact	12-1
12.4	Water Quality Impact.....	12-2
12.5	Waste Management.....	12-2
12.6	Land Contamination	12-2
12.7	Marine Ecology.....	12-2
12.8	Landscape and Visual	12-3
12.9	Cultural Heritage.....	12-3
13	IMPLEMENTATION SCHEDULE OF THE PROPOSED MITIGATION MEASURES	13-1
14	CONCLUSION	14-1
14.1	Introduction.....	14-1
14.2	Environmental Outcomes	14-12
14.3	Air Quality Impact	14-16
14.4	Noise Impact	14-17
14.5	Water Quality Impacts	14-17
14.6	Waste Management Implications.....	14-17
14.7	Land Contamination Impact	14-18
14.8	Marine Ecological Impact.....	14-18
14.9	Landscape and Visual Impact	14-19
14.10	Cultural Heritage Impact	14-19
14.11	Environmental Monitoring and Audit.....	14-19
14.12	Overall Conclusion	14-20