

CONTENTS

Volume 1- Main Report

1	INTRODUCTION.....	1-1
1.1	Project Background	1-1
1.2	Project Scope	1-2
1.3	Site Location and History.....	1-2
1.4	EIA Study Brief	1-4
1.5	Designated Projects	1-4
1.6	Purpose of the EIA Report	1-4
1.7	Objectives of the EIA Study	1-5
1.8	Structure of the EIA Report	1-6
2	PROJECT DESCRIPTION.....	2-1
2.1	Purposes and Objectives of the Project	2-1
2.2	Need of the Project	2-1
2.3	Benefits of the Project	2-2
2.4	“Without Project” Scenario	2-3
2.5	Alternative Options of the Project	2-4
2.6	Description of the Preferred Option	2-19
2.7	Construction Methods and Engineering Requirements	2-23
2.8	Works Programme	2-28
2.9	Concurrent Projects	2-29
2.10	Public Concern	2-31
3	AIR QUALITY.....	3-1
3.1	Introduction	3-1
3.2	Relevant Legislation and Guidelines	3-2
3.3	Existing Environment	3-4
3.4	Identification of Air Sensitive Receivers.....	3-9
3.5	Construction Dust Impact Assessment	3-13
3.6	Operational Air Quality Impact Assessment	3-31
3.7	Environmental Monitoring and Audit	3-40
3.8	Conclusions.....	3-40
4	NOISE	4-1
4.1	Introduction	4-1
4.2	Background.....	4-1
4.3	Identification of Noise Sensitive Receivers	4-2
4.4	Environmental Legislation, Standards and Guidelines	4-4
4.5	Construction Noise Impact Assessment.....	4-8
4.6	Operational Noise Impact Assessment	4-15
4.7	Concurrent Projects	4-19

4.8	Environmental Monitoring and Audit	4-21
4.9	Conclusions.....	4-21
5	<u>WATER QUALITY</u>	<u>5-1</u>
5.1	Introduction	5-1
5.2	Relevant Legislation and Guidelines	5-1
5.3	Baseline Conditions.....	5-4
5.4	Assessment Criteria.....	5-12
5.5	Assessment Methodology	5-22
5.6	Potential Sources of Impact	5-22
5.7	Impact Assessment - Construction Phase	5-23
5.8	Impact Assessment - Operational Phase.....	5-30
5.9	Mitigation Measures	5-67
5.10	Cumulative Impacts	5-69
5.11	Residual Impacts	5-72
5.12	Environmental Monitoring and Audit	5-73
5.13	Conclusion	5-73
6	<u>WASTE MANAGEMENT</u>	<u>6-1</u>
6.1	Introduction	6-1
6.2	Environmental Legislation, Standards and Guidelines	6-1
6.3	Assessment Methodology	6-5
6.4	Identification and Evaluation of Waste Management Implications.....	6-7
6.5	Mitigation Measures	6-22
6.6	Residual Impacts	6-30
6.7	Environmental Monitoring and Audit	6-30
6.8	Conclusions.....	6-31
7	<u>ECOLOGY.....</u>	<u>7-1</u>
7.1	Introduction	7-1
7.2	Legislative Requirements and Evaluation Criteria	7-1
7.3	Baseline Conditions.....	7-2
7.4	Assessment Methodology	7-45
7.5	Potential Impacts and Impact Assessment (Terrestrial Ecology)	7-45
7.6	Potential Impacts and Impact Assessment (Marine Ecology)	7-48
7.7	Impact Evaluation	7-57
7.8	Cumulative Impacts	7-65
7.9	Mitigation Measures	7-66
7.10	Residual Impacts	7-69
7.11	Environmental Monitoring and Audit	7-69
7.12	Conclusion	7-69
8	<u>FISHERIES</u>	<u>8-1</u>
8.1	Introduction	8-1
8.2	Legislative Requirements and Evaluation Criteria	8-1

8.3	Baseline Conditions	8-1
8.4	Assessment Methodology	8-7
8.5	Impact Identification	8-7
8.6	Impact Assessment - Construction Phase	8-8
8.7	Impact Assessment - Operation Phase	8-9
8.8	Impact Evaluation	8-13
8.9	Cumulative Impact	8-17
8.10	Mitigation Measures	8-18
8.11	Residual Impacts	8-19
8.12	Environmental Monitoring and Audit (EM&A)	8-19
8.13	Conclusion	8-19
9	CULTURAL HERITAGE	9-1
9.1	Introduction	9-1
9.2	Legislative Requirements and Evaluation Criteria	9-1
9.3	Assessment Methodology	9-2
9.4	Marine Archaeological Review and Marine Archaeological Potential Establishment	9-6
9.5	Cultural Heritage Impact Assessment	9-13
9.6	Mitigation Measures	9-14
9.7	Residual and Cumulative Impacts	9-14
9.8	Environmental Monitoring & Audit (EM&A)	9-15
9.9	Conclusions	9-15
9.10	Bibliography	9-16
10	LANDSCAPE AND VISUAL	10-1
10.1	Introduction	10-1
10.2	Relevant Legislation, Standards, Guidelines, and Other References	10-2
10.3	Review of Relevant Planning and Development Control Framework	10-4
10.4	Scope and Content of the LVIA Study	10-4
10.5	Landscape and Visual Impact Assessment Methodology	10-5
10.6	Baseline Study	10-13
10.7	Landscape Impact Assessment	10-34
10.8	Visual Impact Assessment before Mitigation	10-43
10.9	Landscape and Visual Mitigation Measures	10-56
10.10	Residual Landscape Impacts	10-59
10.11	Residual Visual Impacts	10-65
10.12	Cumulative Impact	10-70
10.13	Environmental Monitoring and Audit	10-78
10.14	Conclusion	10-78
11	ENVIRONMENTAL MONITORING AND AUDITING (EM&A) REQUIREMENT	11-1
11.1	Introduction	11-1
11.2	Project Organisation	11-1
11.3	EM&A Manual	11-1

11.4	Environmental Mitigation Implementation Schedule	11-2
11.5	EM&A Programme	11-2
12	<u>SUMMARY OF ENVIRONMENTAL OUTCOMES</u>	<u>12-1</u>
12.1	Introduction	12-1
12.2	Summary of Environmental Benefits and Environmental Achievements of the Project	12-1
12.3	Environmental Benefits of Environmental Protection Measures Recommended	12-2
12.4	Estimated Population Protected from Various Environmental Impacts ...	12-10
13	<u>CONCLUSION.....</u>	<u>13-1</u>
13.1	General	13-1
13.2	Air Quality	13-1
13.3	Noise.....	13-2
13.4	Water Quality	13-3
13.5	Waste Management.....	13-4
13.6	Ecology	13-5
13.7	Fisheries.....	13-6
13.8	Cultural Heritage	13-7
13.9	Landscape and Visual	13-7
13.10	Overall Conclusion	13-8