Table of Contents - Volume 2

Section	Title	Page Number
Glossary		
N/A	Glossary of Terminology, Abbreviations and Acronyms	1
Chapter 1: Introduction		
1.	Introduction	1
1.1	Introduction	1
1.2	Aim and Objectives	4
1.3	Delivery of the Project	4
1.4	Role of the National Transport Authority	4
1.5	EIAR – Process, Screening, Content and Methodology	5
1.5.1	Introduction	5
1.5.2	Relevant Legislation, Policy and Guidelines	6
1.5.3	EIA Process	7
1.5.4	Screening and the Legislative Requirement for EIA	7
1.5.5	Consideration of the EIAR's Scope	8
1.5.6	Contents of the EIAR	8
1.5.7	EIAR Structure	10
1.5.8	Assessment Scenarios	12
1.5.9	Assessment Criteria	12
1.5.10	Details of Competent Experts	14
1.6	Consultation	22
1.6.1	Consultation Objectives	22
1.6.2	Emerging Preferred Route Option Consultation	22
1.6.3	Preferred Route Option Consultations	25
1.7	Consultation with Prescribed Bodies and Other Consultees	28
1.7.1	Consultation on the EIA Process	28
1.7.2	Prescribed Bodies and Interested Parties	28
1.7.3	Landowners	29
1.8	Difficulties Encountered During the Preparation of the EIAR	30
1.9	References	31
Chapter 2: Need for the Proposed Scheme		
2.	Need for the Proposed Scheme	1
2.1	Introduction	1
2.2	The Transport Need for the Proposed Scheme	2
2.2.1	The Regional Transport Need	2
2.2.2	The Local Transport Need	13
2.3	Policy Context	16
2.3.1	International Policy	16
2.3.2	European Union Law & Policy	17
2.3.3	National Policy	18
2.3.4	Regional Policy	32
2.3.5	Local Policy	41
2.4	The Benefits of the Proposed Scheme	47
2.5	References	51
Chapter 3: Consideration of Reasonable Alternatives		
3.	Consideration of Reasonable Alternatives	1
3.1	Environmental Impact Assessment Directive Requirements	1
3.2	Strategic Alternatives	1

Section	Title	Page Number
3.2.1	GDA Transport Strategy	1
3.2.2	'Do Nothing' Alternative'	3
3.2.3	Bus Rapid Transit (BRT) Alternative	5
3.2.4	Light Rail Alternative	5
3.2.5	Metro Alternative	6
3.2.6	Heavy Rail Alternative	6
3.2.7	Demand Management Alternative	7
3.2.8	Technological Alternatives	8
3.3	Route Alternatives	9
3.3.1	Initial High Level Route Alternatives	10
3.3.2	Stage 2 – Route Options Assessment	19
3.3.3	Cycling Options	29
3.3.4	Emerging Preferred Route	30
3.4	Design alternatives	30
3.4.1	Development of the Draft Preferred Route Option	30
3.4.2	Consideration following Preferred Route Option Consultation	31
3.4.3	Further consideration following Preferred Route Option Consultation	32
3.4.4	Specific Design Alternatives	32
3.5	Conclusion	33
3.6	References	34
Chapter 4: Proposed Scheme Description		
4.	Proposed Scheme Description	1
4.1	Introduction	1
4.2	Proposed Scheme Overview	1
4.3	Design Iteration	3
4.4	Design Principles	4
4.5	Description of the Proposed Scheme	5
4.5.1	Section 1: N3 Blanchardstown Junction to Snugborough Road	5
4.5.2	Section 2: Snugborough Road to N3 / M50 Junction	13
4.5.3	Section 3: N3 / M50 Junction to Navan Road / Ashtown Road Junction	17
4.5.4	Section 4: Navan Road / Ashtown Road Junction to Navan Road / Old Cabra Road Junction	24
4.5.5	Section 5: Navan Road / Old Cabra Road Junction to Ellis Quay	28
4.6	Key Infrastructure Elements	37
4.6.1	Mainline Cross-Section	37
4.6.2	Pedestrian Provision	39
4.6.3	Cycling Provision	39
4.6.4	Bus Priority Provision	41
4.6.5	Accessibility for Mobility Impaired Users	45
4.6.6	Integration	46
4.6.7	Junctions	47
4.6.8	Structures	48
4.6.9	Other Street Infrastructure	52
4.6.10	Pavement	53
4.6.11	Landscape and Urban Realm	55
4.6.12	Lighting	59
4.6.13	Utilities	60
4.6.14	Drainage	60
4.6.15	Maintenance	65
4.6.16	Safety and Security	65

Section	Title	Page Number
4.6.17	Traffic Monitoring	65
4.6.18	Land Use and Accommodation Works	65
4.7	References	67
Chapter 5: Construction		
5.	Construction	1
5.1	Introduction	1
5.2	Construction Phasing	2
5.3	Overview of Construction Works	3
5.3.1	Section 1: N3 Blanchardstown Junction to Snugborough Road	3
5.3.2	Section 2: Snugborough Road to N3 / M50 Junction	6
5.3.3	Section 3: N3 / M50 Junction to Navan Road / Ashtown Road Junction	7
5.3.4	Section 4: Navan Road / Ashtown Road Junction to Navan Road / Old Cabra Road Junction	8
5.3.5	Section 5: Navan Road / Old Cabra Road Junction to Ellis Quay	9
5.4	Construction Programme	10
5.5	Construction Methodology	12
5.5.1	Pre-Construction	12
5.5.2	Preparatory and Site Clearance Works	12
5.5.3	Road and Street Upgrades	15
5.5.4	Structural Works	17
5.5.5	Construction Site Decommissioning	24
5.6	Construction Plant and Equipment	24
5.7	Construction Compounds	26
5.7.1	Construction Compound Locations	26
5.7.2	Construction Compound Activities	28
5.7.3	Construction Compound Services	28
5.8	Construction Traffic Management	29
5.8.1	Pedestrian and Cyclist Provisions	29
5.8.2	Public Transport Provisions	29
5.8.3	General Traffic Provisions	30
5.8.4	Road Closures and Diversions	58
5.9	Interface with Other Projects	59
5.10	Construction Environmental Management	59
5.10.1	Construction Environmental Management Plan	59
5.10.2	Mitigation Measures	60
5.10.3	Working Hours	60
5.10.4	Personnel Numbers	60
5.10.5	Construction Health and Safety	60
5.11	References	62
Chapter 6: Traffic & Transport		
6.	Traffic & Transport	1
6.1	Introduction	1
6.1.1	Aim and Objectives of the Proposed Scheme	2
6.1.2	Iterative Design Process and Mitigation by Design	4
6.2	Methodology	5
6.2.2	Relevant Guidelines, Policy and Legislation	7
6.2.3	Proposed Scheme Impact Assessment Modelling Tools	8
6.2.4	Appraisal Method for the Assessment of Impacts	10
6.2.5	Data Collection and Collation	16
6.3	Baseline Environment	19

Section	Title	Page Number
6.3.1	Overview	19
6.3.2	Section 1 – N3 Blanchardstown Junction to Snugborough Road	20
6.3.3	Section 2 – Snugborough Road to N3 / M50 junction	30
6.3.4	Section 3 – N3 / M50 Junction to Navan Road / Ashtown Road junction	37
6.3.5	Section 4 – Navan Road / Ashtown Road Junction to Navan Road / Old Cabra Road junction	43
6.3.6	Section 5 – Navan Road / Old Cabra Road Junction to Ellis Quay	52
6.4	Potential Impacts	68
6.4.1	Characteristics of the Proposed Scheme	68
6.4.2	'Do Nothing' Scenario	68
6.4.3	'Do Minimum' Scenario	68
6.4.4	'Do Something' Scenario	70
6.4.5	Construction Phase	70
6.4.6	Operational Phase	78
6.5	Mitigation and Monitoring Measures	158
6.5.1	Construction Phase	158
6.5.2	Operational Phase	159
6.6	Residual Impacts	159
6.7	References	160
Chapter 7: Air Quality		
7.	Air Quality	1
7.1	Introduction	1
7.2	Methodology	1
7.2.1	Study Area	1
7.2.2	Relevant Guidelines, Policy and Legislation	3
7.2.3	Data Collection and Collation	6
7.2.4	Appraisal Method for the Assessment of Impacts	7
7.3	Baseline Environment	19
7.3.1	Meteorological Conditions	20
7.3.2	Baseline Ambient Air Quality	20
7.3.3	Existing Modelled Baseline Scenario	26
7.4	Potential Impacts	30
7.4.1	Characteristics of the Proposed Scheme	30
7.4.2	Construction Phase	30
7.4.3	Operational Phase	46
7.5	Mitigation and Monitoring Measures	63
7.5.1	Construction Phase	63
7.5.2	Operational Phase	64
7.6	Residual Impacts	65
7.6.1	Construction Phase	65
7.6.2	Operational Phase	65
7.7	References	66
Chapter 8: Climate		
8.	Climate	1
8.1	Introduction	1
8.2	Climate Assessment Considerations	2
8.3	Methodology	2
8.3.1	Study Area	3
8.3.2	Relevant Guidelines, Policy and Legislation	3
8.3.3	Data Collection and Collation	7

Section	Title	Page Number
8.3.4	Appraisal Method for the Assessment of Impacts	8
8.4	Baseline Environment	12
8.4.1	Climate Pollutants	12
8.4.2	Vulnerability of the Proposed Scheme to Climate Change	12
8.4.3	Existing GHG Emissions Baseline	16
8.5	Potential Impacts	18
8.5.1	Construction Phase	18
8.5.2	Operational Phase	21
8.6	Sensitivity Analysis	32
8.6.1	Introduction	32
8.6.2	Sensitivity Tests	32
8.7	Mitigation and Monitoring Measures	34
8.7.1	Construction Phase	34
8.7.2	Operational Phase	35
8.8	Residual Impacts	36
8.8.1	Construction Phase	36
8.8.2	Operational Phase	36
8.9	References	37
Chapter 9: Noise & Vibration		
9.	Noise & Vibration	1
9.1	Introduction	1
9.2	Methodology	1
9.2.1	Study Area	2
9.2.2	Relevant Guidelines, Policy and Legislation	3
9.2.3	Data Collection and Collation	4
9.2.4	Appraisal Method for the Assessment of Impacts	7
9.3	Baseline Environment	17
9.3.1	Desk Study of Published Noise Data	17
9.3.2	Baseline Noise Surveys	19
9.3.3	Baseline Vibration Surveys	23
9.4	Potential Impacts	24
9.4.1	Characteristics of the Proposed Scheme	24
9.4.2	'Do Minimum' Scenario	26
9.4.3	Construction Phase	26
9.4.4	Operational Phase	50
9.5	Mitigation and Monitoring Measures	58
9.5.1	Construction Phase	58
9.5.2	Operational Phase	63
9.6	Residual Impacts	64
9.6.1	Construction Phase	64
9.6.2	Operational Phase	65
9.7	References	67
Chapter 10: Population		
10.	Population	1
10.1	Introduction	1
10.2	Methodology	2
10.2.1	Study Area	2
10.2.2	Relevant Guidelines, Policy and Legislation	3
10.2.3	Data Collection and Collation	3

Section	Title	Page Number
10.2.4	Appraisal Method for the Assessment of Impacts	4
10.3	Baseline Environment	11
10.3.1	Overview	11
10.3.2	Community Baseline	11
10.3.3	Economic Baseline	13
10.4	Potential Impacts	15
10.4.1	Characteristics of the Proposed Scheme	15
10.4.2	'Do Nothing' Scenario	16
10.4.3	Construction Phase	16
10.4.4	Operational Phase	23
10.5	Mitigation and Monitoring Measures	30
10.6	Residual Impacts	30
10.6.1	Construction Phase	31
10.6.2	Operational Phase	32
10.7	References	35
Chapter 11: Human Health		
11.	Human Health	1
11.1	Introduction	1
11.2	Methodology	2
11.2.1	Study Area	2
11.2.2	Relevant Guidelines, Policy and Legislation	2
11.2.3	Data Collection and Collation	6
11.2.4	Appraisal Method for the Assessment of Impacts	6
11.3	Baseline Environment	10
11.3.1	General Health	10
11.3.2	Deprivation, Disability and Health Inequalities	12
11.3.3	Air Quality, Noise and Other Pollutants	16
11.3.4	Traffic, Travel Behaviour and Health	18
11.3.5	Access to Healthcare, Employment and Education	20
11.3.6	Communicable Diseases	20
11.3.7	Summary of Key Baseline Health Issues	21
11.4	Potential Impacts	22
11.4.1	Characteristics of the Proposed Scheme	22
11.4.2	'Do Nothing' Scenario	23
11.4.3	Construction Phase	23
11.4.4	Operational Phase	27
11.5	Mitigation and Monitoring Measures	33
11.5.1	Construction Phase	33
11.5.2	Operational Phase	33
11.6	Residual Impacts	34
11.6.1	Construction Phase	34
11.6.2	Operational Phase	34
11.7	References	35
Chapter 12: Biodiversity		
12.	Biodiversity	1
12.1	Introduction	1
12.2	Methodology	1
12.2.1	Ecological Survey Study Area	2
12.2.2	Relevant Guidelines, Policy and Legislation	2

Section	Title	Page Number
12.2.3	Data Collection and Collation	4
12.2.4	Appraisal Method for the Assessment of Impacts	11
12.3	Baseline Environment	13
12.3.1	ZoI	14
12.3.2	Desk Study	16
12.3.3	Biodiversity Areas	16
12.3.4	Designated Areas for Nature Conservation	17
12.3.5	Habitats	26
12.3.6	Rare and Protected Plant Species	36
12.3.7	Non-Native Invasive Plant Species	36
12.3.8	Mammals	37
12.3.9	Birds	44
12.3.10	Reptiles	48
12.3.11	Amphibians	48
12.3.12	Fish	49
12.3.13	Invertebrates	50
12.3.14	Summary Ecological Valuation and Identification of KERs	52
12.4	Potential Impacts	55
12.4.1	Characteristics of the Proposed Scheme	55
12.4.2	'Do Nothing' Scenario	65
12.4.3	Construction Phase	66
12.4.4	Operational Phase	93
12.5	Mitigation and Monitoring Measures	108
12.5.1	Construction Phase	108
12.5.2	Operational Phase	120
12.6	Residual Impacts	124
12.6.1	Construction Phase	124
12.6.2	Operational Phase	126
12.7	References	130
Chapter 13: Water		
13.	Water	1
13.1	Introduction	1
13.2	Methodology	1
13.2.1	Study Area	1
13.2.2	Relevant Guidelines, Policy and Legislation	2
13.2.3	Data Collection and Collation	4
13.2.4	Methodology for the Assessment of Impacts	5
13.3	Baseline Environment	9
13.3.1	WFD Catchment Overview	9
13.3.2	EPA Surface Water Monitoring	10
13.3.3	Surface Water WFD Status	10
13.3.4	Field Survey	11
13.3.5	Designated Sites	12
13.3.6	Drinking Water Supplies (Surface Water Abstractions)	13
13.3.7	Known Pressures	13
13.3.8	Existing Drainage	13
13.3.9	Surface Water Features	15
13.3.10	Flood Risk	18
13.4	Potential Impacts	19

Section	Title	Page Number
13.4.1	Characteristics of the Proposed Scheme	19
13.4.2	Do Nothing Scenario	21
13.4.3	Do Minimum	22
13.4.4	Construction Phase	22
13.4.5	Operational Phase	27
13.4.6	Assessment of Potential Impacts – Traffic Redistribution	28
13.4.7	Summary of Flood Risk Assessment	30
13.5	Mitigation and Monitoring Measures	31
13.5.1	Introduction	31
13.5.2	Construction Phase	33
13.5.3	Operational Phase	33
13.6	Residual Impacts	33
13.6.1	Construction Phase	33
13.6.2	Operational Phase	34
13.6.3	Summary of WFD Assessment	34
13.7	References	37
Chapter 14: Land, Soils, Geology & Hydrogeology		
14.	Land, Soils, Geology & Hydrogeology	1
14.1	Introduction	1
14.2	Methodology	1
14.2.1	Study Area	1
14.2.2	Relevant Guidelines, Policy and Legislation	2
14.2.3	Data Collection and Collation	2
14.2.4	Appraisal Method for the Assessment of Impacts	5
14.3	Baseline Environment	8
14.3.1	Introduction	8
14.3.2	Regional Overview	8
14.3.3	Site Specific Environment	15
14.3.4	Summary of Features of Importance	31
14.3.5	Conceptual Site Model	37
14.4	Potential Impacts	44
14.4.1	Characteristics of the Proposed Scheme	44
14.4.2	'Do Nothing' Scenario	46
14.4.3	Construction Phase	46
14.4.4	Operational Phase	55
14.5	Mitigation and Monitoring Measures	55
14.5.1	Construction Phase	55
14.5.2	Operational Phase	56
14.6	Residual Impacts	56
14.6.1	Construction Phase	56
14.6.2	Operational Phase	64
14.7	References	65
Chapter 15: Archaeology & Cultural Heritage		
15.	Archaeological & Cultural Heritage	1
15.1	Introduction	1
15.2	Methodology	1
15.2.1	Introduction	1
15.2.2	Study Area	3
15.2.3	Relevant Guidelines, Policy and Legislation	3

Section	Title	Page Number
15.2.4	Data Collection and Collation	4
15.2.5	Appraisal Method for the Assessment of Impacts	5
15.3	Baseline Environment	7
15.3.1	Archaeological and Historical Background	7
15.3.2	Archaeological Heritage: N3 Blanchardstown Junction to Snugborough Road	22
15.3.3	Archaeological Heritage: Snugborough Road to N3 / M50 Junction	23
15.3.4	Archaeological Heritage: N3 / M50 Junction to Navan Road / Ashtown Road Junction	25
15.3.5	Archaeological Heritage: Navan Road / Ashtown Road Junction to Navan Road / Old Cabra Road Junction	27
15.3.6	Archaeological Heritage: Navan Road / Old Cabra Road Junction to Ellis Quay	28
15.3.7	Proposed Construction Compounds	33
15.4	Potential Impacts	34
15.4.1	Characteristics of the Proposed Scheme	34
15.4.2	'Do Nothing' Scenario	34
15.4.3	Construction Phase	34
15.4.4	Operational Phase	40
15.5	Mitigation and Monitoring Measures	40
15.5.1	Construction Phase	40
15.5.2	Operational Phase	45
15.6	Residual Impacts	45
15.6.1	Construction Phase	45
15.6.2	Operational Phase	45
15.7	References	47
Chapter 16: Architectural Heritage		
16.	Architectural Heritage	1
16.1	Introduction	1
16.2	Methodology	1
16.2.1	Definitions	1
16.2.2	Approach	3
16.2.3	Study Area	4
16.2.4	Relevant Guidelines, Policy and Legislation	5
16.2.5	Data Collection and Collation	6
16.2.6	Assessment Methodology	7
16.2.7	Appraisal Method for the Assessment of Sensitivity	7
16.3	Baseline Environment	13
16.3.1	Results and analysis	14
16.4	Potential Impacts	31
16.4.1	Characteristics of the Proposed Scheme	31
16.4.2	'Do Nothing' Scenario	31
16.4.3	Construction Phase	31
16.4.4	Operational Phase	37
16.5	Mitigation and Monitoring Measures	39
16.5.1	Construction Phase	39
16.5.2	Operational Phase	43
16.6	Residual Impacts	44
16.6.1	Construction Phase	44
16.6.2	Operational Phase	44
16.7	References	45
Chapter 17: Landscape (Townscape) & Visual		
17.	Landscape (Townscape) & Visual	1

Section	Title	Page Number
17.1	Introduction	1
17.2	Methodology	1
17.2.1	Study Area	1
17.2.2	Relevant Legislation, Policy and Guidelines	2
17.2.3	Data Collection and Collation	3
17.2.4	Appraisal Method for the Assessment of Impacts	4
17.3	Baseline Environment	13
17.3.1	City Context	13
17.3.2	Overview of Route of the Proposed Scheme	13
17.3.3	Landscape, Townscape and Visual Planning Policy	13
17.3.4	Townscape / Streetscape Character	16
17.4	Potential Impacts	19
17.4.1	Characteristics of the Proposed Scheme	19
17.4.2	'Do Nothing' Scenario	25
17.4.3	Construction Phase	26
17.4.4	Operational Phase	32
17.5	Mitigation and Monitoring Measures	38
17.5.1	Construction Phase	38
17.5.2	Operational Phase	40
17.6	Residual Impacts	46
17.6.1	Construction Phase	46
17.6.2	Operational Phase	48
17.7	Conclusion	48
17.8	References	50
Chapter 18: Waste & Resources		
18.	Waste & Resources	1
18.1	Introduction	1
18.2	Sustainable Resource and Waste Management Principles	2
18.2.1	Circular Economy	2
18.2.2	The Waste Hierarchy	3
18.3	Methodology	4
18.3.1	Study Area	4
18.3.2	Relevant Guidelines, Policy and Legislation	4
18.3.3	Appraisal Method for the Assessment of Impacts	5
18.3.4	Data Collection and Collation	6
18.3.5	Waste Management Principles	8
18.4	Baseline Environment	9
18.4.1	Construction Waste	10
18.4.2	Municipal Waste	12
18.5	Potential Impacts	13
18.5.1	Characteristics of the Scheme	13
18.5.2	'Do Nothing' Scenario	13
18.5.3	Construction Phase	13
18.5.4	Operational Phase	17
18.6	Mitigation and Monitoring Measures	18
18.6.1	Construction Phase	18
18.6.2	Operational Phase	20
18.7	Residual Impacts	20
18.7.1	Construction Phase	20

Section	Title	Page Number
18.7.2	Operational Phase	20
18.8	References	21
Chapter 19: Material Assets		
19.	Material Assets	1
19.1	Introduction	1
19.2	Methodology	1
19.2.1	Study Area	2
19.2.2	Relevant Guidelines, Policy and Legislation	2
19.2.3	Data Collection and Collation	2
19.2.4	Appraisal Method for the Assessment of Impacts	3
19.3	Baseline Environment	5
19.3.1	Major Infrastructure and Existing Utilities	5
19.3.2	Imported Material	6
19.4	Potential Impacts	7
19.4.1	Characteristics of the Proposed Scheme	7
19.4.2	'Do Nothing' Scenario	7
19.4.3	Construction Phase	7
19.4.4	Operational Phase	14
19.5	Mitigation and Monitoring Measures	15
19.5.1	Construction Phase	15
19.5.2	Operational Phase	17
19.6	Residual Impacts	17
19.6.1	Construction Phase	17
19.6.2	Operational Phase	17
19.7	References	18
Chapter 20: Risk of Major Accidents and / or Disasters		
20.	Risk of Major Accidents and / or Disasters	1
20.1	Introduction	1
20.2	Risk of Major Accidents and / or Disasters	1
20.2.1	Definitions	2
20.3	Methodology	3
20.3.1	Scope and Context	3
20.3.2	Legislation, Guidelines and Reference Material	3
20.3.3	Risk Assessment Methodology	4
20.4	Potential Impacts	6
20.4.1	'Do Nothing' Scenario	6
20.4.2	Risk Evaluation	6
20.4.3	Seveso Sites	11
20.5	Mitigation and Monitoring Measures	12
20.5.1	Inherent Design	12
20.5.2	Plans and Procedures	12
20.6	Residual Impacts	15
20.7	References	16
Chapter 21: Cumulative Impacts & Environmental Interactions		
21.	Cumulative Impacts and Environmental Interactions	1
21.1	Introduction	1
21.1.1	Cumulative Impacts	1
21.1.2	Environmental Interactions	1
21.1.3	Guidance	2

Section	Title	Page Number
21.2	Methodology for Cumulative Impacts Assessment	2
21.2.1	Introduction	2
21.2.2	Stage 1: Establishing the Long List of 'Other Projects'	2
21.2.3	Stage 2: Establishing the Shortlist of 'Other Projects'	6
21.2.4	Stage 3: Information Gathering for the Shortlist of 'Other Projects'	7
21.2.5	Stage 4: Assessment	7
21.2.6	Traffic Related Cumulative Impacts: Construction Scenarios for Assessment	8
21.2.7	Operational Scenario for Assessment	9
21.2.8	Summary of Assessment Methodology for CEA	10
21.3	Assessment of Cumulative Impacts and Environmental Interactions	10
21.3.1	Construction Impacts	10
21.3.2	Operational Impacts	36
21.4	Environmental Interactions	60
21.5	Mitigation	67
21.5.1	Construction Phase	67
21.5.2	Operational Phase	67
21.6	Summary of Residual Cumulative Impacts and Environmental Interactions	67
21.7	References	70
Chapter 22: Summary of Mitigation & Monitoring Measures		
22.	Summary of Mitigation & Monitoring Measures	1
22.1	Introduction	1
22.2	Mitigation and Monitoring Schedules	1
22.3	General Mitigation Requirements	2
22.4	Traffic and Transport	3
22.5	Air Quality	3
22.6	Climate	4
22.7	Noise and Vibration	5
22.8	Population	7
22.9	Human Health	7
22.10	Biodiversity	8
22.11	Water	18
22.12	Land, Soils, Geology and Hydrogeology	21
22.13	Archaeological and Cultural Heritage	23
22.14	Architectural Heritage	26
22.15	Landscape (Townscape) and Visual	29
22.16	Waste and Resources	30
22.17	Material Assets	32
22.18	Major Accidents	33
22.19	Cumulative Impacts	33
22.20	References	34
Chapter 23: Summary of Significant Residual Impacts		
23.	Summary of Significant Residual Impacts	1
23.1	References	13