



Environmental Impact Assessment Report

Residential Development

at

Capdoo
Clane
Co. Kildare

on behalf of
Ardstone Homes Ltd.

**Declan Brassil
& Company Ltd**

chartered planning consultants

June 2019

Environmental Impact Assessment Report

June 2019

To accompany an Application to:

An Bord Pleanála

For

Residential Development

Within the Administrative Area of

Kildare County Council

At

Capdoo

Clane

Co. Kildare

**366 no. Residential Units; a childcare facility; new
Clane Link Road including a new Roundabout on the
Kilcock Road (R407) together with all associated and
ancillary Infrastructure and Landscaping Works**

On behalf of:

Ardstone Homes Ltd.

Prepared by:

Declan Brassil & Co. Ltd

McCrossan O'Rourke Manning Architects

Dermot Foley Landscape Architects

Openfield Ecological Services

TMS Environmental Ltd

DBFL Consulting Engineers

Archer Heritage Planning Ltd.

TABLE OF CONTENTS

1.	INTRODUCTION	1-1
1.1	Nature & Extent of Development Proposal	1-2
1.2	Need for an Environmental Impact Assessment Report.....	1-3
1.3	Scoping of EIAR.....	1-3
1.4	Structure & Content of EIAR	1-4
1.4.1	Land.....	1-6
1.5	Difficulties in Compiling the Specified Information	1-6
1.6	Specialist Contributors	1-6
	APPENDIX 1.A Competency of Experts	1-8
2.	SITE DESCRIPTION & PLANNING HISTORY.....	2-1
2.1	Site Location.....	2-1
2.2	Site Description	2-2
2.3	Planning History.....	2-4
3.	DESCRIPTION OF DEVELOPMENT.....	3-1
3.1	Characteristics of Development	3-1
3.1.1	Demolition Work	3-1
3.1.2	Size of Project	3-1
3.1.3	Cumulative Impact with other Projects.....	3-8
3.2	Description of Construction	3-8
3.2.1	Construction Phase & Land Use Requirements	3-8
3.2.2	Proposed Works	3-9
3.2.3	Duration & Timing.....	3-9
3.2.4	Use of Natural Resources	3-9
3.2.5	Production of Waste.....	3-10
3.2.6	Emissions & Nuisances	3-10
3.2.7	Risk of Accidents.....	3-10
3.2.8	Secondary Projects.....	3-12
3.3	Operation of the Project	3-12
4.	CONSIDERATION OF ALTERNATIVES	4-1
4.1	Rationale for Proposed Development	4-1
4.2	Consideration of Alternatives.....	4-2
4.2.1	Alternative Locations.....	4-2
4.2.2	Alternative Layouts & Designs	4-2
4.2.3	Alternative Mitigation Measures	4-9
4.2.4	"Do Nothing" Alternative	4-9
4.3	Conclusion	4-9

5. POPULATION & HUMAN HEALTH	5-1
5.1 Introduction	5-1
5.2 Methodology	5-1
5.2.1 Study Area.....	5-1
5.2.2 Socio Economic Characteristics	5-2
5.3 Receiving Environment – The Baseline Situation	5-2
5.3.1 Site Location & Context.....	5-3
5.3.2 Population Trends for the Local Area.....	5-3
5.3.3 Population Structure	5-4
5.3.4 Economic Activity	5-6
5.3.5 Existing Social and Community Facilities in Clane	5-9
5.3.6 Education Facilities.....	5-10
5.4 Potential Impacts on Population	5-10
5.4.1 Population.....	5-11
5.4.2 Community & Facilities.....	5-11
5.4.3 Economic Activity and Employment	15-2
5.5 Predicted Impacts on Human Health	5-13
5.5.1 Air Quality	5-13
5.5.2 Noise and Vibration.....	5-13
5.5.3 Water: Hydrology and Hydrogeology.....	5-14
5.5.4 Land, Soil and Geology	5-15
5.5.5 Material Assets – Utilities	5-15
5.5.6 Unplanned Events	5-16
5.5.7 Human Health and Safety	5-17
5.6 Proposed Remedial and Mitigation Measures	5-17
5.6.1 Construction Phase Measures.....	5-17
5.6.2 Operation Phase Measures	5-18
5.7 Residual Impact.....	5-18
5.7.1 Construction Phase	5-18
5.7.2 Operation Phase	5-18
5.7.3 'Do Nothing' Impact – Status Quo	5-18
5.8 Reinstatement.....	5-18
5.9 Interactions.....	5-18
5.9.1 Human Beings / Air Quality and Climate	5-19
5.9.2 Human Beings / Noise and Vibration.....	5-19
5.9.3 Human Beings / Landscape and Visual	5-19
5.9.4 Human Beings / Traffic and Transportation.....	5-19
5.9.5 Human Beings / Water Infrastructure	5-19
5.10 Difficulties Encountered.....	5-19
6. LAND AND SOILS	6-1
6.1 Introduction	6-1

6.2	Methodology	6-2
6.3	Receiving Environment.....	6-2
6.3.1	Soils	6-2
6.3.2	Geology.....	6-3
6.4	Characteristics of the Proposed Development	6-4
6.5	Identification of Likely Significant Impacts.....	6-4
6.5.1	Construction Phase	6-4
6.5.2	Operational Phase.....	6-6
6.5.3	'Do Nothing' Scenario.....	6-6
6.6	Ameliorative, Remedial or Reductive Measures	6-6
6.6.1	Construction Phase	6-6
6.6.2	Operational Phase.....	6-7
6.6.3	'Do Nothing' Scenario.....	6-7
6.7	Predicted Impact of the Proposed Development.....	6-8
6.7.1	Construction Phase	6-8
6.7.2	Operational Phase.....	6-8
6.7.3	'Do Nothing' Scenario.....	6-8
6.8	Monitoring	6-8
6.9	Reinstatement.....	6-8
6.10	Interactions and Potential Cumulative Impacts.....	6-9
6.10.1	Interactions	6-9
6.10.2	Potential Cumulative Impacts.....	6-9
6.10.3	Unplanned Events	6-10
6.10.4	Risks to Human Health	6-10
	APPENDIX 6.A Ground Investigation Report.....	6-11
7.	HYDROGEOLOGY & HYDROLOGY	7-1
7.1	Introduction	7-1
7.2	Methodology	7-2
7.3	Receiving Environment	7-2
7.3.1	Hydrology	7-2
7.3.2	Hydrogeology.....	7-4
7.3.3	Flood Risk.....	7-5
7.3.4	Foul Drainage.....	7-6
7.3.5	Surface Water Drainage	7-6
7.3.6	Water Supply.....	7-6
7.4	Characteristics of the Proposed Development	7-7
7.4.1	Hydrology	7-7
7.4.2	Hydrogeology.....	7-7
7.4.3	Flood Risk.....	7-7
7.4.4	Foul Drainage.....	7-8

7.4.5	Surface Water Drainage	7-9
7.4.6	Water Supply.....	7-10
7.5	Potential Impact of the Proposed Development.....	7-11
7.5.1	Construction Phase	7-11
7.5.2	Operational Phase.....	7-11
7.5.3	'Do Nothing' Scenario.....	7-11
7.6	Ameliorative, Remedial or Reductive Measures	7-11
7.6.1	Construction Phase	7-11
7.6.2	Operational Phase.....	7-12
7.6.3	'Do Nothing' Scenario.....	7-13
7.7	Predicted Impact of the Proposed Development.....	7-13
7.7.1	Construction Phase	7-13
7.7.2	Operational Phase.....	7-13
7.7.3	'Do Nothing' Scenario.....	7-14
7.8	Monitoring	7-14
7.9	Reinstatement.....	7-14
7.10	Interactions and Potential Cumulative Impacts.....	7-14
7.10.1	Interactions	7-14
7.10.2	Potential Cumulative Impacts.....	7-15
7.10.3	Unplanned Events	7-15
7.10.4	Risks to Human Health	7-15
APPENDIX 7.A	Irish Water Service Plan.....	7-16
APPENDIX 7.B	Flood Hazard Information.....	7-17
APPENDIX 7.C	Topographical Survey	7-18
8.	NOISE AND VIBRATION	8-1
8.1	Introduction	8-1
8.2	Methodology	8-1
8.2.1	Impact Assessment Methodology	8-1
8.2.2	Noise Assessment Criteria.....	8-3
8.2.3	Vibration Assessment Criteria	8-5
8.3	Receiving Environment	8-6
8.3.1	Introduction	8-6
8.3.2	Existing Noise Climate	8-7
8.3.3	Existing Vibration Climate.....	8-8
8.4	Characteristics of the Proposed Development	8-8
8.5	Potential Impact of the Proposed Development.....	8-9
8.5.1	Construction Phase	8-9
8.5.2	Operational Phase.....	8-12
8.6	Mitigation Measures	8-13
8.6.1	Construction Phase	8-13

8.6.2	Operation Phase	8-14
8.7	Residual Impacts	8-14
8.8	Interactions Arising	8-14
8.9	References	8-15
APPENDIX 8.A Baseline Noise Monitoring Survey		8-16
9.	AIR, DUST AND CLIMATIC FACTORS	9-1
9.1	Introduction	9-1
9.2	Methodology	9-1
9.2.1	Study Area.....	9-1
9.2.2	Impact Assessment Methodology	9-1
9.2.3	Impact Assessment Criteria.....	9-7
9.3	Receiving Environment	9-9
9.3.1	Meteorological Conditions.....	9-9
9.3.2	Influences on Ambient Air Quality.....	9-11
9.3.3	Existing Ambient Air Quality.....	9-11
9.4	Air Quality Impact Identification	9-14
9.4.1	Existing Activities	9-14
9.4.2	Construction Phase Impacts	9-14
9.4.3	Operation Phase Impacts	9-15
9.4.4	Traffic Impacts	9-16
9.4.5	Do Nothing Impact	9-16
9.5	Air Quality Impact Assessment	9-16
9.5.1	Construction Phase Impact	9-16
9.5.2	Operation Phase Impact	9-18
9.5.3	Climate Impact	9-19
9.6	Do Nothing Scenario	9-19
9.7	Mitigation Measures	9-19
9.8	Residual Impacts	9-20
9.9	Interactions Arising	9-21
9.10	References	9-21
10.	BIODIVERSITY.....	10-1
10.1	Introduction	10-1
10.2	Research Methodology	10-1
10.3	Receiving Environment	10-1
10.3.1	Literature Review	10-2
10.3.2	Stakeholder Consultation	10-3
10.3.3	Plans or Policies Relating To Natural Heritage	10-3
10.3.4	Site Survey.....	10-6
10.4	Characteristics of the Proposed Development	10-11
10.5	Potential Impact of the Proposed Development.....	10-11

10.5.1	Construction Phase	10-12
10.5.2	Operation Phase	10-13
10.5.3	Do Nothing Impact	10-18
10.6	Remedial and Reductive Measures	10-18
10.6.1	Mitigation Measures Proposed	10-19
10.7	Predicted Impact of the Proposed Development.....	10-21
10.7.1	Construction Phase	10-21
10.7.2	Operation Phase	10-21
10.8	Interactions and Cumulative Impacts.....	10-21
10.9	Monitoring	10-22
10.10	References	10-22
	APPENDIX 10.A Species list for habitats identified from the Capdoo site	10-26
	APPENDIX 10.B Bat Survey	10-28
11.	LANDSCAPE & VISUAL IMPACT ASSESSMENT	11-1
11.1	Introduction	11-1
11.2	Assessment Methodology	11-1
11.2.1	Desktop Study	11-1
11.2.2	Impact Significance Criteria	11-2
11.2.3	Impact Significance Criteria	11-2
11.2.4	Choice of Views.....	11-3
11.2.5	Photomontage Methodology	11-3
11.2.6	Camera Matching / Rendering / Post Production	11-5
11.2.7	Results.....	11-5
11.3	Existing Environment	11-6
11.3.1	Site Description and Context	11-6
11.3.2	Architectural Conservation Areas	11-6
11.3.3	Protected Structures.....	11-6
11.3.4	Topography and Drainage.....	11-6
11.3.5	Vegetation	11-7
11.3.6	Contiguous Land Uses.....	11-7
11.3.7	Visual Analysis.....	11-7
11.4	Planning Context	11-10
11.4.1	Landscape Planning Policy Context	11-10
11.4.2	Landscape Character.....	11-10
11.4.3	Landscape Sensitivity	11-10
11.4.4	Local Settlements	11-11
11.4.5	Environmental Designations.....	11-11
11.4.6	Protected Views and Prospects	11-11
11.5	Predicted Impacts.....	11-12
11.5.1	Impacts on Existing Vegetation	11-12

11.5.2	Impact on Landscape Character.....	11-12
11.5.3	Impact on Views.....	11-13
11.6	Mitigation Measures	11-15
11.6.1	Existing Vegetation	11-15
11.6.2	Landscape Character	11-16
11.6.3	Views.....	11-16
11.7	Residual Impacts	11-16
11.7.1	Construction Phase	11-16
11.7.2	Operational Phase.....	11-17
11.8	Interactions.....	11-17
11.8.1	Biodiversity.....	11-17
11.8.2	Land, Soils and Geology.....	11-17
11.8.3	Air, Dust and Climatic Factors	11-17
11.8.4	Cultural Heritage & Archaeology	11-17
11.9	References	11-17
APPENDIX 11.A 3D Design Bureau Ltd Photomontage Methodology		11-19
APPENDIX 11.B Copy of Photomontages		11-20
APPENDIX 11.C Arboricultural Assessment and Tree Survey		11-21
APPENDIX 11.D Landscape Plans.....		11-22
APPENDIX 11.E Typical Soft Landscape Details		11-23
APPENDIX 11.F Design Rationale		11-24
12.	TRAFFIC AND TRANSPORTATION	12-1
12.1	Introduction	12-1
12.2	Methodology	12-1
12.3	Receiving Environment	12-2
12.3.1	Land Use.....	12-2
12.3.2	Location	12-2
12.3.3	Existing Transportation Infrastructure	12-4
12.3.4	Local Amenities	12-6
12.3.5	Proposed Transportation Infrastructure	12-7
12.4	Characteristics of the Proposed Development	12-9
12.5	Potential Impact of the Proposed Development.....	12-14
12.5.1	Construction Phase	12-14
12.5.2	Operational Phase.....	12-14
12.5.3	Do Nothing Scenario.....	12-15
12.6	Ameliorative, Remedial or Reductive Measures	12-15
12.6.1	Construction Phase	12-15
12.6.2	Operational Phase.....	12-16
12.7	Predicted Impact of the Proposed Development.....	12-16
12.7.1	Construction Phase	12-16

12.7.2	Operational Phase.....	12-17
12.8	Monitoring	12-32
12.9	Reinstatement.....	12-32
12.10	Interactions and Potential Cumulative Impacts.....	12-32
12.10.1	Interactions	12-32
12.10.2	Potential Cumulative Impacts.....	12-32
12.11	Human Health.....	12-33
12.11.1	Construction Phase	12-33
12.11.2	Operational Phase	12-33
12.12	Accidents & Disasters	12-33
12.12.1	Construction Phase	12-33
12.12.2	Operational Phase.....	12-34
	APPENDIX 12.A Traffic Flow Diagrams	12-35
	APPENDIX 12.B TRICS Database Outputs	12-36
	APPENDIX 12.C ARCADY Output Files	12-37
	APPENDIX 12.D PICADY Output Files	12-38
13.	MATERIAL ASSETS – SITE SERVICES	13-1
13.1	Introduction	13-1
13.2	Methodology	13-2
13.3	Receiving Environment	13-2
13.3.1	Surface Water Drainage.....	13-2
13.3.2	Foul Drainage.....	13-3
13.3.3	Water Supply.....	13-3
13.3.4	Power.....	13-3
13.3.5	Gas.....	13-3
13.3.6	Telecoms.....	13-4
13.4	Characteristics of the Proposed Development	13-4
13.4.1	Surface Water Drainage.....	13-4
13.4.2	Foul Drainage.....	13-4
13.4.3	Water Supply.....	13-5
13.4.4	Power.....	13-5
13.4.5	Gas.....	13-5
13.4.6	Telecoms.....	13-6
13.5	Potential Impact of the Proposed Development.....	13-6
13.5.1	Construction Phase	13-6
13.5.2	Operational Phase.....	13-6
13.5.3	'Do Nothing' Scenario.....	13-6
13.6	Ameliorative, Remedial or Reductive Measures	13-6
13.6.1	Construction Phase	13-6
13.6.2	Operational Phase.....	13-7

13.6.3	'Do Nothing' Scenario.....	13-7
13.7	Predicted Impact of the Proposed Development.....	13-7
13.7.1	Construction Phase	13-7
13.7.2	Operational Phase.....	13-7
13.7.3	'Do Nothing' Scenario.....	13-7
13.8	Monitoring	13-7
13.9	Reinstatement.....	13-8
13.10	Interactions and Potential Cumulative Impacts.....	13-8
13.10.1	Interactions	13-8
13.10.2	Potential Cumulative Impacts.....	13-8
13.11	Human Health.....	13-8
13.12	Unplanned Events.....	13-9
APPENDIX 13.A	Irish Water Utility Plans.....	13-10
APPENDIX 13.B	Topographical Survey	13-11
APPENDIX 13.C	ESB Network Plan.....	13-12
APPENDIX 13.D	Gas Network Ireland Network Maps	13-13
APPENDIX 13.E	Eir Network Plans	13-14
14.	CULTURAL HERITAGE AND ARCHAEOLOGY.....	14-1
14.1	Introduction	14-1
14.2	Assessment Methodology	14-1
14.2.1	General.....	14-1
14.2.2	Field Inspection	14-1
14.2.3	Geophysical Survey.....	14-2
14.2.4	Archaeological Test Excavation	14-2
14.2.5	Legislative Background.....	14-3
14.2.6	Kildare Development Plan 2017-2023	14-4
14.3	Receiving Environment	14-5
14.3.1	Site Description	14-5
14.3.2	Brief Archaeological & Historical Background.....	14-5
14.3.3	Record of Monuments & Places.....	14-6
14.3.4	Cartographic Sources.....	14-10
14.3.5	Aerial photography.....	14-11
14.3.6	Previous Archaeological Excavations.....	14-11
14.3.7	Architectural Heritage	14-13
14.3.8	Toponyms.....	14-13
14.3.9	Topographic files	14-13
14.4	Characteristics of the Proposed Development	14-14
14.5	Identification of Likely Significant Impacts on cultural heritage	14-14
14.5.1	Construction Phase	14-14
14.5.2	Operation Phase	14-15

14.6	Do Nothing Scenario	14-15
14.7	Mitigation Measures	14-15
14.8	Residual Impacts	14-15
14.9	Interactions Arising	14-15
14.10	Monitoring	14-15
14.11	References	14-16
14.11.2	Web references	14-16
	APPENDIX 14.A Figures and Plates.....	14-17
15.	INTERACTIONS	15-1
15.1	Introduction	15-1
15.2	Description of Interactions and Interrelationships and its Significance.....	15-3
15.2.1	Population & Human Health	15-4
15.2.2	Soil and Geology	15-5
15.2.3	Water: Hydrogeology & Hydrology	15-7
15.2.4	Noise and Vibration.....	15-7
15.2.5	Air, Dust & Climatic Factors	15-8
15.2.6	Biodiversity.....	15-8
15.2.7	Landscape and Visual Impact Assessment	15-9
15.2.8	Material Assets (Traffic & Transport)	15-10
15.2.9	Material Assets (Water Supply, Drainage & Utilities)	15-10
15.2.10	Cultural Heritage (Architectural Heritage & Archaeological Heritage).....	15-11
15.3	Conclusion	15-11
16.	SUMMARY OF MITIGATION MEASURES.....	16-1
16.1	Population & Human Health.....	16-1
16.2	Soils & Geology	16-1
16.3	Water: Hydrogeology & Hydrology	16-2
16.4	Noise & Vibration	16-3
16.5	Air, Dust & Climatic Factors	16-4
16.6	Biodiversity	16-5
16.7	Landscape & Visual Impact Assessment	16-7
16.8	Material Assets: Traffic & Transport.....	16-8
16.9	Water: Water Supply, Drainage & Utilities.....	16-9
16.10	Cultural Heritage & Archaeology.....	16-10