

3. DESCRIPTION OF DEVELOPMENT

The proposed residential development consists of 366 no. dwellings, a childcare facility; provision of Link Road with a new roundabout on the Kilcock Road and all associated and ancillary infrastructure and open space provision on a site measuring approximately 11.4ha in extent.

The proposed Link Road connects the R407 (College Road/Kilcock Road) to Capdoo Park and the R403 (Celbridge Road) beyond and will incorporate cycle tracks and footpaths on both sides of the carriageway, together with a new roundabout on the R407 and all necessary upgrade to existing junctions and road realignments at both the R407 and Capdoo Park.

The proposed development also provides for pedestrian/cycle access and linkages to established residential areas to the north and east of the site, a new vehicular access from the Local Road (Capdoo Road) to the north and Capdoo Park to the south; internal roadways and, all ancillary; infrastructure, including attenuation on adjoining lands outside the site boundary; landscaping and boundary treatments and all associated site and development works.

An indicative Site Layout Plan is provided at Figure 3.1 below.

3.1 Characteristics of Development

3.1.1 Demolition Work

The proposed development includes demolition of existing buildings on site comprising a house and farmyard complex located to the east and 3 no. modern sheds to the south-east.

3.1.2 Size of Project

The proposed residential development provides for 366 no. new residential dwellings on a site located to the north of Clane Town Centre and characterised on all boundaries by housing or local roads.

The proposed development provides for a range of house types including apartments, duplex units, terraced, semi-detached and detached dwellings. A breakdown of residential units is as follows:

Table 3.1 Breakdown of Residential House Sizes

Description	Quantity	Mix %
1 Bed Apartments	28	7.7
2 Bed Apartments	82	22.4
2 Bed Own Door Apartment	36	9.8
2 Bed Houses	20	5.5
3 Bed Own Door Duplex	36	9.8
3 Bed Houses	75	20.5
4 Bed Houses	77	21.0
5 Bed Houses	12	3.3
TOTAL	366	100

Across the scheme 7 no. principle house types are proposed and 16 variants depending on which of the character areas they are located. These vary in form and are terraced & semi-detached. In addition, there are 2 no. different apartment/duplex unit types along with 3 no. apartment blocks which include a variety of one and two bed apartments. The crèche facility also provides additional variety in the typology proposed. The Table below indicates the varied housing mix.

Table 3.2 Breakdown of House Types

Type	Description	BED SPACES	AREA (sqm)
A	3 Bedroom end of terrace house	5	113.5
A1	3 Bedroom mid terrace house	5	104.3
A2	3 Bedroom end of terrace house	5	115.3
A3	2 Bedroom mid terrace house	4	86.6
B1	3 Bedroom semi-detached house	5	123.2
B2	3 Bedroom semi-detached house	5	120.3
B3	3 Bedroom semi-detached house	5	125.0
B4	3 Bedroom semi-detached house	5	122.1
C	3 Bedroom semi-detached/mid terrace/end of terrace house/detached house	5	112.3-115.2*
C1	2 Bedroom semi-detached house	4	99.2
D	4 Bedroom semi-detached/ end of terrace house	6	128.4-131.4*
E	4 Bedroom semi-detached house	6	137.1-138.2*
E1	4 Bedroom semi-detached house	6	137.1-138.2*
E2	4 Bedroom semi-detached house	6	138.9-140.0*
F	4 Bedroom semi-detached house	6	139.4-142.2*
G	5 Bedroom semi-detached house	8	195.2
1B1/2	1 Bedroom own door apartment	2	53.1-59.2*
1B3/4	1 Bedroom apartment	2	48.9-58.4*
2B1	2 Bedroom own door apartment (duplex)	4	83.7
2B2-11	2 Bedroom lower level own door apartment	4	79.6-86.5*
3B1	3 Bedroom own door duplex mid terrace	5	119.2
3B2	3 Bedroom own door duplex end of terrace	5	120.4
* Minor variation in gross floor area dependent on Character Area			

The layout has also been informed by the Clane Local Area Plan 2017-2023. The site is identified as Key Development Area 2 (KDA 2) which provides design parameters which place an emphasis on a high degree of permeability and connectivity for the town between the Kilcock and Celbridge Regional Roads.

Figure 3.1 Proposed Layout



Three character areas are proposed across the scheme to create a series of distinctive neighbourhood which will sit appropriately into the context of the surrounding area. Each of these are focussed on its own cluster of streets giving a sense of identity and place.

Character Area 1:

Character Area 1 consists of the housing located predominantly to the south of main area of public open space. A robust and simple traditional style is proposed to create a strong sense of an established neighbourhood; the composition consisting of brick gables of predominately red/ stock brickwork.

Character Area 2:

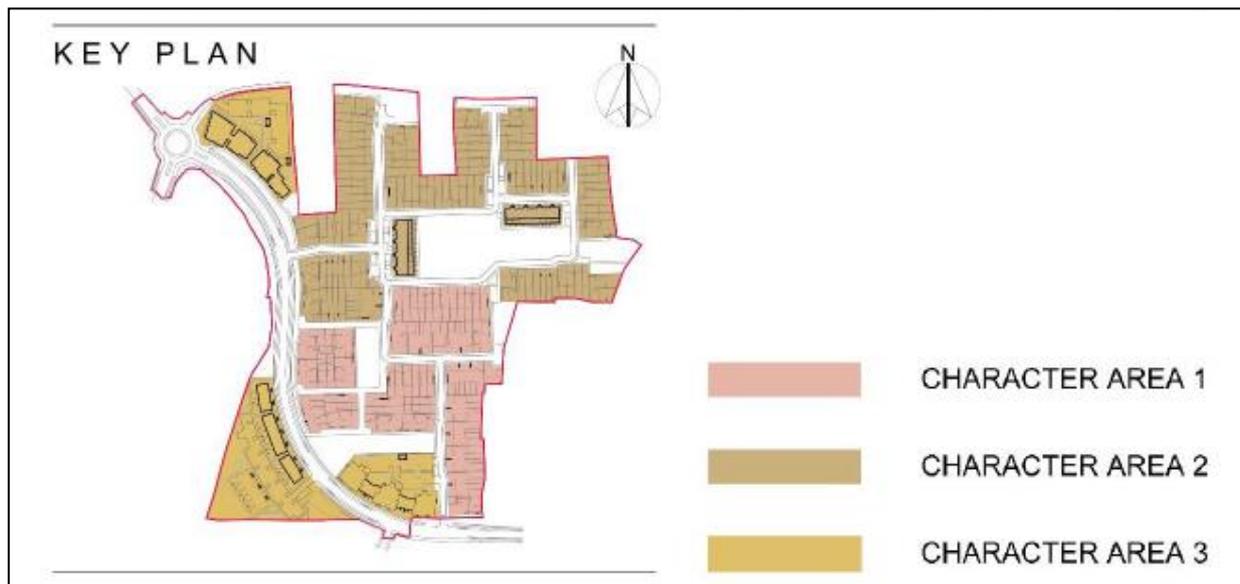
Character Area 2 comprises the housing mostly to the north, east and west of the main public open space. This Character Area consists of buff brick with white brick/rendered projecting bays. Character Area 2

comprises a mix of terraced, semi-detached and detached units with duplex units providing a strong edge and passive surveillance to the principal open space.

Character Area 3:

Character Areas 3 consists of a series of apartment blocks and terraces of duplex units located along the curvature of the proposed Link Road. Apartment Block 1 is located at the new junction of the Kilcock Road and Link Road, which is intended to act as a gateway to Clane. The palette of materials consists of a mix of buff brick with white brick/ render and stone details. Apartment Block 3 is situated at the southern end of the Link Road, using the same palette of materials.

Figure 3.2 Character Areas



The majority of dwellings are two-storeys in height. Proposed houses along the northern and eastern boundaries of the site consist two-storey dwellings which have been orientated and located to mitigate against any potential residential amenity impacts on adjoining properties. Two properties at the south-east corner of the site are dormer in height.

The duplex units are three storeys in height and are generally located on the portion of the site to the west of the Link Road and framing the north-east and west sides of the main public open space. The apartment blocks located to the north west are three and four storeys in height with the taller elements located adjacent to the roundabout at the gateway to the site. The Apartment block to the south of the site is predominantly three storeys in height with two storey links between the principal elements.

Crèche

The proposed development provides a single storey childcare facility (approximately 316sqm) with capacity for in the order of 49 no. children. The childcare facility has been positioned to the west of the new Link Road to maximise visibility to all residents within the scheme and beyond. Private, secure outdoor play spaces is proposed to the rear of the facility.

Access & Car Parking

The proposed development will be primarily accessed via the new Link Road linking the R407 to Capdoo Park to the south and the Celbridge Road (R403) beyond. The new Link Road is proposed in accordance with the alignment of extant Part 8 design for the Clane Inner Relief Road enhancing permeability and connectivity for the wider town.

The Link Road provides a 7.0m wide carriage way with a 2.0m wide cycleway and 2.0m wide footpath in both directions and will ultimately link the R403 (Celbridge Road) with the R407 (Kilcock Road). The proposal provides for a four-armed at the junction with the R407 (Kilcock Road).

Primary site access points to the proposed development will be provide off both sites of the proposed Capdoo Link Road. An independent site access off the rural road to the north of the proposed development is proposed to serve a portion of the site that is isolated from the main development due to site configuration and levels. A further secondary site access will be provided from Capdoo Park to the south.

A pair of semi-detached dwellings are located adjacent to the site's eastern boundary and will be accessed directly from the rural road east of the site (i.e. not via the developments internal road network). Pedestrian connectivity is provided from these houses to other parts of the proposed development

The proposed development also provides for pedestrian/cycle access from the Local Roads to the north and east of the site and will facilitate potential future pedestrian links through adjacent lands to destinations including the Town Centre.

A total of 605 no. carparking spaces are proposed to serve the proposed dwellings. All houses have access driveways which generally accommodate 2 no. car parking spaces per house. All driveways are permeable paving within private curtilage. A total of 219 no. communal parking spaces, including spaces for visitors, are proposed to serve the apartment and duplex units with spaces conveniently located proximate to the main entrance to the units.

A total of 18 no. car parking spaces are proposed immediately adjacent to the childcare facility, which will be reserved for drop-off and collection only.

Communal secure bicycle storage enclosures are distributed around all the apartment blocks and duplex blocks, with 1 cycle space per bed space.

Landscape & Public Realm

The landscape proposals provide an innovative and durable landscape and public realm, which integrates the proposed development into the surrounding context and generates new public open spaces and routes throughout.

There are three main large areas of public open space, one to the north, one at the centre and one in the southern part of the site. Each of the vary in character and all of them are centrally located and overlooked from proposed development on all deists. Their central locations ensure that the spaces are activated and used to their maximum potential. The landscape elements are arranged in such a was to utilise the space as much as possible.

Northern Open Space: A central rectangular cut lawn area is framed by series of mainly native Irish tree species planted on a grid, meadow grasses and groundcover and herbaceous planting. A formal open space is created which utilizes both passive and active forms of recreation. The existing topography is exploited to create subtle variations in the character of the landscape. On the periphery, meadow and groundcover areas under tree canopies are broken up by series of paths and access points leading to the central open space

Central Open Space: A central lawn area is framed by a monoculture of *Magnolia kobus* trees planted on a grid, meadow grasses and groundcover and herbaceous planting. A formal open space is created which utilizes both passive and active forms of recreation. A play area is located to the north to exploit the aspect. On the north-western and south-eastern periphery, meadow and groundcover areas under tree canopies are broken up by series of paths and access points leading to the central open space.

Southern Open Space: This open space is aligned with a retained existing hedgerow and its geometry is a playful arrangement of linear elements, to reflect the linear nature of the hedgerow. Proposed tree planting here is mainly *Pinus sylvestris* with *Betula pubescens*. Over time, it is envisaged that the *Pinus* will form a tall band visible from across the site. A number of play elements are incorporated within this open space

Dedicated play areas are located in areas of public open spaces on site. They comprise secure play areas surrounded by fencing and areas of natural play which are integrated into meadow areas. Play equipment includes a climbing structure, trails of timber logs and balancing equipment. The proposed play equipment will be designed and manufactured in accordance with standards EN 1176 and EN 1177. The large flat lawn area to the centre of the site can be used for a wide range of informal sports and play.

New trees are proposed in order to compensate for the removal of existing trees. They will also improve the species mix on site. The proposed tree species are selected for longevity, suitability to local soil conditions and microclimate, biodiversity (native species) and where required suitability to close proximity to residential buildings. Proposed tree sizes range from semi-mature (35-40cm girth) specimen trees to multi-stemmed and native forestry transplants and whip planting. A native corridor has been proposed along the new link road across the site.

A key objective of the landscape strategy is to link the new development to the wider context of Clane. The site will act as a node between the Kilcock and Celbridge Regional Roads. It will provide important connections for vehicles, pedestrians and cyclists.

The proposed internal access roads meander through the proposed development and are broken up by raised tables with pedestrian crossing points to create a safer, calmer environment for pedestrians, cyclists and motorists. In order to differentiate the cul-de-sac areas from the residential streets which provide routes through the development, it is proposed that coloured stone mastic asphalt is used to contrast the tarmacadam surface of the main roads. These areas will facilitate access to dwellings, parking and hammerheads/ turning circles for residents and visitors and at the same time allow for a safe and comfortable pedestrian use. All of the streetscape and open spaces are overlooked for passive surveillance.

A series of smaller pedestrian and cycle links provide routes through adjacent lands to local destinations including shops and Clane town centre.

Site Services & Infrastructure

It is proposed to construct a **surface water** outfall along the rural roads east of the site and discharge to the Gollymochy Stream. This will serve the majority of the site.

The north-west section (Apartment Blocks 1 & 2) and the upper (northern) part of the Link Road will discharge to an existing surface water manhole north west of the site on College Road. The lower (southern) portion will discharge to an existing surface water manhole southeast of the site adjacent to Capdoo Avenue.

Surface water runoff from the site's internal road network will be directed to the proposed pipe network via conventional road gullies while surface water runoff from driveways will be captured by permeable paving.

Surface water runoff from roofs will be routed to the proposed surface water pipe network via the porous aggregates beneath permeable paved driveways (providing an additional element of attenuation).

Surface water discharge rates from the proposed surface water drainage network will be controlled by a vortex flow control device (Hydrobrake or equivalent) and associated underground attenuation tanks (Stormtech Chambers). Surface water discharge will also pass via a full retention fuel / oil separator (sized in accordance with permitted discharge from the site).

The proposed Link Road is treated as a completely separate drainage network. The surface water runoff from the road will drain through a distinct piped network before discharging to the public sewer via an attenuation tank, flow control and interceptor arrangement.

With respect to the **foul water** network, an existing 225mm diameter public foul sewers are located south east and north west of the site. An existing manhole is located on the foul sewer (adjacent to the entrance of Capdoo Avenue) and will provide a suitable foul drainage discharge point for the majority of proposed development. The remaining isolated section to the north west of the site is to discharge in to the existing foul sewer on College Road

The majority of the foul drainage will connect to an existing foul sewer south east of the site with a small isolated section connecting north west of the site. The proposed foul drainage discharge point south east of the site is slightly elevated above the north-eastern corner of the site. As such, a foul pumping station, rising main and associated rising main discharge (header) manhole will be required to service this section of the development (185 no. out of 366 no. units located in the north east of the site). The north western and southern portions of the site will discharge by gravity in to the appropriate discharge manholes.

The proposed foul pumping station is to be located along the eastern side of the proposed development.

The proposed foul drainage network comprises of a series of 225mm diameter pipes with each residential unit serviced by an individual 100mm diameter connection

With respect to **water supply**, the existing 400mm diameter ductile iron watermain and a 2" diameter uPVC watermain are located along the rural roads adjacent to the site's northern and eastern boundaries. An existing watermain (100 mm diameter uPVC) is also located to the west of the site in College Road East.

It is proposed to link the existing 400mm diameter watermains (north-west and south-east of the site) via a 200mm diameter watermain running along the proposed Capdoo Link Road. This new watermain will then service the proposed development.

A 150mm diameter looped water main will then be provided (generally along the site's arterial roads) with a number of 100mm diameters looped branch mains provided elsewhere.

The site is irregular in shape due to a number of plots that have been developed along its northern boundary. As a result, there is a portion of the site that is isolated from the main development (north-west corner). A separate connection off the existing watermain running along the rural road north of the site is proposed in order to serve this isolated portion of the site.

Waste Management

For end of terrace and semidetached properties, bins will be stored in rear gardens. Where bin stores are required to mid-terrace housing and duplex units, it is proposed to locate them to the front of the dwellings for ease of access. Bin storage has been integrated into the defensible areas of each terraced dwelling. These will be built from matching brick and the openings & lid will be clad from hardwearing treated timber.

It is proposed that Apartment Blocks 1, 2 and 3 be served by communal bin stores in the form of sheltered enclosures. There is space provided for bins on the basis of 1 1100 litre bin for every 15 bed spaces.

3.1.3 Cumulative Impact with other Projects

There are no significant extant or ongoing planning applications in the vicinity of the application site.

The Clane Local Area Plan 2017-2023 identifies 5 no. Key Development Areas (KDA) to accommodate growth during the early Plan period. The application site is identified as KDA2. It is noted that part of KDA-3, located west of the site between the Kilcock Road and the Ballinagappa Road, is subject to ongoing development under various permissions for in the order of 200 no. units.

The proposed development has been set within the context of the LAP Plan and therefore is responsive to future potential development of the wider area.

3.2 Description of Construction

3.2.1 Construction Phase & Land Use Requirements

The proposed development requires general site clearance and preparation, stripping of organic material across the site, removal and disposal of any waste.

Where feasible, excavated material will be reused as part of the site development works (e.g. use as fill material beneath houses and roads) in order to minimise truck movements to and from the site, however, some unsuitable excavated subsoil is expected and will have to be removed to an approved landfill.

The sequence and method of construction of the development will be confirmed with the appointed Contractor prior to commencement on site. The Contractor will be required to prepare a detailed Construction Management Plan on foot of these proposals.

A Traffic Management Plan (TMP) will be prepared for the works in accordance with the principles outlined below and shall comply at all times with the requirements of:

- Department of Transport Traffic Signs Manual 2010 – Chapter 8 Temporary Traffic Measures and Signs for Roadworks
- Department of Transport Guidance for the Control and Management of Traffic at Road Works (2010)
- Any additional requirements detailed in the Design Manual for Roads and Bridges (DMRB) & Design Manual for Urban Roads & Streets (DMURS)

3.2.2 Proposed Works

Capdoo Link Road is to be delivered as part of the proposed development and will interface with the existing road network at the Kilcock Road / College Road junction (north-west of the site) and at Capdoo Park (south of the site). The contractor shall prepare a detailed traffic management plan for works at these interfaces with the existing road network and obtain all required road opening licenses from Kildare County Council.

Capdoo Link Road is to be delivered as part of the proposed development and will facilitate the primary construction access points. Access points during the construction phase will be required off both sides of the Capdoo Link Road as it traverses the site.

The site is irregular in shape due to a number of plots that have been developed along its northern boundary. As a result, there is a portion of the site that is isolated from the main development (north-western corner). This portion of the site will require a construction access off the rural road to the north of the proposed development

Measures will be in place to ensure roadways are to be kept clean of muck and other debris. A road sweeping truck is to be provided if necessary to ensure that this is so. A wheel wash will be provided for the duration of the earthworks.

Construction plant used on site should comply with the relevant Irish regulations in relation to noise and vibration requirements. Noise will be minimised as far as possible, in particular by limiting the use of compressors and other plant to stated hours and by fitting and use of silencing devices wherever practicable.

3.2.3 Duration & Timing

For the duration of the proposed infrastructure works the maximum working hours shall be 07:00 to 19:00 Monday to Friday (excluding bank holidays) and 09:00 to 13:00 Saturdays, subject to the restrictions imposed by the local authorities.

No working will be allowed on Sundays and Public Holidays.

Subject to the agreement of the local authorities, out of hours working may be required for water main connections, foul drainage connections etc.

3.2.4 Use of Natural Resources

Inert material will be imported to the site. This material will be either quarried product; greenfield/inert soil imported under a Waste Permit issued by the local authority; or materials that have been approved as by-products by the EPA in accordance with the EPA's criteria for determining a material is a by-product, per the provisions of article 27(1) of the European Communities (Waste Directive) Regulations, 2011.

3.2.5 Production of Waste

A Construction Waste Management Plan will be prepared by the contractor which meets the requirements of the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects (DoEHLG, 2006).

Construction and Demolition (C&D) waste is defined as waste which arises from construction, renovation and demolition activities, together with all waste categories mentioned in Chapter 17 of the European Waste Catalogue (EWC).

Also included within the definition are surplus and damaged products and materials arising in the course of construction work or used temporarily during the course of on-site activities.

The first stage of the construction works will involve demolition works, site preparation and clearance. The demolition phase of the proposed development will involve removal of all existing structures within the site. Removal of the existing topsoil layer will be required. It is expected that all stripped topsoil will be reused on site, incorporated into landscaping of back gardens and public open spaces. It is estimated that up to 47,000m³ of excavated subsoil layers will be generated and will be reused for non-structural fill.

The contractor will ensure that any off-site facilities to which construction and demolition waste is delivered have the appropriate Certificate of Registration, Waste Facility Permit or Waste Licence in place. The contractor will ensure that any off-site facilities to which construction waste is delivered have the appropriate Certificate of Registration, Waste Facility Permit or Waste Licence in place.

The Contractor will ensure that waste generation on site is minimised and that waste removed from site for recovery or disposal is reduced where feasible.

3.2.6 Emissions & Nuisances

No significant impacts will arise in terms of emissions and nuisances during the construction and operational period of the development. A detailed assessment of the potential impacts on noise and vibration and air quality are provided in Chapters 8 and 9 respectively.

3.2.7 Risk of Accidents

The risk of accidents arising as a result of the development at both the construction and operational phase will be minimised through detailed design considerations and health and safety management.

Health & Safety

As required by the Safety, Health and Welfare at Work (Construction) Regulations 2013, a Health and Safety Plan will be prepared by the Contractor which will address health and safety issues from the design stages through to the completion of the construction and maintenance phases. This plan will be reviewed as the development progresses. The contents of the Health and Safety Plan will comply with the requirements of the Regulations.

Security

Security will be the responsibility of the contractor who will provide adequate security to prevent unauthorised entry to or exit from any working areas. The following measures may be used to prevent unauthorised access:

- Install CCTV and alarm systems where required. CCTV and security systems will be sited and directed so that they do not intrude into occupied residential properties;
- Provide adequate security guards and patrols;
- When there is no site activity, close and lock site gates and set appropriate site security provisions in motion;
- Consult with neighbouring properties and local crime prevention officers including Kildare County Council and An Garda Síochána on site security matters as required; and
- Prevent access to restricted areas and neighbouring properties by securing equipment on site such as scaffolding and ladders.

Hoarding and Fencing

A site boundary in the form of hoarding or fencing will be established around each of the working areas before any significant construction activity commences in that working area. The hoarding/fencing will be 2.4m high to provide a secure boundary to what can be a dangerous environment for those that have not received the proper training and are unfamiliar with construction operations. Hoarding and fencing will be maintained to an acceptable condition to prevent unwanted access to working areas and provide appropriate noise attenuation, screening, and site security where required

Environmental Management

It will be a requirement that the contract(s) awarded for the proposed development will comply with relevant documentation including an environmental protection and mitigation measures identified in this EIAR, planning (and other statutory consent) conditions received and the detailed Construction Environmental Management Plan to be prepared on appointment of Contractors.

As part of the environmental management framework, contractors will need to comply with all relevant environmental legislation and take account of published standards, accepted industry practice, national guidelines and codes of practice appropriate to the proposed development. Due regard should be given to the guidance and advice given by ISO14001 standard and Construction Industry Research and Information Association (CIRIA) guidance.

The contractor will be required to develop and implement an Environmental Management System (EMS) that follows the principles of ISO14001. Further, the contractor's EMS should include an environmental policy, operational, monitoring and auditing procedures to ensure compliance with all environmental requirements and to monitor compliance with environmental legislation and the environmental management provisions outlined in the relevant documentation.

3.2.8 Secondary Projects

Part of the KDA2 phasing requirements is the junction upgrade between Capdoo Link Road and Brooklands. In addition, improved cycle and pedestrian access to Clane Town Centre via Capdoo Lane, is identified as a specific project in the Local Area Plan. These works have been considered in the context of the proposed development.

The upgrade of the Capdoo Park/Brooklands junction will include the activation of the existing traffic signals and improvements to existing facilities for vulnerable users including provision of tactile paving, reduction of corner radii and modifications to link markings.

These works will be progressed in consultation with Kildare County Council. While these works do not form part of this application, and will be delivered separately in conjunction with Kildare County Council the works have been assessed as part of the cumulative impact of the proposed development. In this respect, material and road markings necessary to upgrade the Capdoo Park/Brooklands junction have been indicated on the application drawings.

3.3 Operation of the Project

As demonstrated in the following sections of this EIAR, post-construction, the operation of the proposed development is not likely to give rise to any significant additional impacts in terms of activities, materials or natural resources used or effects, residues or emissions which are likely to have a significant impact on human beings; flora and fauna, soils, water, air, climate, landscape.