3. DESCRIPTION OF DEVELOPMENT

The proposed development includes the demolition of an existing agricultural structure on site together with the closure of an existing vehicular access off the R405 and provision of a new vehicular access / junction onto the R405 to serve the proposed development.

The proposed development comprises of 372 no. dwellings comprising:

- 122 Apartments in 2 no. apartment blocks 4-storeys in height at the north-western and south-western parts of the site. The apartments provide a mix of one and two-bedroom units, comprising 46 x 1 bed units and 76 x 2 bed units
- 12 1 bed Maisonettes and 20 No. duplexes (comprising 10 x 1 bed units and 10 x 2 bed units).
- 218 houses, comprising a variety of housing forms to include detached, semi-detached and terraced houses. A mix of house sizes are proposed to include 20 x 2 bed; 140 x 3 bed houses and 58 x 4 bed houses.
- A childcare facility measuring approximately 191 sq.m (GFA) at ground floor level of Apartment Block B.

The proposed development includes ancillary car parking to serve the proposed residential dwellings and creche together with associated site works to include soft landscaped open spaces (approximately 13,026 sq.m, or 14.2% of the site area) and ancillary services and infrastructure provision to serve the proposed development.

3.1 Characteristics of Development

3.1.1 Demolition

The application site is greenfield in nature. Apart from a modest agricultural shed in the north-western corner of the site there are no other existing structures on site to be demolished.

3.1.2 Size of Project

The proposed residential development provides for 372 new residential dwellings.

The proposed residential development comprises 122 Apartments; 12 no. 1 bed Maisonettes; 20 no. duplexes; 218 houses comprising a variety of housing forms to include detached, semi-detached and terraced houses; and, a childcare facility measuring approximately 191 sq.m (GFA) at ground floor level within Apartment Block B.

A total of 16 dwelling types are proposed which include maisonettes, duplexes, apartments, terraced houses, semi-detached houses and detached houses. A breakdown of residential units is provided in Table 3.1 below.

Figure 3.1 Proposed Site Layout Plan

Table 3.1 Breakdown of Dwelling Types and Sizes

House Type	Description	Quantity	Floor Area (sq.m)	Mix %
B1	2 Bedroom / 4-person Terrace House	20	87.5	5.4
C1	3 bed/5-person, two storey terraced houses	88	110.9	23.7
C2	3 bed/5-person, two storey semi-detached houses	8	115.2	2.2
C3	3 bed/5-person, two storey detached house	1	115.2	0.3
C4	3 bed/6-person, three storey terraced houses	7	124.6	1.9
C5	3 bed/5-person, two storey terraced houses	36	102	9.7
D1	4 bed/7-person, two storey, semi-detached houses	36	133	9.7
D2	4 bed/7-person, two storey, semi-detached houses	12	142.6	3.2
D3	4 bed/8-person, three storey, terraced houses	10	145.6	2.7
A1 / A2	1 Bedroom Maisonette	12	53.8 or 61	3.2
A3	1 Bedroom / 2-person Duplex	10	54	2.7
Duplex	2 Bedroom / 3-person Duplex	3	99.7	0.8
B2	2 Bedroom / 4-person Duplex	7	99.7	1.9
Apartment	1 Bedroom Apartment (2 person)	46	49.4 or 52	12.4
Apartment	2 Bedroom Apartment (3 person)	3	67.3	0.8
Apartment	2 Bedroom Apartment (4 person)	73	76.9 to 82.8	19.6

The layout and design have been informed by the Design Brief for Key Development Area No. 4 (KDA4), as contained in the Celbridge LAP. The key design objective for the subject site / KDA4 is to provide a residential area and public park that consolidates development to the north of the town whilst presenting a landscaped edge onto Maynooth Road (R405).

Crèche

The proposed development provides a crèche at the ground floor of Apartment Block B (measuring approximately 191 GFA) with capacity for approximately 42 no. childcare spaces.

The crèche benefits from a dedicated outside play area and ancillary car parking in the form of 10 No. dedicated car parking spaces.

Access and Car Parking

The proposed development will be accessed via a new access point off the Maynooth Road / R405 in a central position along the site's southern frontage and consistent with the indicative design framework shown in the design brief for KDA4. The proposed internal road network provides a permeable and integrated network of streets that are also pedestrian and cycle friendly.

A combination of on- and off-street parking is provided resulting in an animated streetscape that is complemented by high-quality landscaping.

All houses (218 no.) have access driveways set to accommodate 2 no car parking spaces per dwelling (resulting in 436 no. in curtilage parking spaces). All driveways (outside road and footpath areas that are to be taken in charge by KCC) are proposed as permeable paving within private curtilage.

Landscape & Public Realm

Quality public open space in the form of six main public open spaces are distributed throughout the scheme, all overlooked by housing, as described in Chapter 1. Existing landscaping and mature vegetation along the road verges of the R405 and R449 approach roads are retained and integrated into the proposed landscaping scheme.

Entrance from R405: A vehicular and pedestrian entrance is proposed approximately mid-way along the south-western boundary that is defined by the Maynooth Road (R405). The entrance to the site is marked at either side by two rows of terraced houses which comprise primarily two-storey houses that are punctuated at either side of the entrance by three storey elements to provide a gateway / entrance feature to the site. The terraces are aligned with the apartment blocks at the western and eastern end of this road frontage to form and frame public open spaces to the south thereof onto the road which also facilitates the retention and integration of existing trees along the Maynooth Road to provide an appropriate element of landscaped edge. The open space at the southern corner of the site provides a welcoming approach from Celbridge, with pedestrian access connecting the adjoining residential development of Crodaun Forest Park. This area will be defined by existing mature trees at Crodaun Forest and the original stone wall of the demesne.

Open Space Areas: There are five other public open spaces across the proposed new development. The spaces are generally bisected by pedestrian routes which allow for movement through the public open space areas and adhere to the resident's anticipated desired lines of movement. These routes through the spaces also ensure that they are 'active' spaces and as such, opportunities for anti-social activity are reduced. These open spaces also serve as an area for informal play and passive recreation. The parks provide an important linking function throughout the site, aiding in orientation of the site. They are intended to be integrated with the neighbourhood and provide a variety of open space configurations. The existing trees on site have been retained where possible and the public open spaces have taken their locations into account and have utilised them within the overall design.

Future Potential Amenity Lands Boundary: An important aspect of the proposed new development is the interface with the adjoining amenity lands to the north east of the proposed new development. These lands are owned by the applicant but are not included within the proposed development, apart from a small linear strip that is required to deliver the northern most road within the site boundary. This strip of land will, upon delivery of the road, be ceded along with the remainder of the open space to the north of the site to Kildare County Council in order to implement the HLA Objective and to ensure

the preservation of a designated and Protected View between Conolly's Folly and Castletown House that traverses this open space.

Streetscape & SUDS: One of the primary design objectives of the landscape proposal is to maximise the integration of the proposed development into its surroundings. The existing formal arrangement of Hornbeam trees along the approach roads to Celbridge has been extended through the development site, along the main access roads, to accentuate the visual link between the development and the protected view from Castletown House to Connolly's Folly, also creating an appropriate interface between pedestrians and traffic. This approach will also focus on ensuring appropriate screening, visual and aesthetic interest, pedestrian links and access and recreation and movement across the development. Where site constraints allow, preference has been given to ensure sufficient space provision for street tree planting, especially along the central vehicular axis into the site and within home zones.

The landscape approach has sought to incorporate SUDS features within the landscape treatment. It is proposed to use permeable paving for all parking areas, with homezone spaces incorporating permeable surfaces adding to the biodiversity and aesthetic of these areas.

Site Services & Infrastructure

The surface water drainage system accords with SUDs principles with the main body of the site divided into four drainage catchments. Attenuation will be provided in each catchment utilising Stormtech Underground Chamber systems or similar, with a controlled greenfield run-off rate of 2.00l/sec/ha. There is an existing 450mm diameter public surface water drain adjacent to the South-West corner of the site. It is expected to provide a suitable surface discharge point for the proposed development.

There is an existing public 225mm diameter foul sewer located along the site's western boundary which outfalls towards Celbridge Main Street. Ground levels at the discharge point are somewhat elevated above the eastern side of the site. It is therefore proposed to raise existing ground levels along the eastern side of the site in order to achieve a gravity drainage solution (avoiding the need for a pumped solution). In order to accommodate the proposed site layout, diversion of the existing foul sewer is required which traverses the western portion of the site. This is then expected to provide a suitable foul discharge point for the proposed development.

It is proposed to take a 200mm diameter connection off the existing 12" diameter public water supply line (located along the R405).A 200mm diameter looped water main will be provided (generally along the site's arterial roads) with a number of 160mm and 110mm diameters looped branch mains provided elsewhere (off the main 200mm diameter loop).

3.1.3 Cumulative Impact with other Projects

The Celbridge Local Area Plan 2017-2023 (LAP) identifies 5 no. Key Development Areas (KDA) to accommodate growth during the early Plan period. The application site is identified as KDA No. 4.

The proposed development has been set within the context of the LAP and is therefore cognisant and responsive to future potential development of the LAP area, and in particular to the balance of the KDA 4 area to the south of the subject site.

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. It is envisaged that a Construction Management Plan (CMP) will be prepared by the appointed contractor and agreed with the Local Authority prior to the commencement of any construction works on foot of a planning condition at the compliance stage of the development. The CMP will ultimately include details, such as the following:

- Daily and weekly working hours;
- Agreed haul routes for incoming materials;
- Licensed hauliers to be used;
- Disposal sites;
- Travel arrangements for construction personnel;
- Appropriate on-site parking arrangements for construction personnel to prevent overspill parking on the local road network;
- Temporary construction entrances to be provided;
- Wheel wash facilities if required;
- Road cleaning and sweeping measures to be put in place if required;
- Temporary construction signage to be put in place and maintained;
- Any proposed traffic management measures such as temporary traffic lights and signage on any public roads.

3.2.2 Proposed Works

The construction process includes the following activities:

- Demolition of existing structures;
- Site clearance activities;
- Ground works;
- Construction of new buildings and road infrastructure; and
- Landscaping works.

Materials required would typically include:

- Construction materials for buildings and road(s);
- Paving /surfacing; and
- Landscaping.

A bill of quantities for the proposed development has not been prepared to date and as such it is not possible at this time to estimate the quantity of material required.

3.2.2.1 Demolition Works

Demolition of the existing Agricultural sheds on site will be carried out by a competent demolition contractor in accordance with the current best practice for demolition. Buildings shall be checked for bats immediately prior to demolition by a bat specialist. If bats are found at this stage, a derogation must be sought from NPWS with any additional mitigation requirements. If bats are not found at this point but are found at any stage of the building work, NPWS must be contacted and any work that may affect bats (demolition, scaffolding etc.) must be halted until an agreed strategy with NPWS is in place. Work that would not affect bats must be agreed with a bat specialist as many operations that would not be considered harmful may have unexpected consequences.

3.2.2.2 Site Clearance and Removal of Natural Vegetation

A total of forty-seven trees were identified and assessed within the application site, with all the standard and coppiced specimens being Ash and occurring within agricultural field boundaries. The agricultural field boundaries are primarily composed of Hawthorn and Ash with more occasional Blackthorn. The shrub layer to the outer edges of the hedgerows is strongly populated by Bramble.

In addition to those located internally sections of hedgerow are also located near the southern boundary adjacent to the R405. The species composition and general condition of the trees is the same as the internal hedgerows however they are visible from the adjoining road and have landscape value and screening potential for the site from these directions. One group of trees at the intersection of the R405 and R449 have particularly high landscape potential due to their prominent location. A linear planting of fastigiate Hornbeam is also present adjacent to the southern boundary with the R405. These trees and their counterparts on the opposite side of the road appear to have been planted to provide a formal tree lined approach into Celbridge.

The western boundary of the site adjacent to the R449 is bordered by a bund which comprise a mixture of fastigiate Hornbeam, underplanted with Hazel and Dog Rose with invading Bramble. There are no trees within the site which could be described as estate trees i.e. specimen plantings such as avenues or feature trees connected to Castletown House or other estates. However, there are a number of mature Oak trees located adjacent to the southern boundary within the Crodaun Forest Park housing development which appear to have been planted as part of estate plantings.

The design and layout of the proposed development follows the general pattern established in the development guidance for KDA4, as promoted in the Celbridge LAP. This pattern of development does not allow for the retention of any of the internal hedgerows and trees with the exceptions of trees at the intersection of the R405 and R449 on the southern-western boundary. There will no direct impact on the trees within local authority ownership on the western and southern boundaries. It is proposed to provide pedestrian and vehicular links between the site and the adjoining pavements and roads (R405 & R449). The cluster of mature trees at the intersection of the R405 & R449 have high landscape value in a prominent location within the area generally.

3.2.2.3 Ground Works

Site development works will include stripping of topsoil, excavation of subsoil layers and importation of fill. Materials imported to site will be natural stones sourced from locally available quarries, 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. Imported fill materials will be granular in nature and used in the construction of road pavement foundations, drainage and utility bedding and surrounds.

3.2.2.4 Construction of Buildings and Associated Infrastructure

Roads Infrastructure

The roads infrastructure within the site includes the construction of roads, footpaths, cycle paths, parks and grass verges, public lighting, drainage and services. During the construction phase, full access will be required to the site provided through a construction access off the R405 Maynooth Road. Given the scale of the site and the number of dwellings proposed, it is envisaged to be developed in four (4) phases, subject to construction exigencies and market demand.

The envisaged Phasing of the proposed development is anticipated to commence at the southern end of the site closest to the R405 (at the western end) and anti-clockwise in an easterly and northerly direction.

Water Infrastructure

Water and drainage infrastructure within the site include the construction of pipelines, manholes, chambers and, underground attenuation tanks.

3.2.3 Environmental Protection Measures

A number of environmental protection measures will be utilised in the design of the scheme, which will include:

- The removal of hedgerows or scrub should not take place from March to August inclusive as per the Wildlife Act. If this is unavoidable then vegetation subject to removal must first be inspected for signs of breeding birds. If no nesting is occurring, the vegetation can be removed within 48 hours. If nesting if found, vegetation can only be destroyed under licence from the NPWS.
- Guidance from the National Roads Authority in establishing root protection areas (RPA) along hedgerows to be retained will be taken into consideration.
- Although significant effects to freshwater courses are not predicted it is nevertheless appropriate that best site management practices should be in place to minimise pollution to the greatest degree feasible. As such, guidelines from Inland Fisheries Ireland (IFI, 2016) should be followed. This includes designating storage areas for substances such as oils, fuels etc. and ensuring that only silt-free run-off enters water courses.
- There are no records of any plants which are listed as alien invasive species within the area of the site. If found any invasive species will be treated appropriately (consult specialist invasive species contractor for suitable methods dependent upon the species) and the contractor will avoid spreading these species during any works/activities.
- All public lighting will be LED lighting with dimmable and cut off lighting where specified;
- All traffic lights to be LED lighting;
- The total volume of stone and sub-soil importation to be minimised with the recycling of excavated sub-soil material; and
- The construction of cycle facilities through the parks and green areas.

3.2.4 Waste Management

A Preliminary Construction Management Plan (CMP) has been prepared in respect of the proposed development and is available as Appendix A.

It is envisaged that upon appointment of the main contractor of the building works that a detailed / full Construction and Demolition Waste Management Plan (CDWMP) shall be prepared which will incorporate the requirements of the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (DoEHLG, 2006).

Such a detailed CDWMP will identify the main materials to be used and waste streams arising from the proposed development. Typical non-hazardous and hazardous waste streams generated by construction and demolition at typical residential development sites are shown below with accompanying European Waste Code (EWC) Classification as per the EPA's Waste Classification document (EPA 2015).

Table 3.2 Construction and Demolition Waste Categories

Waste Materials Categorisation		
	Description	**Code**
Non-Hazardous	Metals	17 04
	Wood, glass, plastic	17 02
	Soil, stones, dredged soils	17 05
	Gypsum based materials	17 08
	Cardboard	15 01 01
	Glass	17 02 02
	Bituminous mixtures, coal tar, tar products	17 03
	Concrete, bricks, tiles, ceramics	17 01
Hazardous	Electrical and Electronic Components	16 02
	Oil/water separator contents	13 05
	Liquid Fuels	13 07
	Wood Preservatives	03 02
	Batteries	16 06
	Soil and stones containing dangerous substances	17 05 03

Waste Materials Categorisation		
	Description	**Code**
	Waste construction material containing asbestos	17 06 05
	Other construction and demolition wastes containing dangerous substances	17 09 03
	Wastes from soil and groundwater remediation	19 13

It is anticipated that the CDWMP will be designed to ensure the highest possible levels of waste reduction, waste reuse and waste recycling are achieved for the proposed development. Specifically, the CDWMP shall aim to achieve waste prevention, maximum recycling and recovery of waste.

The CMP sets out in Section 5 the anticipated cut and fill requirements associated with the proposed development and the need for importation of fill onto the site. Table 3.4 below provides a breakdown of estimated soil waste streams from the subject site.

Table 3.3 Estimate of Waste Arising at the Subject Site from the Proposed Development

Item	**Excavate (m^3)**	**Reuse (m^3)**	**Export (m^3)**
Topsoil Strip	30,000		
Topsoil Reuse		30,000	
Topsoil Surplus for Export			0
Subsoil (Cut)	1,000		
Subsoil (Fill for Non-Structural purposes)		1,000	
Subsoil Surplus for Export			**0**
Total Surplus for Export Off-Site			**0**

All stripped topsoil and subsoil cut will be reused in the development. The proposed development would have a total fill requirement of approximately 88,000 m^3. Having regard to the reuse of approximately 31,000 m^3 of surplus topsoil and subsoil, the development would require the importation of c. 57,000 m3 of fill material to be imported / brought to site. Materials to be imported to site will be natural stones (sourced from locally available quarries), 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. All excavation to accommodate imported material will be precisely co-ordinated to ensure no surplus material is brought to the site beyond the engineering requirement that could also result in waste.

The CMP makes specific recommendations in respect of measures to ensure the reduction, reuse and recycling of materials. The following specific recommended measures that will be incorporated in the CDWMP, are:

- The nominated Construction Waste Manager responsible for implementation of this Construction Waste Management Plan will be identified prior to construction commencement and will arrange for a waste audit of the project once construction has fully commenced on site (and of any facilities to which waste from the project is delivered as required).
- Building materials should be chosen with an aim to 'design out waste'.
- All wastes segregated at source where possible.
- On-site segregation of non-hazardous waste materials into appropriate categories. All waste material will be stored in skips or other suitable receptacles in a designated area of the site.
- On-site segregation of hazardous waste materials into appropriate categories. Hazardous waste will be separately stored in appropriate lockable containers prior to removal from site by an appropriate waste collection licence holder.
- Waste bins, containers, skip containers and storage areas will be clearly labelled with waste types which they should contain including photographs as appropriate.
- The site will be maintained to prevent litter and regular litter picking will take place throughout the site.
- Materials will be ordered on a 'just in time' basis to prevent over supply and site congestion (i.e. to minimise materials stored on site).
- Materials will be correctly stored and handled to minimise the generation of damaged materials.
- Left over materials (e.g. timber off-cuts) shall be re-used on site where possible.
- All waste leaving the site will be recycled, recovered or reused where possible.
- All waste leaving the site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licensed facilities.

Duration and Timing

The residential development proposed will be constructed over the duration / life of the planning permission. It is proposed that the following maximum working hours shall apply - 7am to 7pm Mondays to Fridays, and 9am to 1pm on Saturdays with no work being allowed on Sundays and Public Holidays, or as stipulated in a condition attached to a grant of permission. Any works outside these hours, or as stipulated in a planning condition shall be subject to prior agreement with the Local Authority.

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 and landscape.

3.4 Consideration of Cumulative Effects with other Projects

As an urban area, the site's context and Celbridge is evolving. Plan-led development in accordance with the Kildare County Development Plan, 2017-2023 and the Celbridge Local Area Plan, 2017-2023 affects

the town and surrounding lands. The cumulative impact of recently permitted and ongoing development in the vicinity of the site has been assessed as part of this EIAR.

Recent developments and proposals adjoining the subject site have been identified. The most significant and relevant for purposes of identifying cumulative impacts is the Draft Strategic Housing Development Proposal for a scheme consisting of 495 no. dwellings (228 no. houses, 42 no. duplexes, 225 no. apartments) with a childcare facility and associated site works that is currently being progressed by Crodaun Development Company on the western side of the R405 (directly opposite the subject site). This proposal is pursued under ABP Ref. PL09.304246 as a Strategic Housing Development.

It is noted that An Bord Pleanála issued an Opinion on the 17th June 2019, stating that the proposed scheme represents a reasonable basis for an application. On this basis it is considered safe to assume that at some point in the nearby future an application for a comparable quantum of new housing will be submitted for the formal consideration as a Strategic Housing Development application.