

2.0 PROJECT DESCRIPTION AND ALTERNATIVES EXAMINED

2.1 INTRODUCTION AND TERMS OF REFERENCE

This section of the EIAR has been prepared by John Spain Associates, Planning & Development Consultants, and provides a description of the proposed development and also explains the evolution of the scheme design through the reasonable alternatives examined. This chapter of the EIAR was prepared by Paul Turley, BA, MRUP, Dip Environmental & Planning Law, MIPI, Executive Director, and approved by John Spain, Managing Director of JSA. The description of the proposed development is one of the two foundations upon which an EIAR is based (the other being the description of the existing environment described in this chapter and by each of the specialist consultants in the subsequent chapters). It is also a requirement of the EIA Directive (as amended) to present an outline of the main alternatives considered and a justification of the final proposed development.

A systematic approach in accordance with the EPA Guidelines on Information to be Contained in an Environmental Impact Statement (EPA 2002), Advice Notes on Current Practice (in preparation of Environmental Impact Statements) (EPA 2003), Draft Guidelines on the Information to be Contained in EIARs (2017) and other EIA guidance documents was used to ensure all relevant aspects of the development are accurately and fully described. The objective is to provide a description of the proposed development in sufficient detail, which when taken together with the description of the existing environment provided, will allow an independent reader without acquired technical environmental knowledge, to understand the significant impacts likely to arise from the proposed development.

The description of the proposed development is set out in this chapter and the following chapters by each specialist consultant in terms of those environmental topics which will form the basis of the impact assessment process and the characteristics of the proposed development which could potentially affect population, human health, cultural heritage and archaeology, biodiversity, landscape, land and soil, water, air, climate, noise and material assets and the interaction between the aforementioned factors. The EIA Directive also requires that the description of the site, design, size or scale of the development, considers all relevant phases of the existence of the project from its construction through to its existence and operation (and where applicable its restoration or decommissioning).

This EIAR document fully reflects the key environmental factors of the proposed development which were recognised from the scoping carried out by the design team and the level of detail required will vary considerably according to the sensitivity of the existing environment and the potential of the project for significant effects.

2.2 SITE LOCATION AND DESCRIPTION

The subject lands are known as Clay Farm, as they formed part of the former agricultural holding associated with Clay Farm house which is situated to the south west, but outside the Phase 1 and 2 landholding, and are located to the south and south west of the Ballyogan Road, Dublin 18. The site is located within the administrative area of Dun Laoghaire Rathdown County Council and is therefore subject to the land use policies and objectives of the County Development Plan 2016-2022. The site is primarily zoned objective A which seeks *“To protect and-or improve residential amenity”*, with a small extent zoned objective ‘F’ which seeks *“To preserve and provide for open space with ancillary active recreational amenities”*, under the Dun Laoghaire Rathdown County Development Plan 2016-2022.

The lands are located approximately 11km south of Dublin City centre and c. 1.5km from both Junction 14 and 15 of the M50. The subject site is strategically located and is served by high quality public transport and existing road infrastructure. The site is served by the Green Line LUAS, which runs along the Ballyogan Road,

with two Luas stops located immediately to the west (The Gallops) and east (Leopardstown Valley) of the first phase of the development. The lands are also served by a number of Dublin Bus Services, including the 44 (DCU to Enniskerry), 47 (Fleet Street to Belarmine), 63 (Dun Laoghaire to Kilternan) and 118 (Kilternan to D'Olier Street). The site is also served by footpaths and cycle lanes on each side of the Ballyogan Road.

The total area of the Phase 1 and Phase 2 lands in the applicant's ownership is c. 34 hectares. This application relates to Phase 2 of the overall development of these lands and the application site area measures approximately 20.5 hectares.

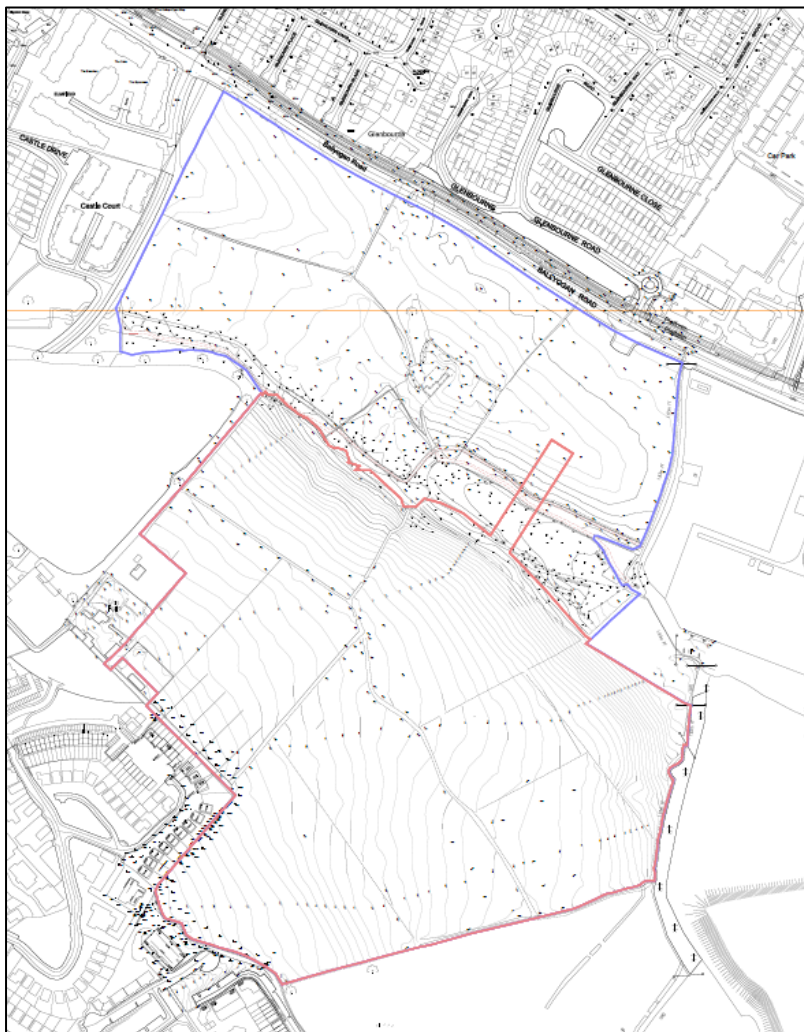


Figure 2.1: Site Location Map

The Phase 1 development, which is currently under construction is located to the north of the Phase 2 lands adjacent to the Ballyogan Road. The permitted Phase 1 development comprises 163 no. houses and 262 no. apartments (a total of 425 residential units). The Phase 1 development also includes the provision of vehicular access from Ballyogan Road and the provision of the first section of the main distributor road within the overall Clay Farm development, which will subsequently link with the Phase 2 development via the provision of a bridge over the Eco Park / Ballyogan stream. The Phase 1 development was subject to an EIS, and was approved by DLRCC and ABP.

This area of Stepside and Ballyogan consists of a mix of residential, commercial, light industrial and undeveloped / agricultural lands. The residential development in this area has graduated from the lower density 2 storey housing of Glencairn and Glenbourne, to medium-higher density housing at Stepside Park and Kilgobbin Heights.

The boundary treatment of the application site is a mix of individual trees and hedgerows. The Phase 2 lands are largely undeveloped and include significant stands of mature trees along the boundaries. The site slopes gently toward the Phase 1 lands and the Ballyogan Stream.

The application site is set out as a series of fields separated by ditches and hedgerows of varying quality which have been poorly maintained. The Phase 2 area is bounded to the north by the significant feature of a low valley which runs west to east across the site. This area contains the Ballyogan Stream, its floodplain, and is bound on its northern and southern edges by stands of mature trees. It is to be developed as a high quality linear riverine park as part of the ongoing Phase 1 development.

The application site includes possible linear earthworks (DU026-087), a Recorded Monument. There are no existing buildings on the Phase 2 lands.

Access to the site will be via a controlled junction, opposite Leopardstown Valley Neighbourhood Centre and the Luas stop at the north-eastern corner of the Phase 1 site. The Ballyogan Road is the primary circulation route in the area, carrying the Green Luas line to Brides Glen and linking the site with the wider road network. The primary access road to the development, to be delivered as part of Phase 1, will be a distributor road from Ballyogan Road. This distributor road which formed a part of the Phase 1 application on these lands continues across the Eco Park and will link with the Phase 2 development. The link bridge and loop road through Phase 2 will extend to Stepside Park to the south west and eventually link back to Ballyogan Road through the Elmfield and Castle Court residential estate to the west.

There is a significant range of social and community infrastructure in the immediate local area. Leopardstown Valley Neighbourhood Centre is located immediately to the north east of the Phase 1 portion of the site and is anchored by a Dunnes Stores supermarket. There are a number of crèche, Montessori and pre-schools and national schools in the wider area in addition to sporting and community facilities.

The Samuel Beckett Civic Campus, is located approximately 500 metres from the subject site on Ballyogan Road. The Civic Campus includes a civic library, a six lane 25m swimming pool plus toddler pool, multi-purpose sports hall, fitness gym, community facilities, wet and dry changing facilities, surface car park, underground car park, four synthetic grass pitches, skate park, playground, three natural grass pitches, hard and soft landscaping. A Gaelscoil (Gaelscoil Sliabh Rua) is also located adjacent to the Civic Campus on Ballyogan Road.



Figure 2.2: Masterplan of Clay Farm showing the Phase 1 (blue line) and Phase 2 (red line) developments.

2.3 PROJECT OVERVIEW

This planning application seeks a 10 year planning permission for the construction of 927 no. residential units, a childcare facility of 607 sq.m GFA, and 2 no. retail units each with a GFA of 85 sq.m, on a site of approximately 20.5 hectares at Clay Farm, Ballyogan Road, Dublin 18.

The description of the proposed development, as set out in the public notices is as follows:

“The development will consist of a residential development of 927 no. residential units, a neighbourhood centre containing a childcare facility with a GFA of 607 sq.m and 2 no. retail units each with a GFA of 85 sq.m, and includes the associated section of the Clay Farm Loop Road from the bridge road link with Phase 1 to the south western site boundary, associated internal roads, pedestrian and cycle paths, open space, and all associated site and infrastructural works. The application site has an overall area of 20.5 hectares.

The residential component of the development consists of 365 no. houses and 562 no. apartments, to be provided as follows:

- 9 no. 3 bed two storey terraced houses with a GFA of 125.5 sq.m (Type B1);
- 33 no. 3 bed two storey terraced houses with a GFA of 113.8 sq.m (Type B2);
- 2 no. 3 bed two storey terraced houses with a GFA of 119.4 sq.m (Type B3);
- 201 no. 4 bed three storey terraced houses with a GFA of 169.5 sq.m (Type C1);

- 76 no. 3 bed two storey terraced houses with a GFA of 112 sq.m (Type C2);
- 3 no. 4 bed three storey terraced houses with a GFA of 139 sq.m (Type C3);
- 34 no. 4 bed three storey terraced houses with a GFA of 171.8 sq.m (Type D1);
- 7 no. 3 bed two storey terraced houses with a GFA of 121.9 sq.m (Type D2);
- 16 no. apartment blocks (W01-07 & E01-09) ranging from three to six no. storeys in height, over undercroft / basement car parking, and which contain a total of 113 no. 1 bed apartments with a GFA of 51 sq.m and 383 no. 2 bed apartments with a GFA of 88 sq.m. The apartment blocks also contain 48 no. 3 bed duplex / own door apartment units ranging in size from 110 sq.m to 114 sq.m GFA.
- 18 no. 3 bed duplex / own door apartment units are located at the neighbourhood centre ranging in size from 110 sq.m to 115 sq.m in a three to four storey building (which also contains the childcare facility and retail units at ground floor level).

Bin and cycle storage areas are proposed within the apartment blocks and single and double bin stores are proposed for the houses. 3 no. electricity sub-stations are proposed for the site. A total of 1,478 no. car parking spaces including 730 no. spaces for the houses, 732 no. spaces for the apartment blocks and 16 no. spaces for the childcare facility and retail units at the neighbourhood centre are proposed. The associated site and infrastructural works include foul and surface water drainage, attenuation tanks, open space including playgrounds, a MUGA (multi-use games area) and exercise units, cycle spaces, landscaping, boundary walls and fences, internal roads, cyclepaths and footpaths. The application site includes the possible linear earthworks (DU026-087), a Recorded Monument, located along the northern site boundary.”

The proposed development comprises the second phase of the overall development of the applicant's c. 34 ha landholding at this location.

The residential units to be provided primarily consist of 3 and 4 bed terraced houses and apartments ranging from 1 to 4 beds. The housing units are 2 to 3 storeys in height, with the apartment's buildings being 3 to 6 storeys in height. The neighbourhood centre is a three to four storey building.

The application is accompanied by a Design Statement and drawings prepared by OMP Architects, which provide a rationale for the design and layout of the proposed scheme and the dwelling types, creche and retail units proposed therein.

Also included as part of this application is a Landscape Design Report which was prepared by Brady Shipman Martin, and which provides a rationale for the landscape proposals within the development including proposals relating to hedgerows and trees on the site. The landscape design response to the site has been calculated so as to provide a large quantity of high quality amenity space for residents of the area.

Access to the subject development will be provided via a new bridge crossing the permitted Eco Park, thereby connecting the Phase 1 and Phase 2 lands. Access is provided for through the Phase 1 development via the main circulation route to a controlled junction with the Ballyogan Road, located opposite the Leopardstown Shopping Centre and the adjacent Luas stop. The main circulation route through the Phase 1 development, and the proposed road through the Phase 2 development form a part of the local road objective for a Loop Road through the Clay Farm lands. The route alignment and design of this bridge has been considered by the design team, and in particular the landscape architect, ecologist and archaeologist, in terms of its potential impact on the potential line of the Pale Ditch and the design and usability of the Eco Park.

A bridge is proposed in the current Phase 2 application which will link the proposed Phase 2 development with the ongoing Phase 1 development, providing a link onward to the Ballyogan Road. The bridge forms part of the Six Year Road Objective for Clay Farm Loop Road included in the County Development Plan. The proposed bridge is required to provide access over the proposed Eco Park, while maintaining a flood plain with sufficient hydraulic storage capacity for a 1:1000-year rainfall event. The bridge will have a span of c. 94

metres, a width of c. 17 metres, in order to provide vehicle and pedestrian access between the permitted Phase 1 and proposed Phase 2 residential developments at Clay Farm.

2.4 STATUTORY PLANNING CONTEXT

The subject lands are subject to national, regional, sub-regional, county and local planning policy. The following outlines the key planning documents of relevance to the future development of the subject lands. This section will not address the detailed policies and objectives contained in the various plans which are relevant to the proposed residential development at Clay Farm, Ballyogan Road, as these are addressed in a separately bound Statement of Consistency with Planning Policy prepared by John Spain Associates which accompanies the planning application.

National

- National Spatial Strategy 2002-2020.
- Sustainable Residential Development in Urban Areas (Cities, Towns & Villages) (2009).
- The Urban Design Manual (A Best Practice Guide) (2009).
- Smarter Travel: A Sustainable Transport Future (2009).
- Design Manual for Urban Roads and Streets (2013).
- The Planning System and Flood Risk Management – Guidelines for Local Authorities (2009).

Regional

- Regional Planning Guidelines for the Greater Dublin Area 2010-2022.

County

- Dun Laoghaire Rathdown County Development Plan 2016-2022.

The Dun Laoghaire Rathdown County Development Plan 2016-2022 sets out the planning policy context for future development in Dun Laoghaire Rathdown County up to 2022. It details land use and development objectives, settlement hierarchy, development control standards and policies and objectives for the protection of the built and natural environment of the County. It is the most relevant document pertaining to the future development of the subject lands.

The subject lands are subject to zoning objective 'A' and zoning objective 'F' in the Dun Laoghaire Rathdown County Development Plan 2016-2022. Objective 'A' seeks *"To protect and-or improve residential amenity"*. Objective 'F' seeks to provide for open space use. In addition, the lands include a six year road objective for the 'Clay Farm Loop Distributor Road' and are subject to an objective *'to protect and preserve trees and woodlands'*.

2.5 ALTERNATIVES EXAMINED

2.5.1 Introduction

The EIA Directive (2014/52/EU) requires that Environmental Impact Assessment Reports include *"A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."*

The presentation and consideration of various alternatives investigated by the project design team is an important requirement of the EIA process. This section of the EIAR document provides an outline of the main alternatives examined throughout the design and consultation process. This serves to indicate the main

reasons for choosing the development proposed, taking into account and providing a comparison the environmental effects. For the purposes of the Regulations, alternatives may be described at three levels:

- Alternative Locations.
- Alternative Designs.
- Alternative Processes.

Pursuant to Section 3.4.1 of the Draft 2017 EPA Guidelines, the consideration of alternatives also needs to be cognisant of the fact that *“in some instances some of the alternatives described below will not be applicable – e.g. there may be no relevant ‘alternative location’...”*

The Draft 2017 Guidelines are also instructive in stating:

“Analysis of high-level or sectoral strategic alternatives cannot reasonably be expected within a project level EIAR... It should be borne in mind that the amended Directive refers to ‘reasonable alternatives... which are relevant to the proposed project and its specific characteristics’”.

The subject scheme is for the construction of residential units, a childcare facility, 2 no. retail units, associated open space and road and service infrastructure, on green-field agricultural lands which are zoned for residential use in the Dun Laoghaire Rathdown County Development Plan 2010-2016. Having regard to the above it was not considered necessary to consider alternative sites for the proposed development.

A ‘do-nothing’ scenario was considered to represent an inappropriate, unsustainable and inefficient use of these strategically located residential zoned lands; particularly having regard to the opportunity to provide much needed housing for both Dun Laoghaire Rathdown and the wider Greater Dublin Area (GDA). The suitability of the lands for development, location within an established development area (Key Growth Area in the Core Strategy of the County Development Plan) of the County and location adjacent to public transport and excellent road infrastructure were also key considerations.

The proposals for the subject lands were the subject of detailed discussions with the Planning Authority prior to the finalised scheme being prepared. The environmental issues which most informed the design process related to the bridge design (ecology, flood risk and archaeology), the existing topography (which slopes from north to south), site layout and open space proposals (archaeology, biodiversity, water and soils), the existing and proposed noise environment (noise, architecture and landscape), the potential impacts on existing and future traffic and transport in the area and the need for a coherent form of development which will tie in with future land uses, in particular the Phase 1 lands via the proposed new bridge. These considerations have informed the consideration of alternative layouts and designs, open space provision, addressing the issue of biodiversity, archaeology and flood impacts, and road and access arrangements up to the formalisation of the final scheme which is submitted to An Bord Pleanála for approval.

2.5.2 Description of Alternative Locations

As outlined above the site is zoned for residential and open space use within the Dun Laoghaire Rathdown Development Plan 2016-2022, which was itself subject to the SEA process. As such consideration of alternative sites for the construction of houses and apartments proposed in this residential development proposal was not considered necessary.

During the design process for the proposed development several iterations of the site layout and alternative designs were considered. This planning application demonstrates that the subject site and the surrounding area have the environmental capacity to accommodate the proposed development without any significant risk of impact upon environmental sensitivities due to the site location.

2.5.3 Description of Alternative Designs

The proposed residential development has been prepared in accordance with the requirements of the Dun Laoghaire Rathdown Development Plan 2016-2022 and has been the subject of a number of pre-application meetings with the Planning Authority prior to lodgement. A detailed account of the pre-planning discussions is set out in Section 4 of the Planning Report which accompanies this application. The proposal has also been the subject of a pre-application SHD consultation with the Board, with design alterations arising out of this process also.

The key environmental and practical considerations which influenced the design of the proposed Phase 2 development and alternative layouts on the subject lands were the following:

- The need to achieve a density in the order of 50 units per hectare to comply with the requirements of the Development Plan given the proximity of the site to the Luas Green Line
- The need to ensure any residential development provides a good mix of housing types which meet current market demand and which are deliverable in the short to medium term.
- The need to provide an appropriate level of housing provision on the residential zoned lands without increasing flood risk in the area and the incorporation of flood mitigation measures into the open space proposed along the valley park.
- Extensive archaeological excavations were undertaken to establish the extent of the Pale Boundary, and other archaeological features within the lands, and this has informed the development proposals in particular the site layout, landscape and open space proposals and bridge design for the Phase 2 proposals.
- The need to deliver good quality open space in appropriate locations and to link to the substantial open space to be provided in Phase 1 in the form of the Ecopark.
- To have regard to the site's sloping topography and design the residential development and associated infrastructure so as it respects the existing features and limits the impacts on the land.
- Protection of existing trees and hedgerows where possible, in particular on site boundaries, to enhance the amenity of the area.
- The planning history of the site.
- The quality of the urban environment to be delivered and the associated impact on human health.
- Provision of 10% social housing on site.

The following analyses alternative developments options for the site, starting with the previously permitted development, and then describing design options and changes which were incorporated into the scheme as the proposals progressed through pre-application discussions with the Planning Authority. In addition we include a specific section on the alternative bridge design options that were considered by the team and which resulted in the proposed bridge construction and design option, which provides an acceptable approach in respect to ecology, archaeology and flood risk impacts. We summarise the key design changes arising following the lodgement of the SHD pre-application to ABP and then provide an overview of the scheme submitted for approval.

The key considerations and amendments to the design of the scheme, having regard to and comparing the key environmental issues, are set out and discussed.

Alternative 1: Previously Permitted Development under Reg. Ref.: D06A/0531 & An Bord Pleanála Ref.: PL06D.223029

Planning permission was granted by ABP on the 2nd April 2008 to Park Developments Limited for the construction of c. 700 no. residential units, a local centre and all associated works on a 16.4 ha site at

Ballyogan Road, Dublin 18. This permission expired on the 1st of April 2013. A site layout plan for the permitted development is included as Figure 2.3 below.

The description of the application submitted for approval was as follows:

“Ten year permission to construct 714 dwellings in Zones A, B, C and D comprising:

- *458 one, two and three bedroom apartments in blocks ranging from 5 - 6 storeys;*
- *174 two and three bed 4 storey duplex units: 82 three and four bedrooms 2 and 3 - storey terraced houses;*
- *1,012 space ancillary surface and basement vehicular parking and 910 space bicycle parking;*
- *a 1,440 sq.m two storey local centre comprising 550 sq.m crèche, 615 sq.m offices and 275 sq.m retail - all on a circa 16.4 ha (40.5 acre) site at Clay Farm.*

The development comprises the first phase of an ultimate development of circa 2,000 dwellings within the overall 33.1 hectare (81.87 acres) landholding of the applicants for which roads and services will be provided as part of this application.

The density of the proposal will vary from 113 dph net (46 dpa) on the Ballyogan Road frontage proximate to the future LUAS Stop at Leopardstown Valley Shopping Centre to 35 dph net (14 dpa) on the South West adjoining Stepside Park with an average density of 43.54 dph gross (17.63 dph).

A local distributor road to serve the proposed development will run from Ballyogan Road at a point opposite Leopardstown Valley to the South West extremity of the site adjoining Stepside Park, via a 135 metre long bridge and embankment over the Ballyogan Stream.

Class 1 public open space will be provided in this Phase as a c. 5.37 hectare (13.2 acre) Public Park along the Stream Valley.

Pedestrian and cycle links will be provided via a bridge from Zone B to the Public Park and a connection to Cruagh Wood adjoining.

The proposal includes but does not affect the possible linear earthworks (DU026-087) a Recorded Monument which will be incorporated into the Public Park. An Environmental Impact Statement has been submitted with this application and is available for inspection/purchase at the offices of the Planning Authority.”

It is evident from Figure 2.3 and 2.4 below that the 2006 application related to part of the Phase 1 and Phase 2 Clay Farm lands. It primarily related to lands to the immediate west of the proposed link road and included the Eco Park. The application was lodged on the 20th of April 2006 and was subject to a Further Information and Clarification of Further Information request from Dun Laoghaire Rathdown County Council. The Council's decision to grant permission was subsequently appealed by third parties to An Bord Pleanála. The Board issued an Order to grant permission on the 2nd of April 2008 subject to 32 no. conditions.

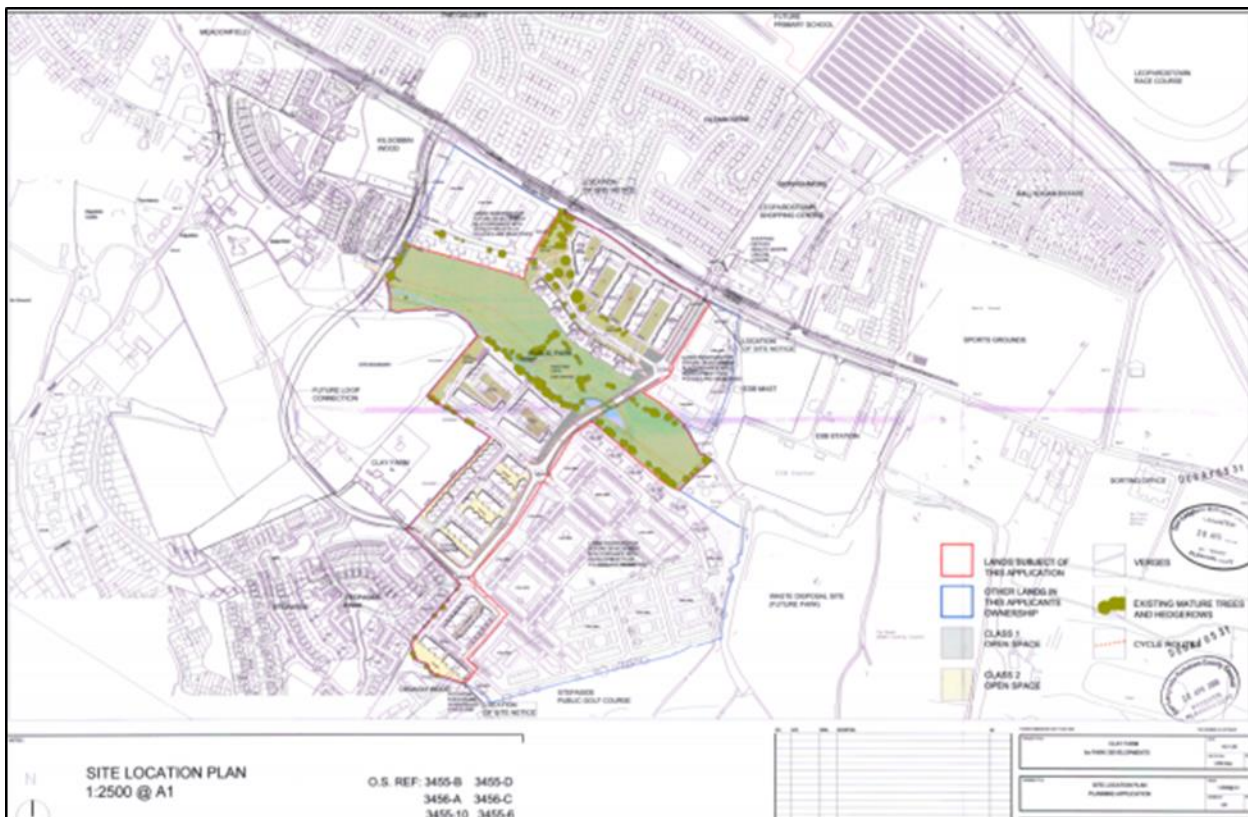


Figure 2.3: Submitted Site Location Plan for Reg. Ref.: D06A/0531 & An Bord Pleanála Ref.: PL06D.223029

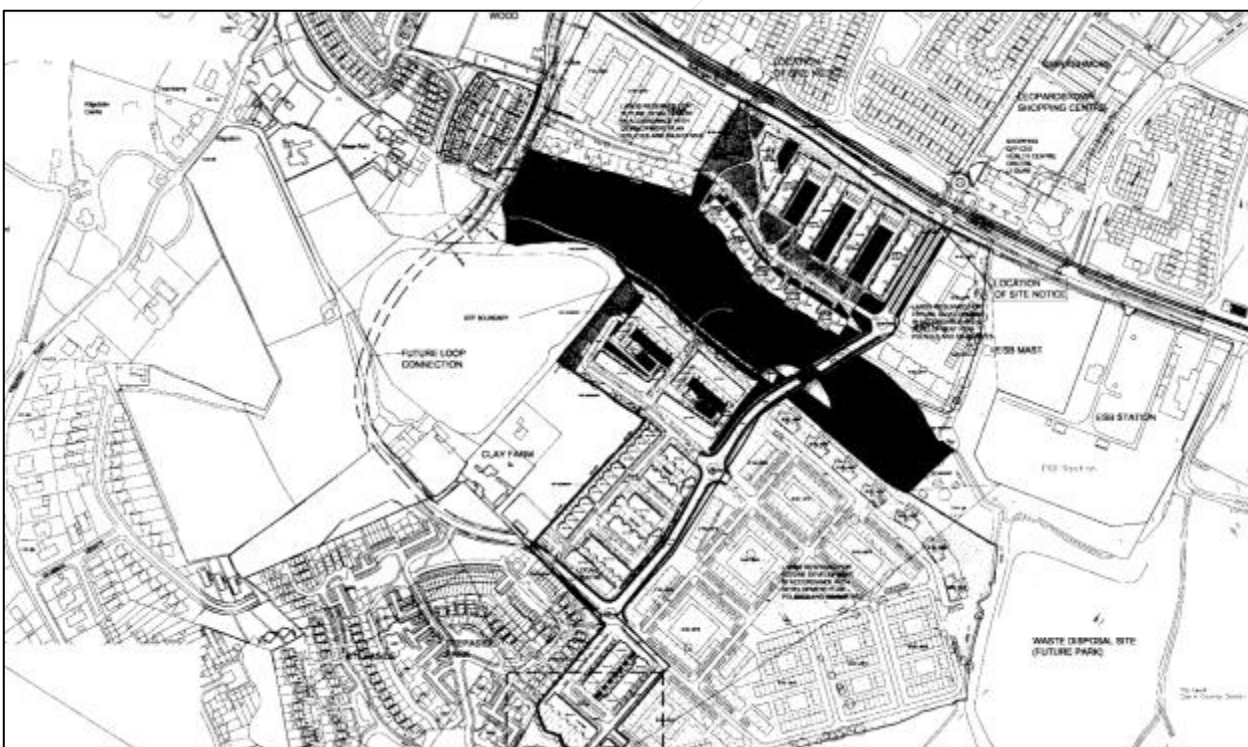


Figure 2.4: Site Layout Plan submitted at FI Stage to DLRCC

In advance of commencement of the preparation of a revised proposal for the Phase 2 lands, and having regard to the extant permission for the Phase 1 lands, the applicant and design team considered the merits of the element of the expired planning permission which related to the Phase 2 lands. The key constraints to proceeding with a similar layout and scale of development were considered to be as follows:

- A more recent permission had been established for the Phase 1 lands which set new parameters in respect to such issues as the location of the Bridged Link and the design, scale and layout of development.
- Planning guidelines and the planning policy context, including the land use zonings in the 2016-2022 County Development Plan, had altered since the original application was lodged in April 2006;
- The applicant's landholding included an additional portion of land in the south west corner of the Phase 2 lands;
- The flood risk issues and treatment of the Eco Park had been established under the Phase 1 permission;
- It was considered that the previously permitted development layout would have undue impact on potential archaeological and ecological features and the layout of the northern portion of the Phase 2 lands, including the location of the bridged link needed to be reconsidered.

Alternative 2: Key Layout and Design Changes as the Proposed Development Progressed through Pre-application discussions with the Planning Authority

Prior to entering into pre-application discussions the applicant and design team undertook a site appraisal and identified key constraints, including environmental issues, which would need to be addressed as part of the Phase 2 development. The key parameters informing the Phase 2 development proposals have been set out at the outset of this section and were illustrated in the pre-application brochure. In respect to the environmental impact of the proposed development the following are considered of most relevant:

- Site topography, circulation and permeability- The site slopes from north to south and this presents challenges in terms of preparing a residential scheme which respects the topography of the site, adjoining land uses and utilises existing levels to avoid undue environmental impacts such as soil removal and shaping. The issue of circulation and permeability within the site and connectivity to adjoining land uses was also a key consideration of the design team to ensure a high quality new residential neighbourhood is delivered.
- Attenuation strategy and existing site features- The engineers, landscape architect and ecologist recognised from the outset that the provision of attenuation within the site presented challenges in respect to the retention of existing internal hedgerows and trees within the site.
- Ecology, trees and hedgerows- The project ecologist, arborist and landscape architect identified key features on the site which should be retained, where possible, and informed the design team of these constraints. This included the boundary trees and hedgerows and an ecological buffer along the northern part of the site, which would act as an extension of the Eco Park.
- Archaeology- The potential line of the Pale Ditch along the northern escarpment of the Phase 2 lands was identified as a feature which should be retained. The extension of the Eco Park in this location would achieve this objective. The location of the bridged link over the Eco Park was also informed by the archaeological testing and the bridge design considerations are discussed in more detail below. In addition a curvilinear ditch archaeological feature was identified in the eastern section of the Phase 2 lands. It is proposed to preserve this feature in situ within an open space area.

The above helped inform the design teams concept proposals for the site, which consisted of the development of three village character areas in the Phase 2 lands, as illustrated in Figure 2.5 below. These areas would be connected by the Loop Road and secondary streets, paths and cycleways, which in turn would connect to the wider area.



Figure 2.5: Three Village Concept Proposals

The site layout and detailed design for the site was subsequently progressed through a series (5 no. in total) of formal pre-application meetings with the Planning Authority. The key issues from an environmental perspective which influenced the layout and design of the development as it progressed from concept design to the final proposals submitted for approval, can be summarised as follows:

- The potential of the northern portion of the Phase 2 lands to incorporate greater heights;
- The need to respect the residential amenity of the lands to the south west and south;
- The need to provide a neighbourhood centre focal point which includes childcare and retail facilities;
- The design of the Loop Road, the design and interaction of the residential development with the Loop Road and the need to cater for all road users;
- Compliance with DMURS, the need to cater for adequate car parking, without unduly impacting on the urban design / residential quality of the Phase 2 proposals;
- The design and location of open space and its connectivity to existing green networks, both existing and planned in the wider area;
- Accommodating surface water requirements in accordance with SUDs and updating the flood risk assessment undertaken as part of the Phase 1 development.
- Incorporating suitable mitigation measures to address the issue of noise from the ESB substation and liaising with the ESB in respect to implementing the noise mitigation measures which were required under the most recent planning permission for the site.

It became apparent to the design and EIAR team that the retention of hedgerows and tree groups within the site would in general not be feasible due to the Loop Road requirement, the site levels and construction challenges they present and the other services infrastructural requirements. Accordingly, as discussed in

greater detail in the Biodiversity chapter, which assesses these impacts in full, a series of mitigation measures are proposed to ameliorate against these impacts of the proposed development from a biodiversity perspective. These include the following:

- The boundary alongside the proposed greenway (to be provided by the Planning Authority) will be kept intact and will not be impacted upon by the proposed development;
- The substantial buffer to the area of the badger setts is provided for;
- Lighting for the proposed scheme takes into account bat foraging and commuting patterns and complies with Bat Conservation Ireland and international guidelines;
- Swift (and bat) boxes will be installed in appropriate locations within the development on the advice of suitably qualified ecologists;
- The CEMP has been prepared in an iterative manner by the design team and contains measures to protect water quality during and post construction;
- No derogation licences are required from NPWS as no protected species will be affected by the proposed development, however, ongoing ecological monitoring will continue to take place at the site, and although unlikely, should this situation change, for example if any new badger setts are constructed prior to the commencement of development, the project team will liaise with NPWS and the Planning Authority and will apply for such licences if required;
- Concerns re discharge during construction works have been addressed in the project documentation (in the project CEMP, the EIAR Biodiversity chapter and in the Habitat Management Plan/Fisheries Protection and Construction Method Statement). Water quality monitoring will take place at appropriate points up and downstream of the development for the duration of the construction phase;
- Informal consultations have taken place on site (with IFI) and by telephone (with NPWS) to discuss the proposed development and the impact prevention and mitigation in particular;

The proposals for the site advanced through the pre-application meetings addressing such issues such as phasing, densities, character areas, building typologies and materials. Figure 2.6 below includes is an extract of the proposed site layout plan presented at the 4th pre-application, which sought to address key planning and environmental issues raised during pre-application discussions. It was also requested that the application be accompanied by a wind study to assess the impact on the proposed development given the elevated nature of the site. ARUP were engaged by the applicant to undertake this study, which is included as Chapter 11 of the EIAR, and which informed the final apartment and landscape design of the scheme.



Figure 2.6: Site layout plan presented at pre-application meeting no. 4



Figure 2.7 CGI of the proposed scheme presented at pre-application meeting no. 4

The site layout included in Figure 2.6 above provided for c. 930 no. residential units, a one and two storey neighbourhood centre building, a series of linked open spaces and associated road and services infrastructure. Further changes were incorporated prior to progressing to the Board primarily relating to urban design changes in respect to residential units and their relationship with the Loop Road.

Alternative 3: Bridge Design and Construction Options / Progression

The following provides a summary of the bridge design and construction options which were considered by the design and EIAR team prior to finalisation of this application. For further detail on the bridge design and construction proposals and the potential environmental impacts please refer to the following:

- DBFL's Construction and Environmental Management Plan and Proposed Bridge Drawing No. 3061 and Proposed Road Bridge Construction Layout Drawing No. 9062
- The Archaeology, Architectural and Cultural Heritage Chapter of this EIAR
- The Biodiversity Chapter of this EIAR
- The Water Chapter of this EIAR, the SSFRA and the Hydraulic Analysis of the Bridge.
- The Noise and Vibration Chapter of this EIAR

The proposed development includes the provision of a bridge which will provide a vehicular and pedestrian / cycle link between the Phase 1 development (currently under construction) and the proposed Phase 2 development, i.e. it forms part of the Six Year Road Objective for the Clay Farm Loop Road. The proposed bridge is required to provide access over the proposed Eco Park, while maintaining a flood plain with sufficient hydraulic storage capacity for a 1:1000-year rainfall event.

As part of an integrated design team approach, alternative designs for the bridge were considered as part of the design process and pre-application process for the proposed development, with environmental considerations playing a central role in the final bridge design and construction ultimately selected to be put forward for approval

A road bridge from Phase 1 over the existing Ballyogan Stream and floodplain providing access to and through the Phase 2 lands and the rest of the land ownerships along the Clay Farm Loop Distributor Road is proposed. . The final bridge proposed has a span of 93.65 m, includes a southern and northern abutment, and three piers. It has a width of c. 17. 2 metres and includes two road lands, with a footpath, cycleway and buffer on both sides.

The bridge design developed for the original Phase 1 application spanned the open space area and the potential line of the Pale boundary. However, as part of the detailed design for the Phase 2 application, it has emerged that the clear spanning of the potential line of the Pale boundary is not deemed possible for several reasons, which includes the following:

- The additional excessive construction costs of clear spanning of the potential pale boundary, and the likely impacts in any instance on the potential pale boundary of the construction of such a clear spanning bridge.
- The CFRAMS flood mapping assessment requires that the northern bridge abutment be moved further north away from the Ballyogan Stream. The southern abutment of the permanent bridge will as a result be in immediate proximity to the possible Pale boundary and will affect the topsoil, roots and soil stability in its vicinity. A break in the possible boundary will be needed to facilitate the safe construction of the southern abutment.
- During the construction of a permanent bridge it will not be possible to avoid and safeguard the possible line of the Pale boundary. To facilitate construction of the permanent bridge, a temporary road, working platform and bailey bridge will be required for construction access for heavy plant, equipment and materials needed to build the permanent bridge. This temporary road/bridge will be required from Clay Farm Phase 1 across the existing Ballyogan Stream to the Clay Farm Phase 2 lands to the south. The temporary road/culvert will not have the required length or height of the permanent completed bridge to cross-over the possible Pale boundary, and therefore a break in boundary will need to be created to facilitate this temporary access.

The Loop Road bridge is of strategic importance to the development of the Clay Farm lands as it provides both construction and operational access from Phase 1 into the Phase 2 lands and also to the land ownerships along the Clay Farm Loop Distributor Road to the south west. The Loop Road forms part of Dun-Laoghaire Rathdown County Development Plan 2016-22 Policy ST24, to secure improvements to the County Road network including improved pedestrian and cycle facilities as part of their 6-Year and Long-Term Road Objectives. Preservation in-situ and avoidance of a 47.2m section of the probable line of the Pale boundary site is now not a possibility if delivery of the plan is to be achieved.

The biodiversity impacts of the proposed bridge construction and design has also been carefully considered. The original proposal for the construction of the bridge would have required the culverting of the Ballyogan Stream, in order to construct a temporary hard standing crossing of the stream as part of the construction process, leading to the disturbance of the stream channel and banks and resulting in significant temporary environmental impacts thereon.

The initial bridge design and construction method was reviewed and assessed by the project Ecologist and Archaeologist. An alternative proposal for minor culverting of the bridge was proposed. Following this a meeting was undertaken with a representative of Inland Fisheries Ireland on the subject site in September 2017. At this point, clarification was sought as to how the method of culverting of the stream for the temporary crossing would prevent damage to the bank, ingress of silt and debris.

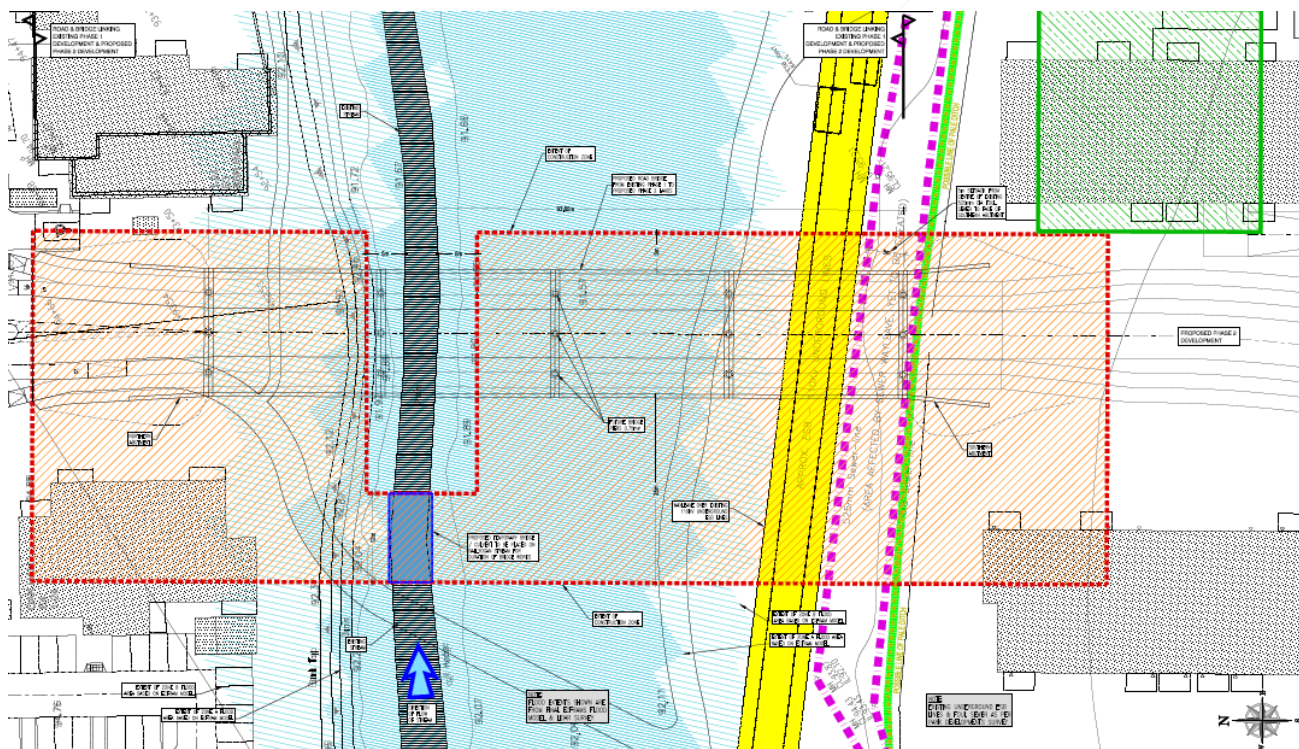


Figure 2.8: Drawing indicating the temporary hardstanding crossing (red shaded) and culvert (blue) of the stream (previous / alternative design)

Stemming from the comments of Inland Fisheries Ireland, and the review of the bridge construction process and design by the project Ecologist and Archaeologist, it was decided to formulate an alternative construction process, avoiding the need to culvert the stream in order to create a temporary crossing for the duration of construction.

In order to address the issues raised by the DLR Biodiversity Officer and Inland Fisheries Ireland, and the likely impacts highlighted in particular by the project Ecologist, it is now proposed in the current bridge

construction method to utilise temporary elevated bridges as an alternative to the culverting of the stream and using a hard standing on the valley floor.

This will significantly reduce the impact of the bridge on the stream, the banks of the stream and the relevant habitats and species therein. The Construction and Environmental Management Plan prepared by DBFL Consulting states:

“A temporary bridge (a ‘Mitchell’ bridge type structure, elevated above the stream banks) will be required over the Ballyogan Stream for the duration of the construction phase. The hydraulic flow of the existing stream will be maintained throughout the construction phase and operation of machinery will not be permitted in the stream. Liaison will be required with IFI, the EPA and NPWS for approval to ensure bank protection, drainage outfalls and protection measures for local fish populations comply with requirements.”

The proposed construction method will have much reduced impact upon the valley and Ballyogan Stream, while still providing for ease of access between the Phase 1 and Phase 2 developments.

Please refer to the Construction and Environmental Management Plan and drawings prepared by DBFL Consulting Engineers which forms a part of this application for further details of the bridge design.

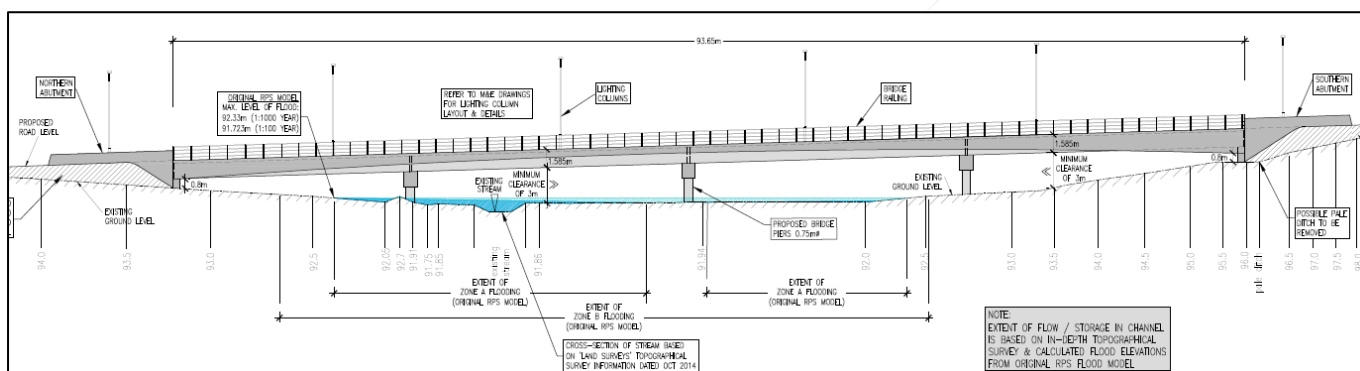


Figure 2.9: Extract from DBFL bridge elevation (proposed)

Alternative 4: Changes Incorporated to Address ABP’s Consultation Opinion

The pre-application consultation opinion from An Bord Pleanála in relation to the proposed strategic housing development at Clay Farm, Ballyogan Road, Dublin 18 was received on the 4th of September 2017, case Reference: TC0002.

The opinion states that An Bord Pleanála ‘is of the opinion that the documents submitted with the request to enter into consultations require further consideration and amendment to constitute a reasonable basis for an application for strategic housing development’. The opinion further states that; ‘An Bord Pleanála, considers the following issues need to be addressed in the documents submitted that could result in them constituting a reasonable basis for an application for strategic housing development. The issues listed are:

- Neighbourhood Centre,
- Public Open Space,
- Greenway design,
- Part V proposals.

The planning application is accompanied by a Statement of Response Report, prepared by JSA, and Brochure, prepared by OMP, which demonstrates how the applicant has addressed the above issues raised by the Board in their Consultation Opinion. For the purposes of the alternatives section of the EIA the following summarises the key changes to the proposed scheme:

Neighbourhood Centre

The scale and design of the neighbourhood centre has been significantly altered to provide a focal point building within this part of the site, and to provide a transition building in terms of the scale of the apartment blocks to the north and housing to the south. The submitted proposals provide for a three storey neighbourhood centre with a four storey (double height) gateway element at the key junction onto the Loop Road. The building includes ground floor retail, childcare facility and residential uses, with two and three floors of residential above. The elevational design has been altered to provide for active and passive surveillance onto the adjacent public spaces. The landscape treatment to the front of the building has been revised to provide for a more urban space which reduces the impact of the surface parking.

Open Space

The landscape and open space proposals contained within the Phase 2 application provide for c. 6.2 hectares of open space on a site area of c. 20.5 hectares. The overall Phase 1 and Phase 2 landholding at Clay Farm is c. 34 hectares in area, of which c. 13.3 hectares is reserved for proposed open space, including a c. 6.0 hectares within the valley of the Ballyogan Stream, which adjoins the Phase 2 site, which is to be developed as an Ecopark under the Phase 1 grant of permission.

The landscape drawings submitted with the planning application includes a series of sections to illustrate the quality and usability of the proposed open space. The layout of the south western section of the site has been altered to provide a larger area of open space adjacent to, and linked to open space in Cruagh Wood, to enhance the open space provision in this part of the site. This alteration to the layout resulted in the removal of three no. houses.

An additional kickabout area, measuring 50 x 20m, has been provided in the western portion of the site between the two apartment blocks.

The site layout has also been altered to provide a greater buffer zone between the existing hedgerow and proposed greenway along the eastern boundary of the site. The alterations resulted in the loss of 4 no. houses and a realignment of the local access streets in this area of the site. The tree survey drawings and reports, landscape section drawings, prepared by BSM demonstrate how adequate room is provided for the greenway, access streets, housing and the existing hedgerow. The section drawings also illustrate the existing utility wayleave along the eastern boundary, which the new Greenway should logically follow, without impacting on existing hedgerows.

Part V

The Part V provision within the site has been revised to meet with the requirements of the Planning Authority. The scheme proposes 93 no. social housing units to be provided on site in a mix of unit types. This will help towards addressing the existing shortages of social housing within the County.

The alterations to the scheme as set out above helps to reduce the potential environmental impacts of the proposed development.

Proposed Development Scheme

The final proposed scheme has been progressed via an iterative process, with changes having been made during the pre-application process with the Planning Authority and the Board based on their comments and environmental considerations pertaining to the development.

It is considered that the final scheme, as revised and updated, takes into account the issues raised with previous alternatives / designs, and provides for a development which has been optimised to reduce negative environmental impacts where possible. The detailed description of the proposed development has been provided above and the following summarises some of the key environmental considerations which have informed the final design.

The building line and the greenway have been set back from the existing hedgerow at the site boundary at the sites eastern side, in order to protect this hedgerow and ensure its continued biodiversity value.

An archaeology park area is to be provided as part of the development, formulated to ensure the protection of the existing archaeological features on this part of the site which contains a curvilinear ditch feature.

Kickabout and MUGA areas are provided along with walking trails and play areas to enhance the amenity of the scheme and provide for active recreational which will benefit the health of future occupants of the scheme.

Hedgerows and trees are to be retained along the site boundary, where possible, to conserve their ecosystem and biodiversity value.

The design of the proposed bridge has been altered so as to significantly reduce impact upon the stream and its banks, thereby ensuring a much reduced environmental impact on the habitats and species located therein (see below for further details).



Figure 2.10: Site layout plan for the proposed development

2.5.4 Description of Alternative Processes

This is not considered relevant to this EIAR having regard to the nature of the proposed development.

2.6 CHARACTERISTICS OF THE PROJECT

Section 2.3 and 2.5 above have provided details of the proposed residential development on the Phase 2 lands, which have an area of c. 20.5 ha. This planning application is for a residential development of 927 no. units, a neighbourhood centre containing a childcare facility with a GFA of 607 sq.m and 2 no. retail units each with a GFA of 85 sq.m, and includes the associated section of the Clay Farm Loop Road from the bridged link with Phase 1 to the south western site boundary, associated internal roads, pedestrian and cycle paths, open space, and all associated site and infrastructural works.

The residential component of the development consists of 365 no. houses and 562 no. apartments. The apartment blocks are proposed on the northern part of the application site and overlook the Eco Park to the north and the proposed Jamestown Park to the east. The apartment blocks area generally 3 to 4 storeys in height and are arranged around a central courtyard, over an undercroft basement level of car parking. A landmark 4 to 6 storey apartment building is proposed to the south west of the proposed road bridge over the Eco Park, which will connect the Phase 1 and 2 lands. The neighbourhood centre also contains own door apartment / duplex units and is three storeys in height with a corner / focal four storey element.

The proposed houses are 3 and 4 beds and are two and three storeys in height. The houses are proposed on the southern portion of the Phase 2 lands, which limits the visual impact of the development, given that the lands slope upwards from north to south.

Having regard to the characteristics of the site it is proposed to develop Phase 2 as three distinct development areas, Clay Farm West Village, Clay Farm East Village and Clay Farm South Village. The architectural design has regard to that of Phase 1 and that of surrounding residential developments, but creates its own distinct identity for the Phase 2 development. Please refer to OMP's architectural drawings and design statement for full details of the proposals.

A total of 1,478 no. car parking spaces including 730 no. spaces for the houses, 732 no. spaces for the apartment blocks and 16 no. spaces for the creche and the commercial units at the neighbourhood centre are proposed. 1,128 no. cycle parking spaces are provided for.

The associated site and infrastructural works include foul and surface water drainage, attenuation tanks, road infrastructure and cycle and footpaths are provided for.

Extensive areas of open space, including playgrounds, a MUGA (multi-use games area), kickabout areas and exercise units, and landscaping and boundary treatments are proposed. Please refer to BSM's landscape drawings and report for full details.

The development facilitates the provision of the 6-year road objective through the site by providing the next phase of the Loop Road from the permitted Phase 1 development, across the Ecopark and up to the boundary with Stepside Park. This proposed extension of the 6-year road proposal is to be accommodated via the linking of the Phase 2 lands with the Phase 1 development, via a bridge which will cross the Ballyogan Stream. The bridge link road over the Eco Park has a span of c. 93 metres and is c. 17 m in width. It will provide the required vehicular link from Ballyogan Road and the planning application provides for the Loop Road connection up to the boundary of the site, adjacent to Stepside Park, to the south west.

The proposal also includes the construction of new internal streets within Phase 2, including a link to Cruagh Wood, as required under the previous planning permission for this site and the adjoining development. The

delivery of the connection will be a matter for the Planning Authority who have taken the Cruagh Wood development in charge. The pedestrian and cycle path approved under Phase 1, along the eastern boundary of Phase 2, is accommodated as illustrated on the site layout plans submitted with this application. This will be delivered by DLRCC and NTA, and be facilitated by the applicant.

Indicative Phasing Proposals

It is proposed to progress the Phase 2 development over 3 no. sub-phases as indicated below. The development phasing sequence follows the village / neighbourhood strategy for the site;

- P1 = 200 Houses, 18 Duplex units = 218 units
- P2 = 60 Houses, 269 Apartments, 29 Duplex units= 358 units
- P3 = 105 Houses, 227 Apartments, 19 Duplex units= 351 units

Each phase includes an area of open space to be delivered in tandem with the residential units and connected back to the Phase 1 Ecopark.



Figure 2.11: Indicative Phasing Plan

The proposed development comprises the second phase of the overall development of the applicant's c. 34 ha landholding at this location.

Landscape Strategy and Design

The key principles identified from the outset as part of the landscape strategy for the subject site can be summarised as follows:

- Natural sloping topography of the site;
- Existing landscape features of the site and adjoining lands;
- Permitted layout and arrangement of open space and Ecopark within Phase 1;
- Emerging architectural layout and character areas proposed for Phase 2;
- Objective for maximum opportunity for connected green infrastructure; and
- Enhancement of the overall open space and amenity



Figure 2.12: Landscape Masterplan for Phase 2 (See Brady Shipman Martin’s Drawing Pack)

The proposed landscape design and layout provides the following measures which add significantly to the overall quality and amenity of the scheme while seeking to ensure that human health, residential amenity and biodiversity are promoted within the development.

- Provision of a high-quality architecturally designed scheme, laid out to take maximum advantage of the gradients and visual opportunities presented by the site.
- The layout provides for strong north south visual axis, with orientation and overlooking of key open spaces.
- The northern apartment blocks have been designed to allow for landscape fingers to draw in the character of the surrounding mature environment.
- The scheme includes for a significant quantum, variety and diversity of open space from the stream side Ecopark, to linear active and social space, to passive integration of an archaeological feature park.
- The design of the landscape network takes account to the Ballyogan Stream and Ecopark to the north and to the potential for onward connection to the future Jamestown Park (former landfill); to the public golf course and to existing and future residential communities in the area.
- Retention of a significant portion of existing trees, tree-lines, and hedgerows especially on boundaries and on the interface with Phase 1 and proposed Ecopark.
- Allocating approximately 6.6 hectares of the Phase 2 site area to high-quality open space and green network.
- Provision of a central core area of open space running through the development and linking to the Ecopark.
- Specific habitat management guidelines which will accompany the application ensure that the ecological and landscape sensitivities of the site, and the proposed bridge crossing the Ecopark, are protected and enhanced.
- Significant additional planting of semi-mature trees, trees, shrubs, groundcover, herbaceous plants and a variety of grass swards.

Proposed Bridge

A bridge with a total span of the order circa 93.65 m is required to provide vehicle and pedestrian access between the ongoing Phase 1 and proposed Phase 2 of the residential development at Clay Farm, Ballyogan Road, Dublin 18.

The proposed bridge will consist of 3 equal spanning precast, pre-stressed bridge beams. A reinforced concrete abutment and associated pad will be positioned at both ends of the proposed structure, the intermediate spans will be supported by reinforced concrete piers cast into reinforced concrete foundation pads.

Piles will be required beneath the pads of the abutments and intermediate piers. The deck will be constructed with an in situ reinforced concrete deck cast above permanent formwork which will span between the prestressed concrete beams. Road vehicle restraint systems will be fixed to the edge of the proposed structure, additional safety barriers will be provided on the approach and departure from the structure.

Open Space

Approximately 7 ha of public open space has been provided in Phase 1 of Clay Farm, comprising c. 1.15 ha of core and general public open space and a significant 5.9 ha of Ecopark located between the development area of Phase 1 and the Phase 2 site.

Provision of public open space within Phase 2 comprises an additional c. 6.2 ha which connects and expands the overall public open space in the area. Layout of public open space within Phase 2 ensures that high-quality space is provided both within and surrounding the development areas, providing for ease of connectivity and use. The Phase 2 public open space comprises in summary:

- Central Open Space & Archaeology Park c.1.65ha.
- Northern Open Space c 2.8ha
- Southern Pocket Park 0.12 ha
- Incidental Open Space, Semi Private Open Space, Public Plaza and Greenway, measuring c. 1.63 ha

At its northern end, the Phase 2 open space network backs on to the Phase 1 Ecopark, providing for setback of Phase 2 development from the Ecopark, from the mature tree-line Pale Ditch feature and from associated badger setts, while at the same time retaining the steeper northern slopes leading to the Ecopark free from development.

The central spine of public open space serves to connect the overall network from the Phase 1 Ecopark southeast through the development to incorporate a site of archaeological interest. Interpretation panels will also be provided at the archaeological feature.

The central landscape spine provides high-quality public open space running east west through the centre of the development connecting to the Eco-Park. This central spine provides for Pedestrian and Cycle paths as well as semi-mature tree planting, play areas, sports facilities, exercise opportunities, social places and allows for incorporation of features of sustainable urban drainage.



Figure 2.13: Open Space Provision (Landscape Design Statement - Brady Shipman Martin)

The network also allows for numerous access points to the proposed Ecopark and for ease of potential future connections to the proposed Jamestown Public Park (former Ballyogan landfill).

House Types

There are three main house types, B, C and D, with variations of each, proposed for the development of the phase 2 lands. Types B1-B3 are wide frontage 3 bed units featuring dual aspect living kitchen and dining spaces.

B1 is an end of terrace unit with dual frontage. It is the largest of the B-type units at 125.5 m². It features an additional family room return off the main kitchen / dining space. B2 is a typical mid terrace unit of 113.8 m² in area. B3 is similar to B2 but with an angled wall on one side to respond to particular end of terrace conditions at the western end of the site.

Types C1 & D1 are 4 bed 3 storey units. These are the largest houses in the development. C1 is a mid-terrace type, D1 is a dual fronted end of terrace type entered from the end of terrace side. C2/D2 are 3 bed 2 storey units. C2 is a mid-terrace type while D2 is a dual fronted end of terrace unit.

Apartment Design

The apartment blocks are arranged around 3 sided courtyards which open to the Eco Park and allow the landscape to push up into the blocks. The blocks step down by a storey halfway along their lengths. This step allows for undercroft car parking to be provided at the same level as the lower block. The step down also reduces the overall visual impact of the apartment blocks as the landscape continues to fall away towards the Eco-Park valley. Extensive green roofs are provided at the upper levels and form part of the SUDS strategy for the site.

A row of duplex units with own door access form one element of the three-sided courtyard are provided centrally within the apartment blocks. These 3 storey blocks sit between the 4 storey blocks which contain the apartments. The block of duplex units closes the courtyard to the street creating a semi private public open space. This courtyard space forms the podium of the undercroft car parking.

Main entrances are provided in the gap created between the block of duplex units and the apartment blocks. The entrance foyer created in this gap provides a line of security which controls access to the apartments and shared courtyard beyond.

2.7 THE EXISTENCE OF THE PROJECT

2.7.1 Introduction

The purpose of this section is to provide a description of the proposed development and consider all relevant aspects of the project life cycle both during construction and post construction (and decommissioning if applicable). These include the following:

- Construction Stage (Land Use Requirements, Construction Activity & Significant Effects).
- Operation Stage (Processes, Activities, Materials Used).
- Changes to the Project.
- Secondary and Off-Site Developments.

2.7.2 Description of Construction Stage

This section of the EIAR summarises the construction and phasing of the proposed development and summarises the measures to be taken to ensure that the impact of construction activity is minimised. The Construction Management Plan and Construction and Operational Waste Management Plan, which are

included as standalone reports with this application, should be referred to for a more detailed assessment of the construction, waste and indicative phasing proposals for this development.

▪ **Construction Stage**

The construction stages associated with the development consists of the following principal elements:

- Construction of a continuation of the site access from Ballyogan Road from the north side of the site including the provision of a bridge between the Phase 1 and Phase 2 developments.
- Construction of Phase 2 residential units, childcare facility and retail units and landscaping.

As noted in Section 2.6 above the construction of this development is likely to take place in three sub-phases of development, starting from east to west, with the first phase comprising 218 residential units and the neighbourhood centre, the second comprising 358 no. units and the third comprising 351 no. units. The sequence of construction outlined above in addition to the method outlined in Construction Management Plan is to be confirmed with the Contractor prior to commencement on site. The Contractor will be required to prepare a detailed CMP, including traffic management, on foot of these proposals.



Figure 2.14: Sub-phasing of the Phase 2 development

The proposed development includes the provision of a bridge linking the Phase 1 development and the proposed Phase 2 development.

The site of the proposed bridge and compound will be accessed through the Phase 1 road network. The existing road network will be analysed with Autodesk Autotrack to ensure that heavy construction vehicles (Articulated trucks with low loaders required to deliver precast bridge beams, mobile cranes for installation, piling rigs) can be safely routed through the Phase 1 area which will be occupied by residents throughout the construction stage of Phase 2.

A temporary bridge (a 'Mitchell' bridge type structure, elevated above the stream banks) will be required over the Ballyogan Stream for the duration of the construction phase of the Bridge. The hydraulic flow of the existing stream will be maintained throughout the construction phase and operation of machinery will not be permitted in the stream. Liaison will be required with IFI, the EPA and NPWS for approval to ensure bank protection, drainage outfalls and protection measures for local fish populations comply with requirements.

Please refer to the CEMP, Chapter 4 and Chapter 5 of this EIAR for further details on the recommended mitigation measures for the construction of the road bridge from Phase 1 to the northern part of the Phase 2 lands.

The construction compound, including accommodation and welfare facilities, material and plant storage will be positioned in the Phase 2 lands. Suitable areas will be provided to allow turning of large construction vehicles (articulated trucks with low loaders, cranes and piling rig).

A mobile crane will be used for lifting the precast bridge beams into position. Multiple crane erection positions will be required to lift the prestressed beams within the working radius of the mobile crane.

Construction Activities

There are a number of construction activities involved in a project such as this. The activities (independent of phasing) can be divided into five general categories:

- **Excavation**
This includes site clearing and earthworks – soil / rock removal – required to prepare the site for the foundations and two to three storeys of residential floorspace above.
- **Structure**
Structure includes the foundations and the physical frame of the residential units, bridge, creche and retail units. The foundations will be a mix of concrete pile and cap and ground blocks.
- **Enclosures**
The enclosures for the building will be formed from brick, block work, timber, and glass, with slate roofs, all with the required levels of insulation and water proof membrane.
- **Services**
The requisite services will be provided including drainage and lightning.
- **Landscaping**
The landscaping works include some hard landscaping, roads, footpaths, cycle-paths, bed and tree planting, and significant open spaces. In addition, there a number of existing trees and hedgerows to be protected on site and incorporated into the new scheme.

Geotechnical Investigation

The ground conditions are described in further detail in the Land and Soils Chapter of the EIAR.

Predicted Impact of the Construction Stage

There are a number of aspects that will be impacted upon due to the construction of this development. This list is non-exhaustive but covers the major issues to be considered in the assessment of possible impacts of the development:

- Construction methods – duration and phasing.
- Construction traffic, parking and site working hours (see standalone TTA).
- Health and Safety issues.
- Noise & Vibration due to construction work.
- Air quality (principally dust)
- Construction waste management (see separate standalone report)

Construction Methods – Phasing of development

The construction methodology that will be utilised on the site will have three main attributes to minimise the impact of the construction phase.

- Phasing of construction
- Efficiency
- Minimisation of waste generated

Construction methods will use techniques that afford safe, efficient, and cost-effective methods of working. In order to minimise the traffic impact associated with the removal of material from the site and the construction phase in general, the Contractor will prepare and implement a Construction Traffic Management Plan.

Construction Traffic, Parking and Site Working Hours

The Construction Management Plan and TTA address these issues in greater detail. It advises that the works associated with the new development will develop additional traffic on the public road network associated with the removal of excavated material etc. and the delivery of new materials, concrete trucks etc. Construction traffic will use the signal controlled public road access to the site at all times.

The vehicles associated with the construction activities are as follows:

- Excavators;
- Dump trucks;
- Concrete delivery trucks;
- Concrete pumps;
- Mobile cranes; and
- Mobile hoists.

It is proposed that standard construction working hours will apply. The relevant condition for the Phase 1 development states that *'site development and building works shall be carried out only between the hours of 0800 to 1900 Mondays to Fridays inclusive, between 0800 to 1400 hours on Saturdays and not at all on Sundays and public holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the planning authority.'*

It will be necessary for the appointed contractor to prepare a detailed construction traffic management plan to ensure the smooth operation of the local road network during the course of the construction project. It will be

necessary to agree this construction traffic plan with Dun Laoghaire Rathdown County Council in advance of the project and that the construction traffic plan management is reviewed throughout the project.

Health & Safety Issues

The development will comply with all Health & Safety Regulations during the construction of the project. Where possible potential risks will be omitted from the design so that the impact on the construction phase will be reduced.

Noise & Vibration due to Construction Work

The potential impacts associated with noise and vibration due to construction work, are addressed in Chapter 10 Noise & Vibration.

Air Quality

The potential impacts associated with air quality due to construction work are addressed in Chapter 9 Air Quality and Climate.

Construction Waste Management

A standalone Construction & Operational Phase Waste Management Plan for the proposed development is included with this application. The purpose of this report is to ensure the best practice is followed in terms of waste and environmental management during the construction phase of the proposed development, and to ensure adverse impacts on the receiving environment – including local residents and the occupants of Phase 1 residential units are minimised.

2.7.3 Description of the Operation Stage of the Project

Pursuant to the EIA Directive an EIAR document is required to set out a description of the project processes, activities, materials and natural resources utilised; and the activities, materials and natural resources and the effects, residues and emissions anticipated by the operation of the project.

The proposed development is a residential development at Ballyogan Road, including associated infrastructural works, creche and 2 no. small retail units. The primary direct significant environmental effects will arise during the construction stage. As a result, post-construction, the operation of the proposed development is therefore relatively benign and 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.

The primary likely and significant environmental impacts of the operation of the proposed development are fully addressed in the EIAR document; and relate to Population and Human Health, Landscape and Visual Impact and Noise and Air impact associated with the traffic generated.

The proposed development also has the potential for cumulative, secondary and indirect impacts particularly with respect to such topics as traffic – which in many instances – are often difficult to quantify due to complex inter-relationships. However, all cumulative secondary and indirect impacts are unlikely to be significant; and where appropriate, have been addressed in the content of this EIAR document.

2.7.4 Description of Changes to the Project

In the interests of proper planning and sustainable development it is important to consider the potential future growth and longer-term expansion of a proposed development in order to ensure that the geographical area in the vicinity of the proposed development has the assimilative carrying capacity to accommodate future development.

The parameters for the future development of the area in the vicinity of the subject site are governed by the Dun Laoghaire Rathdown Plan 2016-2022. The adjacent undeveloped lands – zoned Objective A or otherwise – will be the subject of separate planning applications in the future, where they are identified as being suitable for development, and where the provision of the requisite physical and other infrastructure is available.

2.7.5 Description of Secondary and Off-Site Developments

No significant secondary enabling development is deemed necessary to facilitate the proposed development. The planning application includes details of the necessary road works, which are required to facilitate this development. These works are assessed within this Environmental Impact Assessment Report.

The applicant's entire landholding has an area of approximately 34 hectares, with the Phase 1 lands benefitting from an extant permission for 425 no. residential units. Each Chapter of the EIAR includes a cumulative impact assessment of the proposed development with other planned projects in the immediate area, which primarily relates to the permitted Phase 1 scheme which was also subject an Environmental Impact Assessment. The potential cumulative impacts primarily relate to traffic, dust, noise and other nuisances from the construction of the development, with other planned projects, and each of the following EIS chapters has regard to these in the assessment and mitigation measures proposes. As such, with the necessary mitigation for each environmental aspect, it is anticipated that the potential cumulative impact of the proposed development in conjunction with the other planned developments will be minimal.

2.8 RELATED DEVELOPMENT AND CUMULATIVE IMPACTS

The applicant's entire landholding has an area of approximately 34 hectares, with the Phase 1 lands benefitting from an extant permission for 425 no. residential units. Each Chapter of the EIAR includes a cumulative impact assessment of the proposed development with other planned projects in the immediate area, which primarily relates to the permitted Phase 1 scheme which was also subject an Environmental Impact Assessment. The potential cumulative impacts primarily relate to traffic, dust, noise and other nuisances from the construction of the development, with other planned projects, and each of the following EIS chapters has regard to these in the assessment and mitigation measures proposes. As such, with the necessary mitigation for each environmental aspect, it is anticipated that the potential cumulative impact of the proposed development in conjunction with the other planned developments will be minimal.

2.9 MITIGATION MEASURES

PD&AE CONST 1: It will be necessary for the appointed contractor to prepare and implement a construction management plan (including traffic management) to reduce the impacts of the construction phase on local residents and ensure the local road network is not adversely affected during the course of the construction project.

PD&AE CONST 2: The appointed contractor should prepare a Construction and Operational Waste Management Plan for the proposed development as part of their contractual responsibilities. The Waste Management Plan should meet the requirements of the Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects.