

# Environmental Impact Assessment Report Non-Technical Summary

To accompany an Application to:

**An Bord Pleanála**

For

**Residential Development**

At

**Newcastle South & Ballynakelly,  
Newcastle, Co. Dublin**

On behalf:

**Cairn Homes Properties Ltd.**

**September 2019**

# Environmental Impact Assessment Report

## Non-Technical Summary

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To accompany an Application to:

**An Bord Pleanála**

For

**Residential Development**

Within the Administrative Area of

**South Dublin County Council**

At

**Newcastle South & Ballynakelly,  
Newcastle, Co. Dublin**

406 no. Residential Units; 1 no. Childcare Facility; 1 no. Commercial Unit; new Public Park, Greenway and Open Spaces; new Vehicular Access to Main Street; continuation of Newcastle Boulevard; together with all associated Infrastructure and Landscaping Works

On behalf of:

**Cairn Homes Properties Ltd.**

Prepared by:

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**AWN Consulting**

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## NON-TECHNICAL SUMMARY

### (I) INTRODUCTION

This document provides a non-technical summary of the Environmental Impact Assess Report (EIAR) that has been submitted in support of a planning application for a residential development at a site to the north of Main Street, Newcastle, Co. South Dublin.

The proposed development provides for demolition of all existing structures on site; a residential development of 406 no. residential units, a childcare facility and a commercial unit. The proposed development also provides for the first phase of a new east-west link street and with dedicated cycleways and footpaths, a continuation of Newcastle Boulevard, and a new north-south greenway linking the Main Street to a proposed public park. Access to the proposed development is via a new north-south link street, with a new entrance onto Main Street, and via the existing road network from Newcastle Boulevard and Lyons Avenue to the east. The proposed development provides all associated and ancillary infrastructure, landscaping, boundary treatments and development works on a total site of approximately 16 hectares. The proposed development also provides for a temporary, single storey marketing suite and associated signage (including hoarding) during the construction phase of development only.

This document provides a summary in plain English and free of technical jargon, describing the likely environmental impacts and inter-relationships between environmental factors as a result of the proposed development. This summary reflects the findings of the main EIAR document that accompanies the planning application submitted to An Bord Pleanála.

It was determined that it would be appropriate to prepare an Environmental Impact Assessment Report for the proposed development on the basis that the site area exceeded the relevant threshold, and having regard the potential impacts on the receiving environment in accordance with Planning and Development (Housing) and Residential Tenancies Act 2016 and the Planning and Development (Strategic Housing Development) Regulations 2017.

A number of environmental specialist consultants were responsible for the preparation of individual chapters of this EIAR according to their technical expertise.

### (II) SITE DESCRIPTION & PLANNING HISTORY

The application site comprises of a main development area of approximately 15 hectares, to the south of Main Street, together with three infill sites which comprise of a 0.80 hectares site at Ballynakelly; a 0.18 hectares site at Ballynakelly Rise and a 0.05 hectares site at Ballynakelly Edge, resulting in a total proposed development site area of approximately 16 hectares.

The **Main Development Area** is irregular in shape and comprises a predominantly greenfield site with boundaries generally being delineated by existing hedgerows and trees. The layout of the original property plots and land divisions remain visible despite being amalgamated over time. Much of the Main Development Area has been previously disturbed with evidence of topsoil stripping, haul roads and spoil mounds associated with development works originally permitted under Reg. Ref SD05A/0344 (PL06S.217096) which was never completed. Existing residential, commercial and community facilities fronting Main Street bound the site to the north. To the east, the Main Development Area is bounded by the Ballynakelly Estate and to the south and

east by agricultural lands. A number of structures located on a long thin land parcel located to the north of the Main Development Area include 2 habitable dwellings together with 3 associated outbuilding and sheds.

The **Ballynakelly Site** is an infill site, forming part of the existing Ballynakelly housing development, which was not completed. This infill site measures approximately 0.80 hectares in area and is bound by open space at Burgage Green to the north, residential development of Parsons Green to the east, Newcastle Boulevard to the south and Burgage Street to the west. Surrounding properties are generally 3 storeys in height.

This site had previously been permitted as a Neighbourhood Centre under Reg. Ref. SD06A/0933 however these works were not completed within the lifetime of the permission.

The **Ballynakelly Rise** infill site is located to the south-east of the Main Development Area and immediately adjacent existing properties onto Ballynakelly Rise. This site measures approximately 0.14 hectares consisting of part of an undeveloped land parcel which has been grassed over. The infill site is irregular in shape and is bound to the north by 3 storey properties fronting onto Ballynakelly Rise, to the east by rear gardens of residential properties fronting onto Ballynakelly Court, to the south by the balance of the infill site and associated road infrastructure and to the west by 3 storey residential properties fronting onto Ballynakelly Edge. This site is bisected by Ballynakelly Rise, which also provides access to lands to the south.

It is noted that this site had formed part of a site on which 10 no. residential units were previously permitted (under Reg. Ref. SD05A/0344 (ABP Ref. PL PL06S.217096) and amended under Reg. Ref. SD08A/0148) which were not completed during the life of the respective permissions. The uncompleted site has been grassed over as an interim measure pending its redevelopment. It is noted that this site was not identified as public open space in the previously permitted development.

The **Ballynakelly Edge** infill site is located to the south-east of the Main Development Area and west of Ballynakelly Rise. This infill site measures approximately 0.05 hectares and includes a community building, which was never fully completed or occupied, together with open space to the rear (west) and carparking to the front (east). The site is surrounded by existing residential development.

It was originally intended that the Community Centre, permitted under Part 8 in 2007, would provide additional facilities for accommodation for the Traveller community. However, the Traveller Accommodation was never occupied and is no longer required by the Planning Authority, with the units being sold as private dwellings. Accordingly, there is no identified requirement for the existing structure.

The majority of the proposed development site has been subject to an extensive planning history. Under SDCC **Reg. Ref. SD05A/0344** (ABP Ref. PL06S.217096) permission was sought by Tenbury Developments Ltd. for 743 dwellings including a neighbourhood centre of 1,859.2sq.m and a crèche of 846sq.m. Following the grant of planning permission, a number of subsequent planning permissions had been granted whereby the parent permission has been amended. Most of these applications relate to amendments to housing designs and relatively minor modifications to the scheme. All extant permissions relating to the proposed development site have since expired.

### (III) DESCRIPTION OF DEVELOPMENT

Cairn Homes Properties Ltd. are seeking permission for the development comprising of the following principal elements:

- Demolition of 5 no. structures on site, total area measuring 359sqm, comprising of 2 no. habitable dwellings and 3 no. associated outbuildings/sends.
- 406 no. new residential dwellings comprising:
  - 8 no. one-bed apartments
  - 20 no. two-bed apartments
  - 1 no. three-bed apartment
  - 48 no. two-bed apartments below duplex
  - 48 no. three bed duplex units
  - 21 no. two-bed houses
  - 208 no. three-bed houses
  - 52 no. four-bed houses
- Provision of a childcare facility (approximately 518sqm) with capacity for in the order of 110 no. children;
- 1 no. retail unit (total gross floor area 67.7sqm);
- Provision of a new north-south greenway linking the Main Street to the proposed public park;
- First phase of a new east-west link street and greenway, a continuation of Newcastle Boulevard with future connection to adjoining development lands;
- Initial phase of public park (approximately 2ha);
- Internal roadways and all associated ancillary infrastructure, landscaping, boundary treatments and development works;
- A total of 735 no. car parking spaces are provided. They include 663 no. spaces serving the residential units with 11 no. spaces designated for use by the childcare facility, 1 no. commercial car parking spaces, 60 no. visitor spaces;
- Pedestrian/cycle paths and linkages to Local Roads north and east of the site to facilitate potential future pedestrian links; and,
- The proposed development also provides for a temporary, single storey marketing suite and associated signage (including hoarding) during the construction phase of development only.
- All associated and ancillary infrastructure, landscaping, boundary treatments and development works, to include foul and surface water drainage, attenuation areas, watermains, 4 no. ESB substations, street lighting, boundary walls and fences on a proposed development site totalling approximately 16 hectares.

#### **(IV) CONSIDERATION OF ALTERNATIVES**

The proposed development provides for the delivery of high-quality residential development on available, serviced and appropriately zoned lands, which will contribute towards Newcastle fulfilling its role as a Small Town as designated under the South Dublin County Development Plan 2016-2022. The application site has been specifically identified in the Newcastle Local Area Plan 2012-2022 as a neighbourhood for planned development over the lifetime of the Plan in order to meet the County Development Plan housing allocation. The proposed development will facilitate the sustainable growth of Newcastle in a coherent, plan-led, manner; protecting and maximising opportunities presented by the unique natural and built environment of the town; and delivering an exemplar quality of life for its residents.

No alternative sites were considered or assessed for the purposes of preparing this EIAR, nor is it considered necessary to do so as the application site is zoned RES-N '*to provide for new residential communities in accordance with approved area plans*' under the South Dublin County Development Plan 2016-2022 and is subject to a detailed development frameworks under the Newcastle Local Area Plan, 2012-2022, both of which were the subject of a Strategic Environmental Assessment (SEA). The SEA for the Newcastle Local Area Plan 2012-2022 considered alternatives at an early stage of the process and through an iterative process the most appropriate development scenario was selected and lands zoned accordingly.

A number of alternative construction approaches and layouts for the proposed development were considered over the design process having regard to potential environmental effects. In addition, the proposals for the development were subject to pre-planning consultation with the Planning Authority and An Bord Pleanála prior to the principles of the of the proposed layout being finalised. Specifically, the proposed layout and detailed design has been directly informed by An Bord Pleanála's Opinion issued subsequent to pre-planning consultation.

The significant environmental issues and potential effects which informed the proposed layout included preservation of existing landscape features, minimising visual impact, protecting cultural heritage features, protecting and enhancing biodiversity and minimising potential traffic hazard while creating new linkages and improving permeability. Other factors which were fundamental to informing and directing detailed design included the design brief established in Chapter 6 of the Newcastle Local Area Plan 2012-2022 which sets out specific framework objectives for designated neighbourhoods in Newcastle.

#### **(V) POPULATION & HUMAN HEALTH**

Land use in the vicinity of the proposed development is predominantly residential or agricultural in nature. The area immediately surrounding site is characterised by two- and three-storey residential developments and one-off dwellings and agricultural lands largely zoned for future residential development.

The Census 2016 results indicate that Newcastle has a population of 3,093 persons.

According to the 2016 Census of Population, the population of the state showed a steady growth over the period 2002 until 2011, with a significant reduction in growth during the period between 2011 and 2016. South Dublin has experienced strong population growth since 1996 which is indicative of its location within the Greater Dublin Metropolitan Area alongside significant employment opportunities in the county as a whole.

Primarily this growth can be attributed to greater economic activity, increased job opportunities and continued migration.

Notably, Newcastle has experienced much higher growth than both South Dublin and the State over the period 2006-2016. Since the economic downturn there has been a significant reduction in the growth of Newcastle, which could be attributed to some extent to the lack of housing delivery in the area over this period.

Based on age comparisons of the 2016 Census, Newcastle has a high proportion of its population in younger age groups (0-4 and 5-9 age groups). Newcastle also has a higher proportion of population between the ages of 30-44 but a much lower proportion of population 65 years and over. It is considered that Newcastle has a much younger population compared to South Dublin and the State and has done well in attracting cohorts of younger families, likely looking for affordable family accommodation within commuting distance of Dublin City and other economic centres.

The construction of 406 new dwellings will provide critical housing infrastructure for Newcastle and the Greater Dublin Area. The additional population for Newcastle will contribute positively to the community by reinforcing and strengthening the services and function of the town and by increasing housing supply in line with national housing policy and as provided for by the Newcastle Local Area Plan 2012-2022.

The proposed residential development will contribute to additional population to the Newcastle community. Furthermore, it will contribute to the consolidation of the urban area and will assist in creating a more active, vibrant town with the critical mass to support a wide range of facilities and services. The proposed development includes a childcare facility and encompasses high quality open spaces, which will open formal pedestrian and cycle routes which will be available to all members of the community. In this respect, the proposed development will have a significant positive long term on the community.

The proposed development is unlikely to result in any significant adverse impacts on human health and safety considerations once completed and operational. Environmental impacts of the proposed development (operational phase) and their relationship to human health is dealt with under the relevant noise and vibration, air and climate and traffic sections of the EIAR.

At construction stage, there is likely to be some slight, temporary negative impacts on local residents. These impacts are likely to result from construction traffic movements to and from the site together with other possible health and safety impacts, such as nuisances associated with construction access requirements, pollution spillages, migration of surface contaminants, dust, noise and littering. Secondary impacts may result from increased construction traffic hauling building materials to and from the proposed development site which are likely to affect humans in a variety of potential locations distant from the proposed development site, such as residents near aggregate sources and landfill sites.

The construction stage may also result in short term moderate positive impacts from the creation of employment opportunities and local spending.

Proposed mitigation measures are centred on the potential for short-term negative impacts on the existing community during the construction phase. These impacts will be minimised by the implementation of a construction management plan; the implementation of a construction traffic management plan; and the mitigation measures in relation to construction, traffic, noise, air quality and landscaping described in the other chapters of the EIAR.



## **(VI) SOIL AND GEOLOGY**

This chapter of the EIAR comprises of an assessment of the likely impact of the proposed development on soils and the geological environment as well as identifying proposed mitigation measures to minimise any impacts.

Assessment of the likely impact of the proposed development on soils and the geological environment included preliminary ground investigations and review of information available from the Geological Survey of Ireland (GSI).

Ground conditions at the site, as observed during preliminary ground investigations, are summarised as follows:

- Maximum of 0.4m thick Topsoil layer overlying;
- Made ground layer encountered beneath Topsoil in TP10 and BH02 to a maximum depth of 2.3m overlying;
- Cohesive deposits with granular deposits encountered beneath made ground or topsoil overlying;
- Limestone rock encountered between 3m to 11m depth.

Site development works will include stripping the topsoil layer and excavation of subsoil layers to allow road construction, foundation excavation and services installation. It is also expected that excavation of bedrock will be required at some locations for installation of drainage. Where feasible, excavated material will be reused as part of the site development works (e.g. use as fill material).

Potential impacts of the proposed development during the construction phase include the following:

- Removal of the existing topsoil layer resulting in exposure of the underlying subsoil layers and bedrock to the effects of weather and construction traffic
- Rutting and deterioration of the topsoil layer and any exposed subsoil layers by earthworks plant and construction traffic, resulting in erosion and generation of sediment laden runoff
- Accidental spills and leaks (e.g. storage of oils and fuels on site, use of cement and concrete during construction works)

A Preliminary Construction Management Plan (CMP) will be prepared in order to mitigate against potential impacts that may arise during the construction phase. Implementation of the measures outlined in the CMP will ensure that the potential impacts of the proposed development on soils and the geological environment do not occur during the construction phase and that any residual impacts will be short term.

## **(VII) WATER: HYDROGEOLOGY & HYDROLOGY**

This chapter of the EIAR comprises of an assessment of the likely impact of the proposed development on the surrounding surface water and hydrogeological environments as well as identifying proposed mitigation measure to minimise any impacts.

Assessment of the likely impact of the proposed development on the surrounding surface water and hydrogeological environments included review of the following data:

- Existing topographic survey information and site walkovers.
- Preliminary ground investigation carried out by Ground Investigations Ireland Limited June 2018.
- Utility records obtained from South Dublin County Council.
- Information available on the SDCC Online Planning Applications Service.
- Information available on the Environmental Protection Agency (EPA) online mapping service.
- Information available on the Geological Survey of Ireland (GSI) online mapping service.
- Information available on the Office of Public Works (OPW) National Flood Hazard Mapping and Catchment Flood Risk Assessment and Management Studies (CFRAM Studies).
- Newcastle Local Area Plan 2012-2022.

The site is within the Shinkeen Stream Catchment which is a tributary of the River Liffey located approximately 2.2 km to the northwest of the subject site.

The site slopes towards the R120 Main Street to the north of the site. Therefore, it can be assumed that the site is part of a single surface water catchment, and is currently drained via a network of drainage ditches which drain to the existing surface water sewers to the north and east of the site.

A total attenuation volume of 3,064 m<sup>3</sup> will be required at the site in order to accommodate the 100-year flood event.

A Site Specific Flood Risk Assessment has been undertaken which concludes that the proposed residential development is appropriate for the site's flood zone category.

Potential impacts of the proposed development during the construction phase include the following:

- Surface water runoff containing increased silt levels.
- Concrete runoff, particularly discharge of wash water from concrete trucks.
- Discharge of vehicle wheel wash water.
- Accidental spills and leaks.
- Infiltration of groundwater into excavations.

A Construction Management Plan (CMP) will be prepared in order to mitigate against potential impacts that may arise during the construction phase. Implementation of the measures outlined in the CMP will ensure that the potential impacts of the proposed development on surface water and the hydrogeological environment do not occur during the construction phase.

Potential impacts of the proposed development during the operational phase include the following:

- Increased impermeable surface area will reduce local ground water recharge and potentially increase surface water runoff (if not attenuated to greenfield runoff rate).
- Accidental hydrocarbon leaks and subsequent discharge into piped surface water drainage network (e.g. along roads and in driveway areas).

As surface water drainage design has been carried out in accordance with the GSDSDS and SuDS methodologies are being implemented as part of a treatment train approach, there are no predicted impacts on the water and hydrogeological environment arising from the operational phase.

## **(VIII) NOISE AND VIBRATION**

Chapter 8 of the EIAR provides information on the assessment of noise and vibration impacts on the surrounding environment during both the construction and operational phases of the development.

When considering the potential impacts, the key sources will relate to the short-medium term construction phase and the long-term impacts associated with the development as a whole once operational.

The study has been undertaken using the following methodology:

- A baseline noise survey has been undertaken within and in the vicinity of the site to determine the existing noise climate;
- A review of the most applicable standards and guidelines has been conducted in order to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed development;
- Predictive calculations have been performed to assess the potential impacts associated with the construction and operation of the development at the most sensitive locations surrounding the development site, and;
- A schedule of mitigation measures has been proposed to reduce, where necessary, the identified potential impacts relating to noise and vibration from the proposed development.

The closest noise sensitive locations to the proposed development are St Finian's National to the west and the residential developments to the north and east which bound the immediate red boundary of the proposed development.

A noise survey was undertaken at locations representative of the nearest noise sensitive locations in order to determine existing noise levels in the surrounding environment and to note the main noise sources contributing to measured noise levels. The baseline environment measured at the nearest noise sensitive locations is determined to be typical of a suburban environment where road traffic, localised vehicle and pedestrian activities and environmental sources including bird song are the main contributors to the prevailing noise environment

During the construction phase of the project, a variety of items of plant will be in use for the purposes site clearance and construction. The type and number of equipment will vary between the construction phases depending on the phasing of the works (i.e. site clearance, foundations, building works, landscaping etc).

There will be vehicular movements to and from the site that will make use of existing roads. Due to the nature of these activities, there is potential for the generation of elevated levels of noise at the nearest noise sensitive locations. The application of binding noise limits, hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact will have a negative, moderate to and short-term impact on the surrounding environment.

Once operational, the predicted change noise levels associated with additional traffic is predicted to be of imperceptible impact along the existing road network. In the context of the existing noise environment, the overall contribution of induced traffic is considered to be of neutral, imperceptible and long-term impact to nearby residential locations.

Noise levels associated with operational plant are expected to be well within the adopted day and night-time noise limits at the nearest noise sensitive properties taking into account the site layout and development type which is largely residential. Any plant associated with retail units will be controlled to ensure a neutral noise impact. Assuming the operational noise levels do not exceed the adopted design goals, the resultant residual noise impact from this source will be of neutral, minor, long term impact.

## **(IX) AIR, DUST AND CLIMATIC FACTORS**

AWN Consulting Limited has been commissioned to conduct an assessment of the likely impact on air quality and climate associated with the proposed residential development at Newcastle South and Ballynakelly, Newcastle, County Dublin.

In terms of the existing air quality environment, baseline data and data available from similar environments indicates that levels of nitrogen dioxide, carbon monoxide, particulate matter less than 10 microns and less than 2.5 microns and benzene are generally well below the National and European Union (EU) ambient air quality standards.

The greatest potential impact on air quality during the construction phase is predicted to be from construction dust emissions and the potential for nuisance dust. In order to minimise dust emissions during construction, a series of mitigation measures were prepared in the form of a Dust Minimisation Plan. When the dust minimisation measures set out in the plan are implemented, fugitive emissions of dust from the site will be insignificant and pose no nuisance at nearby receptors.

The operational impact of the development was assessed based on emissions of the pollutants nitrogen dioxide, particulate matter less than 10 microns, particulate matter less than 2.5 microns, carbon monoxide and benzene using the UK Design Manual for Roads and Bridges screening model which is a recommended screening model for assessing the impact of traffic on air quality. The inputs to the air dispersion model consist of information on road layouts, receptor locations, annual average daily traffic movement's, annual average traffic speeds and background concentrations. The climatic impact based on greenhouse gas (GHG) emissions of CO<sub>2</sub> was also assessed using the Design Manual for Roads and Bridges screening model.

The impact of the traffic from the proposed development compared to the respective EU limit values for the pollutants was assessed. Based on the modelling results, the impact of the development in terms of ambient levels of, nitrogen dioxide, particulate matter less than 10 microns, particulate matter less than 2.5 microns, carbon monoxide and benzene are predicted to be imperceptible with respect to the operational phase air quality. The operational stage impact on climate is also considered to be imperceptible. The cumulative impact

of the development including the full buildout of the site is also predicted to have an imperceptible impact on air quality and climate.

As the National and EU standards for air quality are based on the protection of human health, and concentrations of pollutants for both the construction and operational stages of the proposed development are predicted to be significantly below these standards, the impact to human health is predicted to be imperceptible and not significant in the short and long term.

## **(X) BIODIVERSITY**

A review of the biodiversity of the site was carried out by OPENFIELD Ecological Services and this included a study of existing information from the area and a site survey. Site surveys were carried out in February and June 2018 and February 2019. June is within the optimal season for general habitat survey and for surveying breeding birds while February is within the optimal period for large mammals (particularly Badgers).

It was found that the site is not within or adjacent to any area that is designated for nature conservation at a national or international level. There are no plants recorded from the site that are listed as rare or of conservation value. There are no habitats that are examples of those listed on Annex I of the Habitats Directive. Japanese Knotweed is present and this is an alien invasive plant species as listed on Schedule 3 of SI No. 477 of 2011. The site can be described as mostly disturbed ground with some areas of open grassland along with a number of buildings. Treelines along the southern boundary along with certain hedgerows to the north are of high local value to biodiversity. Other hedgerows have poor structure and diversity and so are of low local value. There are no water courses, ponds or wetland areas although ditches do accompany hedgerows to the south. The site was surveyed for bat activity and a number of species use the area for foraging and/or commuting. An agricultural shed is being used as a bat roost. There was no evidence of Badgers using the site.

Approximately 250m of high local value hedgerows are to be removed due to their poor condition or because their retention is not compatible with the project design. The hedgerows to the south are to be retained. Good site management practices will ensure that pollution to water courses does not occur during the construction phase. Surface water will be attenuated using sustainable urban drainage systems (SUDS). Additional landscaping will compensate for the loss of habitat that will occur. Standard herbicide is being used to eradicate the stand of Japanese Knotweed and a management plan has been prepared to deep bury it within the site. Replacement roosts will be provided for bats while lighting will be designed to retain valuable foraging corridors. With the suggested mitigation in place, the ecological impacts by this proposed development will be neutral. There are no impacts that could affect any area designated for nature conservation.

## **(XI) LANDSCAPE & VISUAL IMPACT ASSESSMENT**

### **Existing Site**

The total area of the application is approximately 16 hectares and covers four separate areas. The main site, to the south of Main St, and three infill sites consisting of uncompleted elements of development originally permitted under Reg. Ref. SD05A/0344 (PL06S.217096).

Previous pre-development works are visible within the larger main site. This gives the main site a brownfield character, although the boundaries are reinforced by the existing hedgerow network, providing a rural backdrop and a sense of enclosure, with views extending to the south. As such, the site that comprises of the main larger area will extend the suburban character of the Ballynakelly development to the west of the site, further east into the backlands of Newcastle village, where development is solely located along Main Street. The other infill sites are located within the Ballynakelly development and have an existing suburban character.

The overriding feature within this landscape are the existing elements of the original burgage plot field system, dating from the Anglo-Norman manorial system. These are long rectangular field boundaries extending perpendicularly from properties fronting onto Main Street. This landholding system and pattern has been identified as of regional importance.

The portions of hedgerows that remain are associated with this historic land use. The majority of the trees within the remaining hedgerows are Ash, with the occasional Sycamore, Wych Elm, Cherry and Poplar evident. The hedgerow themselves are mature and have not had any significant maintenance in recent years. The hedgerow species are dominated by Blackthorn, with large portions being colonised by bramble and ivy. Elsewhere there are areas of discontinuity within the hedgerow lines, while there are portion of encroachment by Blackthorn into the existing fields

Overall, the site slopes gradually from a high point to the south of 107m A.O.D. down to 88.90 A.O.D. by Main Street. The southern point of the site continues to slope up to form Athgoe Hill (177m A.O.D.), approximately 1km from the southern edge of the site.

### **Sensitivity**

Although officially within the Newcastle Lowlands character area (as stated in the Landscape Character Assessment of 2015), and within the 'Historic Urban' character type, the site is brownfield and disused in nature. Furthermore, as set out in the South Dublin Development Plan, the lands in question have been zoned for substantial residential development, with previous residential development planning applications on the subject lands. Therefore, despite the presence of the burgage plot system, the sensitivity of the immediate landscape within and adjacent to the site can still be seen as medium where hedges exist and low where existing hedges are not impacted.

### **Development Proposals**

The preliminary design provides for 406 no. residential dwellings. Open spaces are proposed within the residential development, along with a larger open space to the south (Taobh Chnoic Park). A proposed pedestrian and cycle greenway connects Main Street to the north with this proposed park. Total open space within the proposed development areas amounts to 3.80 hectares. Further proposals include a Childcare facility and 1 no retail unit. The proposed development provides for the first phase of a new east-west link street, a continuation of Newcastle Boulevard, in addition to a new north-south street linkage to Main Street and a number of future potential pedestrian and cycle links to existing and proposed adjoining developments. Access to the proposed development is via the proposed north-south link street with a new entrance onto Main Street and via the existing road network from Newcastle Boulevard.

This application represents Phase 1 of the overall development with future development of Phase 2 lands to the west on zoned residential development lands.

## **Magnitude of Change**

The proposed development will result in a change to the landscape, which will give rise to landscape and visual effects. The likely extent of the change within the landscape context is considered to be very significant as there will be intensive changes to landscape character within this localised area, which will be visible from several surrounding areas. The magnitude of change will vary depending on the viewpoint from which it is viewed and how visible the proposed buildings are in that view.

The proposed buildings will contrast with the existing landscape resulting in a permanent change in character. As there has been extensive change to the site in the last 10 years (removal of hedgerows, enabling site-works for a previously permitted development, etc.) the magnitude of change is somewhat ameliorated.

## **Landscape and Visual Impacts**

### ***Construction Phase - Landscape***

During this process the site will undergo a change from that of an area of previously disused pre-development and open fallow land to a large construction site. Any impacts generated at this stage will be short term and temporary in duration, save for some landscape effects which will be permanent.

There will be significantly negative effects on the existing landscape associated historic burgage hedgerows due to the construction works of this development. This will be due to the site clearance, the proposed linking in of the proposed road network with the existing road network, the building processes required to build the proposed development and associated distributor roadworks. Elsewhere, landscape impacts will be slightly negative due to the quality of the brownfield/fallow areas within the site.

### ***Construction Phase - Visual***

Visual impacts will be more acute than in the operational phase, but short term in duration. This is due to the construction traffic, site hoarding, cranes, etc. Cranes will be taller than the proposed buildings and therefore more visible in the landscape. There will also be vehicular and crane movement and changes to the configuration of the site, typical of building sites, resulting in visual impacts to local viewpoints.

### ***Operational Phase - Landscape***

Short Term: Following construction, the main landscape effects of the proposed development are associated with the change in land use from previously disused lands and open space to a more intensified, residential use, as specified in the South Dublin Development Plan zoning designation. This will result in a slightly negative effect on the landscape. This is due to the fact that the site is of moderate sensitivity and the development proposed will have a higher landscape quality than the current brownfield nature of most of the site.

The main impact on the landscape is the removal of some of the historical burgage hedgerows to facilitate development, but the overall quantity of hedgerow planting is increased.

These predicted effects are mitigated by the potential quality of the public realm, the cohesive land use and pattern that would result; and the new spaces, landscape features and distinctiveness introduced by the proposed development with its associated landscape spaces and planting interventions.

Medium to Long Term: Landscape impacts will be further enhanced positively by the proposed planting, particularly due to the high proportion of native and pollinator-friendly plant species. Landscape amenity value of the proposed scheme is particularly high due to the quality of the proposed spaces, with quality materials and soft landscape elements contributing to the sense of place and wayfinding along the newly created linkages and Greenway.

Existing boundary planting is retained to the western boundary of the site to protect the privacy and visual amenity of the existing residents. Elsewhere internal hedgerows have been retained where possible, with the inclusion of additional hedgerow planting that reinstates some of the previously removed burgage hedgerows.

Boundary and native screen planting species mixes, that include trees and shrubs, will be selected from the native Irish palette to encourage wildlife in the area and enhance biodiversity.

Within the site there will be approximately 900 new standard trees planted with the residential development, with approximately 7,000 sq.m. of native shrub planting.

These mitigation measures contribute towards improving the positive impact of the development upon the landscape, resulting in a slightly positive impact. The proposed planting would substantially increase the tree resource and quality in the area overall.

### **Operational Phase – Visual**

The predicted residual visual impacts are those that will persist following implementation and establishment of the proposed landscape measures (medium term). The residential zoning designation of these lands within the South Dublin Development Plan 2016-2022 have been taken into consideration when assessing the impacts on the following receptors.

The proposed planting and mitigation measures will help in further softening and increasing the visual value of the development over time, particularly from the further views to the south and west of the site, mitigating some visual impacts from slightly negative to not significant.

Views from the north and east of the main site, and from the properties adjacent to the 3no infill sites will largely be unaltered by the proposed mitigation measures due to the lack of space for additional planting. Therefore, the permanent slight to moderately negative visual impact will persist from viewpoints that are immediately adjacent to the infill sites.

## **(XII) MATERIAL ASSET: TRAFFIC & TRANSPORT**

This chapter of the EIAR has been produced to assess and evaluate the likely impact of the proposed development upon the local transportation system, as well as identifying proposed mitigation measures to minimise any identified impacts.

The subject Phase 1 proposals seek permission for the provision of 406 no. residential units comprising 125 no. apartments / duplexes and 281 no. houses in addition to a [518sqm] crèche facility and 67m<sup>2</sup> of retail land use.

The Phase 1 development proposals form part of an overall 2 phase development scheme by the Applicant. It is envisaged that the Phase 2 scheme will incorporate in the region of 291 dwelling units and will be subject to



a separate planning application in the future. The Applicant's lands (Phase 1 and Phase 2) incorporating 38.1 Ha makes up the majority of zoned lands located to the south of Newcastle R120 / R405 'Main Street' corridor. The zoned lands to the south of Main Street, incorporating 3rd Party lands have the potential to deliver somewhere in the region of 808 dwelling units. The 3rd Party lands encompass both the Taobh Chnoic Extension and a parcel of land within Burgage South.

In addition to the residential proposals, a 3rd Party commercial development is considered on a plot (adjoining Main Street) of land which lies within the Applicant's ownership boundary, but which will be subject to a separate planning application sometime in the future.

The subject proposals include for the provision of the through east-west access road, as per the Newcastle LAP, between the Newcastle Boulevard / Burgage Crescent junction to the western boundary of the subject Phase 1 site boundary. Furthermore, a new north-south road link is proposed between the aforementioned access road and the R120 correlating with the LAP's link road proposal. Furthermore, A series of 'green' links are proposed as part of the subject scheme comprising 4m wide shared segregated cycle / pedestrian facility along the proposed link road to the north and 2m footways and cycle lanes / tracks along either side of the main spine road.

The proposed development site is proposed to be accessible from 3 no. access points. The first will be located to the east on Burgage Crescent in the form of a four arm crossroads with Burgage Road / Newcastle Boulevard junction and the second in the form of a simple T-junction further south on Burgage Crescent [Lyons Avenue]. The third site access is proposed to the north with the R120 Main Street corridor and takes the form of a new 3-arm priority controlled junction including the introduction of a 'ghost' island arrangement on the R120 incorporating a new right turn lane. It is expected that this third site access junction will be implemented sometime between the 2020 Opening Year and 2025 Future Design Year with the introduction of the future 3rd party commercial development located to the north of the masterplan lands.

The proposed development layout design provides a total of 735 no. car parking spaces comprising 663 residential car parking spaces, 60 visitor spaces, 11 creche car parking spaces and 1 no. commercial car parking spaces.

A total of 323 number bicycle parking spaces are proposed as part of the development scheme comprising 157 Long Term secured / sheltered spaces and 166 Short Term parking spaces. Whilst the Development Plan does not specify a cycle parking requirement for the residential housing units, 99 Long Term and 57 Short Term cycle parking spaces are provided for houses with no rear side access (99 no.) within the subject scheme proposals.

For the purpose of this assessment and utilising typical house construction rates it is estimated that 120 houses could be constructed by the end of the adopted Opening Year 2020, whilst the remaining 161 houses and 125 apartments of Phase 1 could be constructed by the Future Design Year 2025. In addition, for the purpose of the worst case sensitivity tests, all future Phase 2 development units (assumed to be in the region of 291 units and is subject to a separate planning application) could potentially be constructed by the 2025 Future Design Year.

For the purposes of this assessment, it has been assumed that the Phase 1 proposals only will be completed and that the Principal Access Road (which would be implemented as the Phase 2 scheme is developed) through the site will not be complete before the adopted 2035 Future Design Year and therefore, in this scenario, no redistribution of local network traffic had been redistributed. Nevertheless, it is expected that the

future Phase 2 lands will be developed by this time and a sensitivity assessment has been undertaken to reflect this. In this scenario it has been assumed that the Principal Access Road through the site will be fully complete sometime before the 2025 Future Design Year (accompanying the completion of the Phase 2 lands) and therefore, a through route will be available between Newcastle Boulevard / R120 and Athgoe Road. Whilst the proposed internal roads layout will be designed in such a way as to deter potential 'rat running' through the subject lands, it is expected that a small proportion of existing traffic may divert through the subject site in order to avoid Newcastle village centre. DBFL have assumed that 15% of existing traffic entering / exiting the network at the Athgoe / Hazelhatch Road will be reassigned to the new Principal Access Road in the 2025 and 2035 Future Design Years.

A junction impact analysis was undertaken and has demonstrated that the proposals will generate a subthreshold impact upon all local key junctions during the 2035 Future Design Year scenario.

The junction analysis undertaken at the aforementioned junctions reveals that the proposals will not have a notable impact on the operational performance of the key off-site junctions compared to the Do-Nothing scenario. It is noted that the R120 / Newcastle Boulevard roundabout will be operating at capacity in the Future 2035 Design Year (in the worst case scenario which assumes that in addition to Phase 1 development lands, Phase 2 and all 3<sup>rd</sup> party lands are developed) however this is only predicted to occur for a short duration during the PM peak hour only as would be expected for a junction in an urban environment.

In conclusion, it is considered that the impact on the surrounding road network, as a result of the proposed development will be negligible. This is based on the anticipated levels of traffic generated by the proposed development and the information and analysis summarised in the above report. It is concluded that the proposals represent a sustainable and practical approach to development on the subject zoned lands and with no material traffic or road safety related reasons that should prevent the granting of planning permission for the proposed residential development.

### **(XIII) MATERIAL ASSETS: WATER; DRAINAGE & UTILITIES**

This chapter of the EIAR comprises of an assessment of the likely impact of the proposed development on existing surface water, water supply, foul drainage, and utility services in the vicinity of the site as well as identifying proposed mitigation measures to minimise any impacts.

Assessment of the likely impact of the proposed development on surface water runoff was carried out in accordance with the Greater Dublin Strategic Drainage Study (GSDSDS), while the foul drainage discharge and water usage was carried out in accordance with the method outlined in Irish Water's Code of Practice.

Assessment of the likely impact of the proposed development on existing utility services in the vicinity of the site included a desktop review of Irish Water Utility Plans, ESB Networks Utility Plans, Gas Networks Ireland Service Plans, Eir E-Maps and Virgin Media Maps.

The site is currently drained via a network of drainage ditches which drain to the existing surface water network along the R120 Main Street. An existing 375mm diameter surface water sewer is located to the north of the site and is expected to provide a suitable surface water discharge point for the proposed surface water drainage network within the proposed main development. It is proposed to outfall surface water from the two infill sites to the existing drainage networks and attenuation systems constructed under Reg. Ref. SD05A/0344

The proposed surface water drainage network has been split into a number of catchments. Surface water discharge rates from the proposed surface water drainage networks will be controlled by Hydrobrake type flow control devices and associated attenuation systems. Each system will provide storage for the 100-year storm with climate change provision.

No foul sewer is present within the site. However, there is an existing 225mm diameter foul sewer on Main Street (R120) to the north of the site. This foul sewer connects to a 525mm foul sewer on Aylmer Road which ultimately outfalls to Newcastle Pump Station. The proposed foul drainage system will discharge into this existing drainage, which will be upgraded to 375mm sewers up to the connection point with the 525mm sewer on Aylmer Road.

There is an existing 450mm watermain along Newcastle Boulevard constructed as part of the previously permitted development (Reg. Ref. SD05A/0344) and Irish Water have confirmed the existing watermain will provide a suitable supply point for the proposed development. The proposed watermain layout includes a new 250mm diameter watermain along Newcastle Boulevard which will connect to the existing 450mm diameter watermain and serve a number of loops along Local Streets.

Existing medium and low voltage underground cable routes run through the residential developments to the east of the subject site. These underground lines enter to the subject site from Newcastle Boulevard, Lyons Avenue and Lyons Avenue North. Low voltage overhead lines run along the R120 Main Street and Athgoe Road to the north of the site.

Existing gas low pressure distribution pipes run through the housing developments to the east and enter to the subject site from Lyons Avenue North and Lyons Avenue South. A medium pressure distribution pipe runs along R120 Main Street to the north of the site.

Telecommunications infrastructure are located along the R120 Main Street to the north of the site and throughout the residential developments to the east of the site.

Potential impacts of the proposed development during the construction phase include:

- Contamination of surface water runoff due to construction activities.
- Improper discharge of foul drainage from contractor's compound.
- Cross contamination of potable water supply to construction compound.
- Damage to existing underground and over-ground infrastructure.
- Loss to and / or interruption to site services as a result of alterations / connections to existing services.

Potential impacts of the proposed development during the operational phase include:

- Increased impermeable surface area will reduce local ground water recharge and potentially increase surface water runoff (if not attenuated to greenfield runoff rate).
- Accidental hydrocarbon leaks and subsequent discharge into piped surface water drainage network (e.g. along roads and in driveway areas).
- Increased discharge to foul drainage network.

- Increased potable water consumption.

A site specific Construction Management Plan will be developed and implemented during the construction phase. Implementation of the measures outlined in this plan will ensure that the potential impacts of the proposed development on the sites material assets do not occur during the construction phase.

Relocation of existing ESB cables will be fully coordinated with ESB Networks to ensure interruption to the existing power network is minimised (e.g. agreeing power outage to facilitate relocation of cable). Ducting and / or poles along proposed relocated route will be constructed and ready for rerouting of cables in advance of decommissioning of existing power lines.

Similarly, connections to the existing gas and telecommunications networks will be coordinated with the relevant utility providers and carried out by approved contractors.

#### **(XIV) ARCHITECTURE & CULTURAL HERITAGE**

Irish Archaeological Consultancy Ltd has prepared this report on behalf of Cairn Homes Plc, to study the impact, if any, on the archaeological, architectural and cultural heritage resource of a proposed residential development at Newcastle, Co. Dublin. The assessment was carried out by Ross Waters and Faith Bailey of IAC Ltd.

The northern two thirds of the proposed development area are located within the zone of archaeological potential associated with the medieval settlement of Newcastle (RMP DU020-003008). A *fulacht fia* (RMP DU021-095) is recorded c. 205m east of the proposed development area. There are nine protected structures within the study area of the proposed development, one of which is also included on both the RMP and the NIAH Survey. An additional two are included on the RMP and the remaining six are listed on the NIAH Survey. The nearest structure of heritage merit consists of *Gort Na Sí* House (RPS 227) c. 90m to the north.

A programme of geophysical survey and archaeological testing was carried out as part of the assessment. Geophysical survey was limited due to existing disturbance within the development area. Archaeological testing identified three small archaeological pits within the northwest section of the development area. These may represent medieval or post medieval remains associated with activity in the rear of a fossilised burgage plot.

Ground disturbances associated with the proposed development may result in a direct, significant negative impact on the localised archaeological deposits identified during testing at the northern-western end of the site (Field 2). The three pits within Field 2 will be subject to preservation by record prior to the commencement of construction. This work will be carried out by a suitably qualified archaeologist under licence and in consultation with the National Monuments Service of the DoCHG and the National Museum of Ireland.

It is possible that topsoil stripping (in undisturbed portions of the site) associated with the proposed development may have a direct negative impact on isolated archaeological features or deposits that have the potential to survive beneath the current ground level and outside of the footprint of the excavated test trenches. Potential impacts may range from moderate to profound in significance.

All topsoil stripping of previously undisturbed areas will be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works further archaeological

mitigation may be required, such as preservation *in-situ* or by record. Any further mitigation will require approval from the National Monuments Service of the DoCHG.

It is the developer's responsibility to ensure full provision is made available for the resolution of any archaeological remains, both on site and during the post excavation process, should that be deemed the appropriate manner in which to proceed.

Please note that all recommendations are subject to approval by the National Monuments Service of the Heritage and Planning Division, Department of Culture, Heritage and the Gaeltacht.

There will be no direct or indirect negative impacts upon the architectural heritage, or cultural heritage resource as a result of the proposed development going ahead.

## **(XV) INTERACTIONS**

Chapter 15 of the EIAR provides an assessment of the interactions and interrelationships of the different environmental factors / impacts that will occur as a result of the proposed development including synergistic and cumulative impacts.

All environmental topics are interlinked to a degree such that interrelationships exist on numerous levels. The comprehensive assessments undertaken as part of this EIAR has revealed that the proposal will not result in any significant adverse effects on the environment. Mitigation measures have been proposed to avoid, remedy or reduce identified impacts.

Ultimately, all of the effects of a development on the environment impinge upon human beings, directly and indirectly, positively and negatively. Direct effects include such matters as air and water quality, noise and landscape quality. Indirect effects pertain to such matters as biodiversity, services and road traffic.

This assessment of interactions arising concluded that the proposed development will not result in any significant synergistic interactions or cumulative adverse impacts on the environment. Mitigation measures are proposed and outlined within individual EIAR chapters to ensure that any potential adverse impacts that may arise as a result of the proposed development are minimised.

## **(XVI) MITIGATION MEASURES**

Chapter 16 of the EIAR compiles and lists the mitigation measures and monitoring requirements described in the previous chapters of the EIAR.