

Chapter 3:

Population and Human Health

3.0 POPULATION AND HUMAN HEALTH

3.1 INTRODUCTION

The 2014 EIA Directive (2014/52/EU) has updated the list of topics to be addressed in an EIAR and has replaced 'Human Beings' with 'Population and Human Health'. This chapter of the EIAR was prepared by Paul Turley, BA, MRUP, Dip Environmental & Planning Law, MIPI, Executive Director at John Spain Associates, Planning & Development Consultants. This chapter was also reviewed (with a particular focus on Human Health-related matters) and contributed to by Ian Byrne MSc. Environmental Protection, Dip Environmental & Planning Law, Member of the Institute of Acoustics, who is the Principal Environmental Consultant of Byrne Environmental Consulting Ltd.

Population and Human Health comprise an important aspect of the environment to be considered. Any significant impact on the status of human health, which may be potentially caused by a development proposal, must therefore be comprehensively addressed.

Population and Human Health is a broad ranging topic and addresses the existence, activities and wellbeing of people as groups or 'populations'. While most developments by people will affect other people, this EIAR document concentrates on those topics which are manifested in the environment, such as new land uses, more buildings or greater emissions.

3.2 STUDY METHODOLOGY

At the time of writing there is no guidance from the EU Commission on the 2014 EIA Directive to indicate in detail how the new term 'Human Health' should be addressed. The 2017 European Commission Guidance on the preparation of Environmental Impact Assessment Reports (2017) states the following in relation to Population and Human Health:

"Human health is a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population."

This chapter of the EIAR document has been prepared with reference to recent national publications which provide guidance on the 2014 EIA Directive including the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018) and the Draft Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA in August 2017.

The 2018 EIA Guidelines published by the DHPLG state that there is a close interrelationship between the SEA Directive and the 2014 EIA Directive. The Guidelines state that the term 'Human Health' is contained within both of these directives, and that a common interpretation of this term should therefore be applied.

To establish the existing receiving environment / baseline, several site visits were undertaken to appraise the location and likely and significant potential impact upon human receptors. Desk based study of published reference documents such as Central Statistics Office Census data, the ESRI Quarterly Economic Commentary, the Regional Planning Guidelines for the Greater Dublin Area 2010-2022, the Draft RSES for the Eastern and Midlands Regional Assembly, the Dunshaughlin LAP, and the Meath County Development Plan 2013-2019 was also carried out.

It should be noted that there are numerous inter-related environmental topics described throughout this EIAR document which are also of relevance to Population and Human Health. Issues such as the potential likely and significant impacts of the proposed development on landscape and visual impact, biodiversity, archaeology and cultural heritage, air quality and climate, noise and vibration, water, land and soils, material assets including traffic and transport impacts, residential amenity etc. are of intrinsic direct and indirect consequence to human health. For detailed reference to particular environmental topics please refer to the corresponding chapter of the EIAR.

The Draft Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA in 2017 states that *'in an EIAR, the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g. under the environmental factors of air, water, soil etc.'*

This chapter of the EIAR document focuses primarily on the potential likely and significant impact on Population, which includes Human Beings, and Human Health in relation to health effects/issues and environmental hazards arising from the other environmental factors. Where there are identified associated and inter-related potential likely and significant impacts which are more comprehensively addressed elsewhere in this EIAR document, these are referred to. The reader is directed to the relevant environmental chapter of this EIAR document for a more detailed assessment.

3.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

3.3.1 Introduction

A description of the relevant aspects of the current state of the environment (baseline scenario) in relation to population and human health is provided below. Specific environmental chapters in this EIAR provide a baseline scenario relevant to the environmental topic being discussed. Therefore, the baseline scenario for separate environmental topics is not duplicated in this section; however, in line with guidance provided by the European Commission, the EPA and the Department, the assessment of impacts on population and human health refers to those environmental topics under which human health effects might occur, e.g. noise, water, air quality etc.

An outline of the likely evolution without implementation of the project as regards natural changes from the baseline scenario is also provided.

The existing environment is considered in this section under the following headings:

- Economic Activity;
- Social Patterns;
- Land-Use and Settlement Patterns;
- Employment;
- Health & Safety; and
- Risk of Major Accidents and Disasters.

3.3.2 Economic and Employment Activity

The CSO's Quarterly Labour Force Survey (which has now replaced the Quarterly Household Survey) for Q2 2018, indicated that there was an annual increase in employment of 3.4% or 74,100 in the year to the second quarter of 2018, bringing total employment to 2,255,000. This compares with an annual increase of 3.1% or 66,800 in the year to Q4 2017, 2.2% or 48,100 in employment in the previous quarter and an increase of 3.8% or 79,200 in the year to Q4 2016.

The increase in total employment of 74,100 in the year to Q2 2018 was represented by an increase in full-time employment of 73,000 (+4.2%) and an increase in part-time employment of 1,100 (+0.2%), representing an improvement in the quality and quantity of employment in the economy. The ESRI Quarterly Economic Commentary for Autumn 2018 states that as of Q2 2018, employment in the Irish economy now surpasses its previous peak level (2,252,200 in Q3 2007). Full-time employment now accounts for 79.8 per cent of total employment; this compares with 82.2 per cent in the Q1 2007 peak and 75.2 per cent in the downturn in Q1 2013.

Unemployment decreased by 16,200 (-10.1%) in the year to Q2 2018 bringing the total number of persons unemployed to 144,300. The CSO report states that this is the twenty fourth quarter in succession where unemployment has declined on an annual basis. The seasonally adjusted unemployment rate was 5.8% for Q2 2018. The ESRI's latest *Quarterly Economic Commentary* states that unemployment is expected to decline to 5.7 per cent in 2018 and 5.1 per cent in 2019.

Employment increased in ten of the fourteen economic sectors over the year to Q2 2018 according to the CSO. The largest rates of increase were recorded in the Construction (+13.9% or 17,800) and the Accommodation and Food Service activities (+10.8% or +17,300) sectors..

The above sources demonstrate that the national economy and employment levels were expected to improve further through 2018 and beyond into 2019, with the Government faced with the challenge of sustaining economic activity and competitiveness during a period of likely full employment. This in turn results in increased demand for residential dwellings particularly within the Dublin region, including Meath, Kildare and Wicklow.

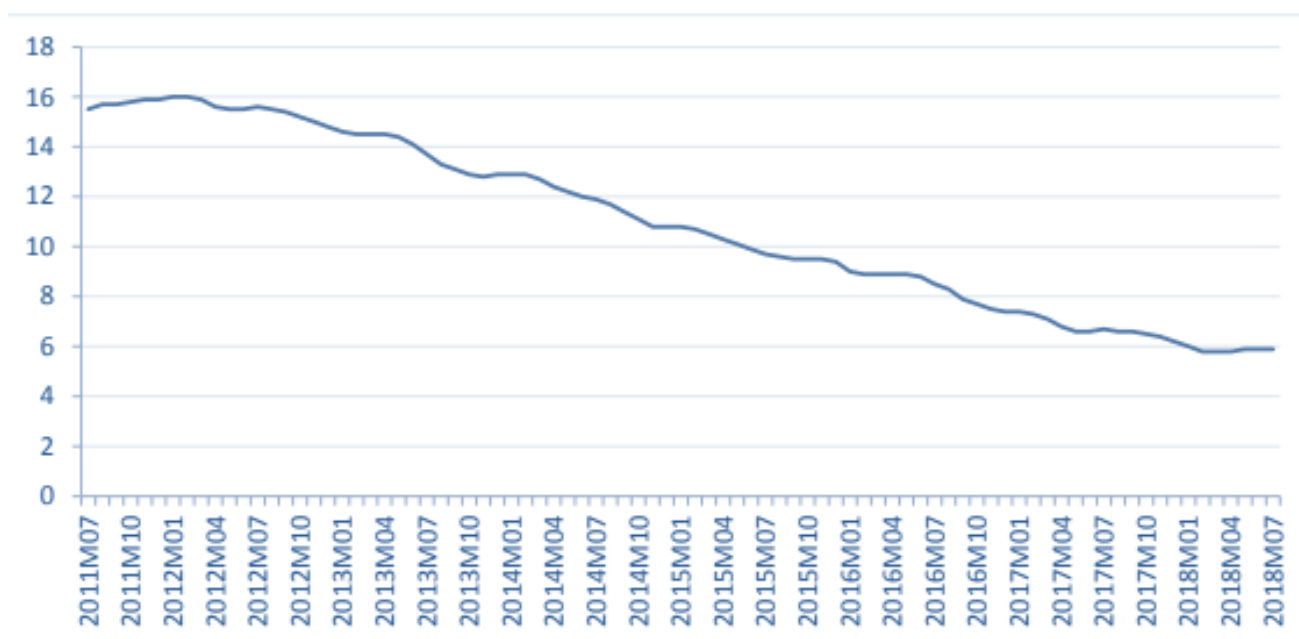


Figure 3.1: Unemployment rate in Ireland by month to July 2018 (%) CSO Labour Force Survey

The ESRI Quarterly Commentary for Autumn 2018 further indicates that household consumption is set to continue benefitting from elevated levels of consumer sentiment and an improved labour market over the next two years, although the commentary notes the risks associated with international socioeconomic and political events such as Brexit.

The ESRI Quarterly Commentary notes strong growth in the domestic economy of 7.8 percent in 2017, however this headline growth figure is tempered by the fact that a small number of multinational firms operating in the Irish jurisdiction likely have a distorting impact on the growth rate of the national economy. This makes it difficult

to accurately benchmark or forecast the growth rate of the Irish economy at present. Revised measurements for the growth rate of the national economy are under preparation by the CSO.

3.3.3 Social Patterns

The CSO data illustrates that the population of the Irish State increased between 2011 and 2016 by 3.8%, bringing the total population of the Irish State to 4,761,865. The rate of growth slowed from 8.1% in the previous census, attributable to the slower economic activity in the early part of the census period resulting in a reduced level of immigration, albeit offset to a degree by strong natural increase.

The economy has recovered in recent years with consequent population growth predominantly attributed to natural increase, greater economic activity, increased job opportunities and continued immigration.

Table 3.1: Population change in the State, Meath County, Dunshaughlin ED and Dunshaughlin Settlement Level 2011-2016 (Source: CSO)

Area	Number of Persons		
	2011	2016	% change 11-16
Ireland - State	4,588,252	4,761,865	3.8
Meath County	184,135	195,044	5.92
Dunshaughlin ED	5,676	5,840	2.8
Dunshaughlin Settlement	3,903	4,035	3.38

Figure 3.2: Image of the Dunshaughlin Electoral Division (Source census.cso.ie/sapmap_2016/)

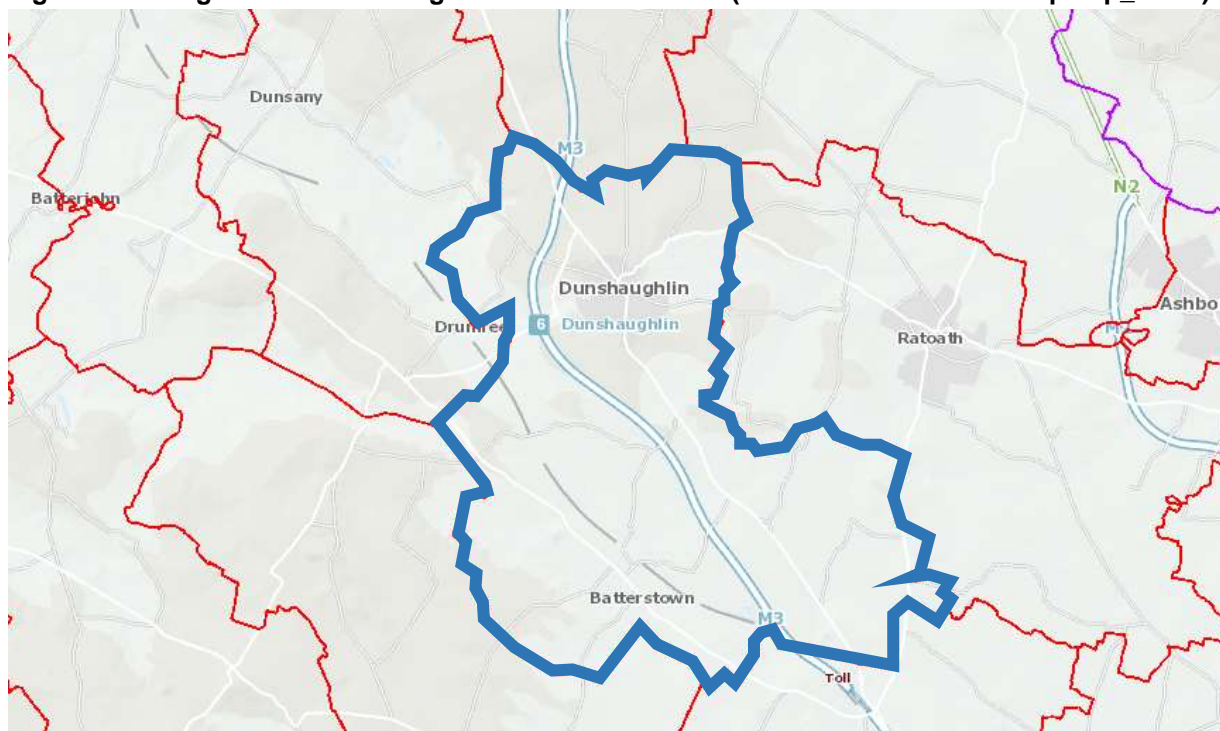


Figure 3.3: Immediate Urban Settlement of Dunshaughlin (Source census.cso.ie/sapmap_2016/)



The CSO data illustrates that the population of the Irish State increased between 2011 and 2016 by 3.8%, bringing the total population of the Irish State to 4,761,865. The rate of growth slowed from 8.1% in the previous census, attributable to the slower economic activity, particularly in the early part of the census period.

Growth within County Meath was higher than the State average during the 2011-2016 intercensal period at 5.92 %.

Population growth in Dunshaughlin electoral District (2.8%) and Dunshaughlin Settlement (3.38%) was lower than the state and county averages over the intercensal period. The Statement of Response on Timing and Phasing Document and the Socioeconomic Report submitted as part of the planning application, however indicate that there has been significant recent development in the area, in line with the settlement status and zoning of lands in Dunshaughlin.

This comparatively lower rate of population growth in Dunshaughlin may be attributable to a significant slowdown in housebuilding nationwide over the 2011-2016 period, precipitated by the economic downturn. It is considered likely that a lack of impetus in terms of housebuilding in the area would have impacted upon new household formation and potentially curtailed population growth, despite the designation of the town for growth. The growth of Dunshaughlin is markedly below the trend for growth in other towns designated as Moderate Sustainable Growth Towns under the current County Development Plan, providing for capacity for growth based on the capacity of services, facilities and amenities in the vicinity.

Table 3.2: Population growth in other Moderate Sustainable Growth Towns in Co. Meath *vis a vis* Dunshaughlin

Town	Household Allocation 2013-2019	Population (Census 2011 settlement boundary)	Population (Census 2016 settlement boundary)	Absolute increase over intercensal period	Percentage increase over intercensal period
Dunshaughlin	319 + 763 committed	3,903	4,035	132	3.4%
Ashbourne	637 + 1,132 committed	11,355	12,679	1,324	11.7%
Trim	518 + 755 committed	8,268	9,194	926	11.19%
Kells	518 + 352 committed	5,888	6,135	247	4.2%
Kilcock	398 (0 committed)	5,533	6,093	560	10.1%

3.3.4 Land Use & Settlement Patterns

The subject site of the SHD application is greenfield in nature. To the south of the SHD site Phases 1A and 1B of The Willows (comprising of 126 residential units, internal roads, services and open space) are partially completed / under construction. The site of the permitted Phase 1C development (also part of The Willows) is also located to the south of the subject site. This development comprises 96 no. residential units and a creche, along with associated open space and a new entrance from the R147 to serve the creche unit. Further to the south is the R147 regional road which runs through the town of Dunshaughlin.

The lands surrounding the subject site to the east are predominantly greenfield in nature and under agricultural use. To the north of the subject site is a recently completed residential development known as Kellett’s Grove. The existing Maelduin residential area is located to the northwest of the subject site. The lands to the west, are partially undeveloped and are zoned for employment / industrial uses and will form a part of the existing Dunshaughlin Business Park. There are further undeveloped industrial / employment zoned lands to the east of the subject site. The Department of Education and Skills intend to bring forward an educational campus on lands to the immediate west of the SHD site.

The lands are located on the edge of the existing built up area of the town of Dunshaughlin. The town is characterised by a strong town centre area, which centres on the main street running from east to west through the centre of the town. A mixture of uses predominates in the south-eastern reaches of the town, adjacent to the subject site, including the aforementioned Dunshaughlin Business Park, areas of predominantly two storey residential development (including recently completed development) and undeveloped greenfield lands which are currently in agricultural use.

The subject site is located within the administrative area of Meath County Council. The site is therefore subject to the policies and objectives contained within the Meath County Development Plan 2013-2019.

Variation No. 2 to the County Development Plan incorporated the previously existing Local Area Plans (including that for Dunshaughlin) into the framework of the County Development Plan.

The subject site is primarily zoned as objective A2, with the northern portion of the site designated as Phase 2 Post 2019 under the Meath County Development Plan 2013-2019. The A2 zoning has an objective to “provide for new residential communities with ancillary community facilities, neighbourhood facilities and employment

uses as considered appropriate for the status of the centre in the Settlement Hierarchy.” The uses proposed within the development are in accordance with the site’s zoning under the County Development Plan.

A portion of the lands along their western boundary with Dunshaughlin Business Park is zoned objective F1, with an objective to *“provide for and improve open spaces for active and passive recreational amenities”*. A further portion of the lands located along their eastern boundary is also subject to this open space zoning.

The Dunshaughlin Youths Football Club and the Dunshaughlin Athletics Club have historically and currently utilise the undeveloped area to the west of the site for training, playing matches and having athletic events. There are a number of temporary structures on-site which act as club meeting and changing rooms.

In Q3 of 2018 Dunshaughlin Youths Football Club and the Dunshaughlin Athletics Club acquired 12 acres of undeveloped land to the east of the SHD development site by means of a 50 year lease from Meath County Council. This will allow the development of modern sports pitches, athletic tracks and club facilities to serve the Dunshaughlin community including the future residents of the proposed SHD.

This zoning objective will be complied with within the proposed scheme, via the provision of a greenway along the western boundary of the site, and the provision of high quality public open space along the eastern boundary of the site, to the north of the proposed apartment buildings and neighbourhood centre, which will serve future residents and be accessible to members of the community from the wider area. Please refer to the Landscape Design Report and Landscape Layout Plan prepared by Doyle and O’Troithigh Landscape Architects for further details.

There is a zoning objective to provide for a neighbourhood centre on the northern portion of the subject site. The proposed development includes the provision of a neighbourhood centre area, to be integrated with the higher density apartment portion of the development, on the outer relief road and to the west of the future employment lands.

3.3.5 Health & Safety

The surrounding context consists of a mix of residential, agricultural, employment, educational and open space public amenity lands. It does not include any man-made industrial processes (including SEVESO II Directive sites (96/82/EC & 2003/105/EC) which might result in a risk to human health and safety.

3.3.6 Risk of Major Accidents and Disasters

The 2018 EIA Guidelines state that an EIAR must include the expected effects arising from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project.

In this respect, taking cognisance of the other chapters contained within this EIAR document, it is not considered that the proposed development site or the existing context presents risks of major accidents or disasters, including external man made or natural disasters.

3.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

Consideration of the characteristics of the proposed development allows for a projection of the level of impact on any particular aspect of the environment that could arise. In this chapter the potential impact on population and human health is assessed.

A full description of the proposed development is provided in Section 2 of this EIAR. In summary the proposed development consists of the following:

A strategic housing development comprising of 913 no. residential units, a neighbourhood centre, including 2 no. retail units, a café / restaurant unit, a primary healthcare / gym, a community facility and a childcare facility, all associated open space, a section of the Outer Relief Road, internal roads, cycle and pedestrian infrastructure, services and all other associated development.

The 913 no. residential units proposed consist of 505 no. houses (single, two, and three storey), 186 no. duplex units (three storey), and 222 no. apartments (four and five storey).

3.5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

3.5.1 Introduction

This section provides a description of the specific, direct and indirect, impacts that the proposed development may have during both the construction and operational phases of the proposed development. As stated, guidance documents from the EPA, the European Commission, and the Department of Housing, Planning and Local Government outline that the assessment of impacts on population and human health should focus on health issues and environmental hazards arising from the other environmental factors, and does not require a wider consideration of human health effects which do not relate to the factors identified in the EIA Directive.

Additionally, this section addresses the socio-economic and employment impacts of the proposed development. For a more detailed assessment of potential impacts associated with other environmental factors, please refer to specific chapters of the EIAR which assess the environmental topics outlined in the EIA Directive.

3.5.2 Water

Construction Phase

Provision of water infrastructure for the proposed development would involve construction activities within the subject lands mainly involving trench excavations conducted in parallel with the other services. The potential impact on the local public water supply network would be short term and imperceptible. Therefore the impact on human health and population in this regard is considered to be insignificant.

During the course of the construction phase of the proposed development, there is potential, in the absence of mitigation, for weathering and erosion of topsoil's and surface soils. Other water runoff could also increased levels of silt or other pollutants. A number of mitigation measures are outlined in Chapter 8 (Water) of this Environmental Impact Assessment Report. These mitigation measures will serve to minimise potential adverse impacts of the construction phase to the water environment, thereby minimising any associated risk to human health from water contamination.

Operational Phase

The impact of the operational phase of the proposed development on the public water supply will increase the demand on the existing supply. The estimated maximum daily water demand for the proposed development would be 410,740 litres per day as set out within the Engineering Services Report prepared by JOR Consulting Engineers.

It is proposed to connect to the 200mm watermain installed during phase 1C and extend it through the SHD site to the northern site boundary where it will be terminated in such a way that future connection can be made to link to the water main on the Lagore Road as part of any future development proposals to the north. It is proposed to connect 100mm branches to the 200mm water main at various locations to service the different areas within the SHD development. Each one of these 100mm branches will be looped or will terminate with a

loop as per Irish Water Code of Practice. There will be 1 x 150mm branch connected to the proposed 200mm watermain and this will service the proposed neighbourhood centre area of the development.

SUDs will be implemented in accordance with the recommendations of the GSDS. In addition, the 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' will be adhered to as demonstrated in the FRA.

The potential impact on population and human health as a result of the elements of the development associated with water is therefore considered to be negligible.

3.5.3 Noise

Construction Phase

During the construction phase there is the potential for minor impacts on nearby noise sensitive properties due to noise generated by construction site activities. The implementation of the construction phase noise and vibration mitigation measures and a routine noise monitoring programme as detailed in Chapter 10 of the EIAR, will minimise the potential noise and vibration impact on the receiving environment including existing residential receptors, thereby ensuring that there will be no significant population or human health impacts associated with noise from the construction phase of the development. A programme of noise and vibration monitoring shall be implemented throughout the construction phase to assess compliance with noise and vibration limit criteria and to ensure local residents, workers, property and amenities are not adversely impacted by construction related noise and vibration.

Operational Phase

The noise impact generated by additional traffic movements associated with the development is predicted to be of imperceptible to slight impact on existing ambient noise levels along the R147 Dublin Road and the Lagore Road respectively.

The proposed development will have acceptable internal noise levels, having regard to design measures to be implemented as noted in Chapter 10 of this Report.

Having regard to the above, it is considered that there will be no significant population or human health impacts associated with noise during the operational phase of the development.

3.5.4 Air Quality & Climate

Construction Phase

Various elements associated with the construction phase of the proposed development have the potential to impact local ambient air quality, however the potential construction phase impacts shall be mitigated as detailed in Chapter 9 (Air Quality and Climate) of this EIAR to ensure there is a minimal impact on ambient air quality for the duration of all construction phase works. A programme of dust monitoring shall be implemented throughout the construction phase to assess compliance with the air quality limits and to ensure local residents, workers, property and amenities are not adversely impacted by construction related dust emissions.

Operational Phase

As noted in Chapter 9 of this EIAR, it is predicted that the operational phase of the development will not generate air emissions that would have an adverse impact on local ambient air quality or local human health or local livestock welfare.

3.5.5 Landscape and Visual Impact

Construction Phase

The change from a primarily agricultural landscape to that of a mixed housing development will result in a material change in the landscape character of the site. The creation of new housing and ancillary facilities are the most visually negative in the early stages of development but as the project completes and the planting establishes and develops the negative visual impacts are lessened.

The construction phase will have short term landscape and visual impacts. The impacts are not considered significant on population and human health, particularly given the level of screening to site boundaries and the setting back of the main residential elements of the scheme from adjacent sensitive land uses.

Operational Phase

The presence of the existing Dunshaughlin Business Park and Maelduin/ Coldrick's Pass / Kellet's Grove housing developments adjoining the site to the west and north will mean the proposed development will be visually linked to existing built environment and will be seen as a natural extension of the existing built form reducing the negative visual impact of the change from an agricultural landscape to a mixed housing development.

The operational phase of the proposed development has the potential to lead to positive impacts on population and human health as a result of the significant quantity of open space and recreational provision including a greenway, public plazas, and playgrounds, all of which will help provide a high quality residential environment with provision for exercise and play, and will be a valuable amenity and cultural resource to surrounding residential areas.

The proposed development incorporates design principles such as permeability, shared surfaces / homezones and a layout which prioritises walking and cycling and therefore has the potential to positively impact on population and human health.

Please refer to Chapter 6 - Landscape and Visual Impact and the accompanying photomontages for the a more detailed assessment.

3.5.6 Economic Activity

Construction Phase

The construction phase of the proposed development is likely to result in a positive net improvement in economic activity in the area of the proposed development site particularly in the construction sector and in associated and secondary building services industries. The construction sector (including associated services) was documented as one of the most adversely impacted sectors of the Irish economy following the economic downturn in 2008. The sector has recovered in recent years and this development will help to further enhance growth.

The construction of 912 no. residential dwellings, neighbourhood centre facilities and all associated infrastructure will precipitate a positive impact on construction-related employment for the duration of the construction phase.

It is difficult to estimate the number of employees who will be engaged on a phased residential development such as this. A considerable amount of the work will be undertaken by sub-contractors who will also work elsewhere on a phased basis over the construction period.

The construction phase will also have secondary and indirect 'spin-off' impacts on ancillary support services in the area of the site, such as retail services, together with wider benefits in the aggregate extraction (quarry) sector, building supply services, professional and technical professions etc. These beneficial impacts on economic activity will be largely temporary but will contribute to the overall future viability of the construction sector and related services and professions over the phased construction period.

The proposed development could have a slight negative impact on the surrounding area during construction phase due to traffic and associated nuisance, dust and noise. These issues and appropriate mitigation measures are addressed in the Noise and Vibration, and Air Quality and Climate chapters of the EIAR, in the Traffic and Transportation Assessment, Construction and Environmental Management Plan and the Waste Management Plan which accompany the application.

Operational Phase

The operational phase of the proposed development will result in the provision of 913 no. residential units, a neighbourhood centre including shops, a community facility, gym / health care facility and a childcare facility and associated open space. This will provide accommodation for approximately 2,370 persons, based upon an estimated occupancy rate of c. 2.6 persons per unit. It is envisaged that this additional residential development will be provided concurrently with the provision of additional employment uses and facilities on the adjoining employment zoned lands and in the wider area.

This increase in occupancy in the area will enhance local spending power and will assist with the delivery of a critical mass of population which will support a wide range of additional local businesses, services, transport infrastructure and employment opportunities.

3.5.7 Social Patterns

Construction Phase

The construction phase of the proposed development is unlikely to have any significant impact on social patterns within the surrounding area. Some additional temporary additional local population may arise out of construction activity. However, these impacts are imperceptible, temporary in nature and therefore not considered significant.

It is acknowledged that the construction phase of the project may have some short-term negative impacts on local residents. Such impacts are likely to be associated with construction traffic and possible nuisances associated with construction access requirements. These impacts are dealt with separately and assessed elsewhere in the EIAR, including Chapter 2 - Project Description and Alternatives Examined, Chapter 9 - Air Quality and Climate and Chapter 10 - Noise and Vibration and also in the Traffic and Transportation Assessment report.

Such impacts will be short term and in the longer term, the completed scheme will have beneficial impacts for local businesses, residents and the wider community. Any disturbance is predicted to be commensurate with the normal disturbance associated with the construction industry where a site is efficiently, sensitively and properly managed having regard to neighbouring activities. The construction methods employed and the hours of construction proposed will be designed to minimise potential impacts to nearby residents. A Construction Management Plan has been prepared and is submitted with this planning application.

Operational Phase

The addition of new residents to the area will improve the vibrancy and vitality of the area and will help to support existing community and social infrastructure. The subject lands are located adjacent to good quality road and public transport, with ease of access to the town centre provided by good quality pedestrian and cycle

infrastructure. As set out within the Planning Report and Statement of Consistency, there is also a considerable range of existing and planned community and social infrastructure in this area of the County and in the town of Dunshaughlin, which the proposed development will be able to avail of. The proposed development will provide much needed homes, including a range of family dwelling types and sizes, in this area of the County, which will help cater for the considerable pent up and consistent demand in the area, which is not being met at present.

3.5.8 Land-Use & Settlement Patterns

Construction Phase

The construction phase of the proposed development will primarily consist of site clearing, excavation and construction works, and has the potential to impact adversely and result in the temporary degradation of the local visual environment on a short-term basis. The visual impacts precipitated by the proposed development are assessed in greater detail in Chapter 6.

Secondary land use impacts include off-site quarry activity and appropriate disposal sites for removed spoil. Construction works are likely to take place on a phased basis, which will moderate the potential impacts on adjoining land use. The Construction Environmental Management Plan and Construction Waste Management Plan addresses these issues in more detail.

The construction phase may result in a marginally increased population in the wider area due to increased construction employment in the area, however, this would be temporary in nature and the impact would be imperceptible.

Operational Phase

The operational phase of the proposed development will result in the introduction of a residential land use to the subject site which will provide much needed housing for the growing population of the immediate area and the GDA in general. In addition, a significant quantity of open space consisting of recreational and amenity space is also provided in addition to other land uses such as a childcare facility, café, community facility and retail units.

3.5.9 Employment

The impact of the proposed development in relation to employment has been discussed under economic activity.

3.5.10 Health & Safety

Construction Phase

The construction phase of the proposed development may give rise to short-term impacts associated with construction traffic, migration of surface contaminants, dust, noise and littering. Secondary impacts may include resulting increased traffic arising from hauling building materials to and from the proposed development site which are likely to affect population and human health distant from the proposed development site, including adjacent to aggregate sources and landfill sites.

Construction impacts are likely to be short term and are dealt with separately in the relevant chapters of this EIAR document and will be subject to control through a Construction and Environmental Management Plan. The construction methods employed and the hours of construction proposed will be designed to minimise potential impacts. 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.

Operational Phase

The operational stage of the development is unlikely to precipitate any significant impacts in terms of health and safety. The design of the proposed development has been formulated to provide for a safe environment for future residents and visitors alike. The paths, roadways and public areas have all been designed in accordance with best practice and the applicable guidelines. Likewise the proposed residential units and neighbourhood centre facilities accord with the relevant guidelines and will meet all relevant safety and building standards and regulations, ensuring a development which promotes a high standard of health and safety for all occupants and visitors.

The proposed development will not result in any significant impacts on human health and safety once completed and operational. The proposed development therefore is unlikely to result in negative impacts in relation to population and human health in this regard.

3.5.11 Risk of Major Accidents or Disasters

Construction Phase

Having regard to the topography, geology and location of the subject site, its low risk of flooding as established in the Site Specific Flood Risk Assessment (SSFRA) prepared by Hydrocare and JBA submitted with the application, and the nature of the proposed development being a residential and neighbourhood centre development, it is not considered likely that there will be any impact related to a major accident or disaster during the construction phase of the proposed development, stemming internally from within the development, or externally.

The works proposed in proximity to roadways will be governed by best practice and appropriate safety procedures, ameliorating any risk of a major accident in those contexts.

Operational Stage

The Hydrocare SSFRA establishes that the proposed development is not within any fluvial flood zone and sets out mitigation measures to avoid risk of pluvial flooding which will be implemented. The roads and pedestrian / cycle facilities within the scheme have been designed in accordance with all relevant guidance. The buildings within the scheme will accord with relevant building regulations.

Therefore, it is considered that there is no significant risk related to major accidents or disasters, external or internal, man-made or natural in respect of the proposed development.

3.6 POTENTIAL CUMULATIVE IMPACTS

The potential cumulative impacts of the proposed development on population and human health have been considered in conjunction with the ongoing changes in the surrounding area.

The cumulative impact of the proposed development, along with other permitted and existing developments in the vicinity, will be a further increase in the population of the wider area. The previously green-field lands will provide for 913 no. new residential units across a variety of unit and tenure types. This will have a moderate impact on the population (human beings) in the area. This impact is likely to be long term and is considered to be positive, having regard to the zoning objective for the subject lands, and their strategic location in close proximity to public transport, the accessibility of the subject site from the town centre of Dunshaughlin, and the high level of demand for new housing in the area.

With regard to human health, the cumulative impact of the proposed development in conjunction with other nearby developments will provide for the introduction of high quality new neighbourhoods in the area with a high level of accessibility and amenity. The overall cumulative impact of the proposed development will therefore be long term and positive with regard to human health, as residents will benefit from a high quality, visually attractive living environment, with ample opportunity for active and passive recreation and strong links and pedestrian permeability.

3.5.12 Waste Management

The management of all wastes associated with both the construction and operational phases of the development is a principal sustainable aspect of the development. A site-specific waste management plan has been designed to provide residents with the required waste management infrastructure to minimise the generation of un-segregated domestic waste and maximise the potential for segregating and recycling domestic waste fractions to comply with waste reduction and recycling targets defined in *The Eastern-Midlands Region Waste Management Plan 2015-2021*.

The development shall be designed to provide 3-bin domestic waste storage within each residential unit which will promote and encourage the principal of waste segregation at source. Communal waste bin storage areas shall be designed in a manner to ensure clean, safe, and mobility impaired accessible facilities for the residents of the apartments.

A bottle and aluminium can bank shall be located within the development to encourage residents to recycle glass and aluminium cans and divert waste glass from domestic waste bins.

The integration of waste management infrastructure and initiatives into the design of the development will assist residents in their understanding of their responsibilities regarding National waste reduction and recycling targets and will also contribute to their own sense of living in a sustainable environment.

3.7 'Do NOTHING' IMPACT

In order to provide a qualitative and equitable assessment of the proposed development, this section considers the proposed development in the context of the likely impacts upon the receiving environment should the proposed development not take place.

A *'do nothing'* impact would result in the subject lands remaining in a green-field state and undeveloped. This would be an underutilisation of the site from a sustainable planning and development perspective, particularly considering the location of the lands and their zoning for residential and neighbourhood centre development with areas of green space. The status of the environmental receptors described throughout this EIAR document would be likely to remain unchanged. The potential for any likely and significant adverse environmental impacts arising from both the construction and operational phases of the proposed development would not arise.

In terms of the likely evolution without implementation of the project as regards natural changes from the baseline scenario, it is considered there would be limited change from the baseline scenario in relation to population (human beings) and human health based on ongoing trends observed in the surrounding area and the national context.

However, similarly the potential for any likely and significant positive environmental impacts arising from both the construction and operational phases of the proposed development would also not arise. The site is zoned for residential and open space purposes within the County Development Plan, with an objective to provide for a neighbourhood centre, and the proposed use of the site is considered to be in accordance with the proper planning and sustainable development of the area.

A 'do nothing' scenario would involve the subject site, which is zoned for residential development, remaining in its current predominantly green-field state, and remaining underutilised.

The local economy would not experience the direct and indirect positive effects of the construction phase of development, including employment creation. The local construction sector and associated industries and services would be less viable than they might otherwise be.

Failure to deliver the proposed residential units would result in existing housing need and demand remaining unmet. The new pedestrian and cycle links, neighbourhood centre including childcare facility, and public open spaces to be provided in the development and serving the wider area would also not be provided.

3.8 AVOIDANCE, REMEDIAL & MITIGATION MEASURES

Avoidance, remedial and mitigation measures describe any corrective or mitigative measures that are either practicable or reasonable, having regard to the potential likely and significant environmental impacts.

Construction Phase

A range of construction related remedial and mitigation measures are proposed throughout this EIAR document with reference to the various environmental topics examined and the inter-relationships between each topic. These remedial and mitigation measures are likely to result in any significant and likely adverse environmental impacts on population and human health during the construction phases being avoided. Readers are directed to Chapter 13 of this EIAR document which summarises all of the remedial and mitigation measures proposed as a result of this EIAR.

POP & HH CONST 1: In order to protect the amenities enjoyed by nearby residents, premises and employees a Construction and Environmental Management Plan (including traffic management) should be prepared by the contractor and implemented during the construction phase.

Operational Phase

The operation phase is considered to have likely positive impacts on human beings in relation to the provision of additional residential units, neighbourhood centre facilities, and high-quality open space and pedestrian/cyclist facilities to cater for the demands of a growing population and encourage active travel modes in accordance with the principles of sustainable development and residential zoning objectives pertaining to the site.

3.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

This section allows for a qualitative description of the resultant specific direct, indirect, secondary, cumulative, short, medium and long-term permanent, temporary, positive and negative effects as well as impact interactions which the proposed development may have, assuming all mitigation measures are fully and successfully applied. It should be noted that in addition to remedial and mitigation measures, impact avoidance measures have also been built in to the EIA and project design processes through the assessment of alternatives described in Chapter 2 of this EIAR document.

Construction Phase

The construction phase of the proposed development will primarily consist of site clearance, excavation and construction works, which are likely to take place over 10 year duration of the planning permission which is sought, which will be largely confined to the proposed development site. Notwithstanding the implementation of

remedial and mitigation measures there will be some minor temporary residual impacts on population (human beings) and human health most likely with respect to nuisance caused by construction activities.

It is anticipated that subject to the careful implementation of the remedial and mitigation measures proposed throughout this EIAR document any adverse likely and significant environmental impacts will be avoided. Positive impacts are likely to arise due to an increase in employment and economic activity associated with the construction of the proposed development. As outlined above, the construction phase will have both direct and secondary positive economic impacts in this regard.

The overall predicted likely and significant impact of the construction phase will be short-term, temporary and likely to be neutral.

Operational Phase

The proposed development will result in a generally positive alteration to the existing undeveloped site in terms of the provision of residential units, neighbourhood centre facilities, and a childcare facility to serve the growing population of the area in accordance with the objectives of the County Development Plan and national and regional planning policy.

Positive impacts on population and human health will include health benefits associated with the provision of a significant quantity of open space, a highly permeable layout which encourages walking and cycling, amenity and recreational facilities.

The implementation of the range of remedial and mitigation measures included throughout this EIAR document is likely to have the impact of limiting any adverse significant and likely environmental impacts of the operational phase of the proposed development on population and human health.

3.10 MONITORING

In relation to the impact of the development on population and human health it is considered that the monitoring measures outlined in regards to the other environmental topics such as water, air quality and climate and noise etc. sufficiently address monitoring requirements.

3.11 REINSTATEMENT

While not applicable to every aspect of the environment considered within the EIAR, certain measures may be proposed to ensure that in the event of the proposal being discontinued, there will be minimal impact to the environment.

There are no reinstatement works proposed specifically with respect to population and human health.

3.12 INTERACTIONS

As noted above, there are numerous inter-related environmental topics described in detail throughout this EIAR document which are of relevance to human health. This chapter of the EIAR has been instructed by updated guidance documents reflecting the changes within the 2014 EIA Directive. These documents include the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018) and the Draft Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA in August 2017. Therefore, in line with the guidance documents referred to, this chapter of the EIAR focuses primarily on the potential likely and significant impact on Population and Human Health in relation to health effects/issues and environmental hazards from the other environmental factors and interactions that potentially may occur.

Where there are identified associated and inter-related potential likely and significant impacts which are more comprehensively addressed elsewhere in this EIA document, these are referred to. However, the reader is directed to the relevant environmental topic chapter of this EIA document for a more detailed assessment.

3.13 DIFFICULTIES ENCOUNTERED IN COMPILING

No significant difficulties were experienced in compiling this chapter of the EIA document.

3.14 REFERENCES

Regional Planning Guidelines for the Greater Dublin Area 2010-2022.
Draft Regional Spatial and Economic Strategy for the EMRA, 2018.
Meath County Development Plan 2013-2019 (Including the Dunshaughlin LAP).
2018 Labour Force Survey Q2 – www.cso.ie.
2018 Labour Force Survey Q1 – www.cso.ie.
2017 Labour Force Survey Q4 – www.cso.ie.
ESRI Quarterly Economic Commentary, Autumn 2018.
ESRI Quarterly Economic Commentary, Spring 2018.
ESRI Quarterly Economic Commentary, Summer 2018.
Central Statistics Office www.cso.ie.
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