

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 Luke Wymer, BA, MRUP, Adv. Dip Planning and Environmental Law, Dip. Project Management, MIPI, Senior Planner at John Spain Associates, Planning and Development Consultants and contributed to and reviewed by Paul Turley, BA, MRUP, Dip Environmental & Planning Law, MIPI, Executive Director at John Spain Associates, Planning & Development Consultants. This chapter also reflects findings within other EIAR chapters prepared by the EIAR team as set out below.

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 consider any 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 Spatial and Economic Strategy for the Eastern and Midlands Regional Assembly, and the Meath County Development Plan 2013-2019.

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 Labour Force Survey for Q2 2019, indicated that there was an annual increase in employment of 45,000 or 2% in the year to quarter 2 2019, bringing total employment to 2,300,000. This compares with an annual increase of 3.7% or 81,200 in employment in the previous quarter and an increase of 3.4% or 74,100 in the year to Q2 2018. The increase in total employment of 45,000 in the year to Q2 2019 was represented by an increase in full-time employment of 39,300 (+2.2%) and an increase in part-time employment of 5,700 (+1.3%) (source CSO.ie) representing an improvement in the quality and quantity of employment in the economy.

The Labour Force commentary provided by the CSO reveals ongoing trends towards reduced short and long term unemployment – the long-term unemployment rate decreased from 2.0% in Q2 2018 to 1.7% in Q2 2019

Unemployment decreased by 13,600 (-9.4%) in the year to Q2 2019 bringing the total number of persons unemployed to 130,800. The CSO report states that this is the twenty eighth quarter in succession where unemployment has declined on an annual basis. The ESRI's latest *Quarterly Economic Commentary* states that unemployment is expected to decline further in 2020.

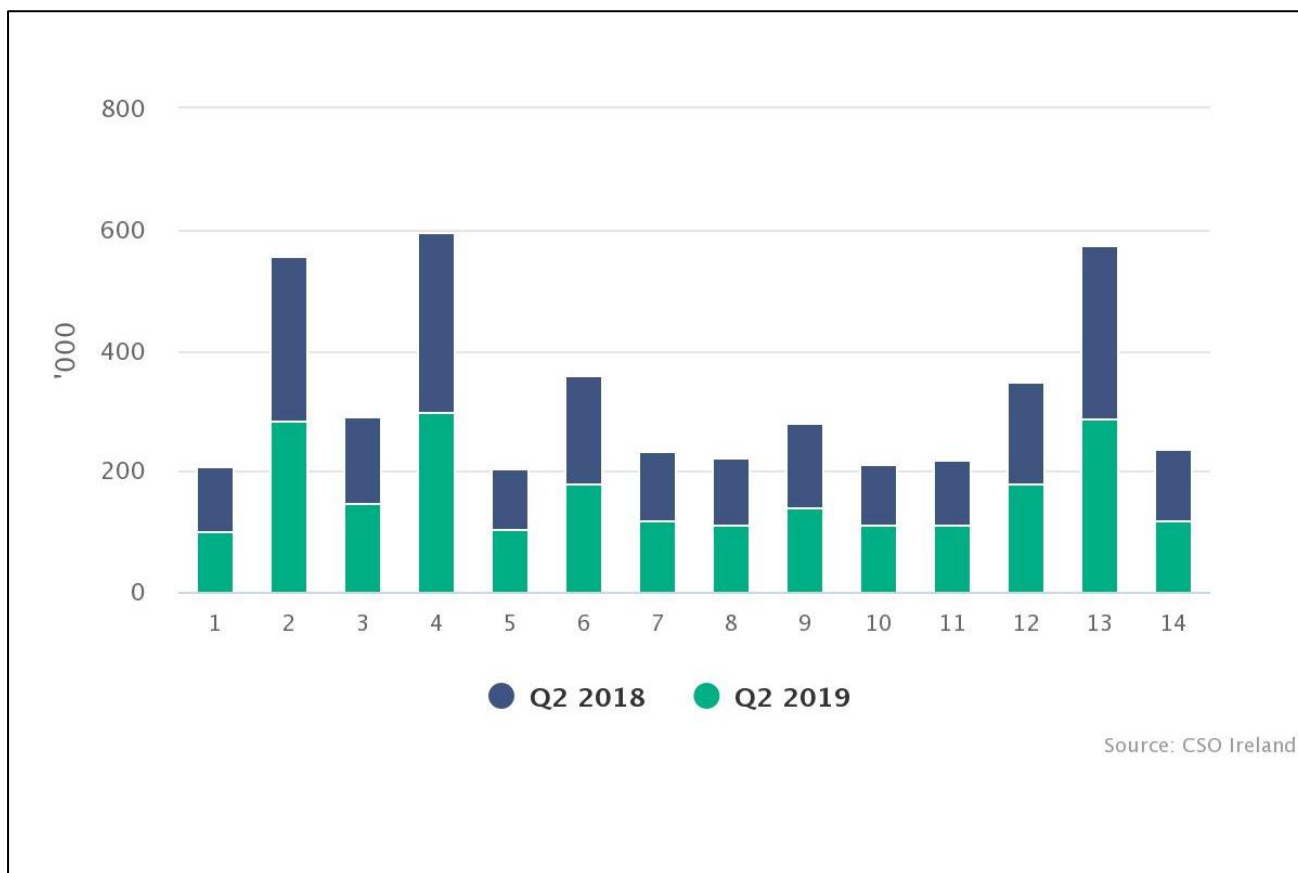


Figure 3.1: Persons aged 15 years and over in employment – Quarter 2-2018 – Q2-2019

The ESRI Quarterly Commentary for Summer 2019 further indicates that household consumption is set to continue benefitting from elevated levels of employment and increase in earning over the next two years, although the commentary notes the risks associated with international socioeconomic and political events such as Brexit and the risks to the domestic economy associated with a potential no-deal Brexit scenario.

The ESRI Quarterly Commentary notes strong growth in the domestic economy which is forecasted to be c. 4% for the present year. The unemployment rate has fallen below 5 per cent for the first time since 2007 and it is expected that it will continue to drop into 2020. This forecast, however, is subject to the assumption that the United Kingdom remains in the European Union.

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 intercensal period, 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. The subject site lies adjacent to the urban settlement of Drogheda, (as defined by the built up area for the purposes of the census), and within the electoral division of St Mary’s, which takes in part of the existing built up areas of Drogheda, Mornington and Bettystown, and surrounding rural lands.

Table 3.1: Population change in the State, Meath County, Louth County, Drogheda ED and Drogheda 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
Louth County	122,897	128,884	4.9
Drogheda Settlement	38,578	44,052	14.2
St Mary’s Electoral Division	10,769	11,864	10.1

Figure 3.2: Immediate Urban Settlement of Drogheda (Source census.cso.ie/sapmap_2016/)

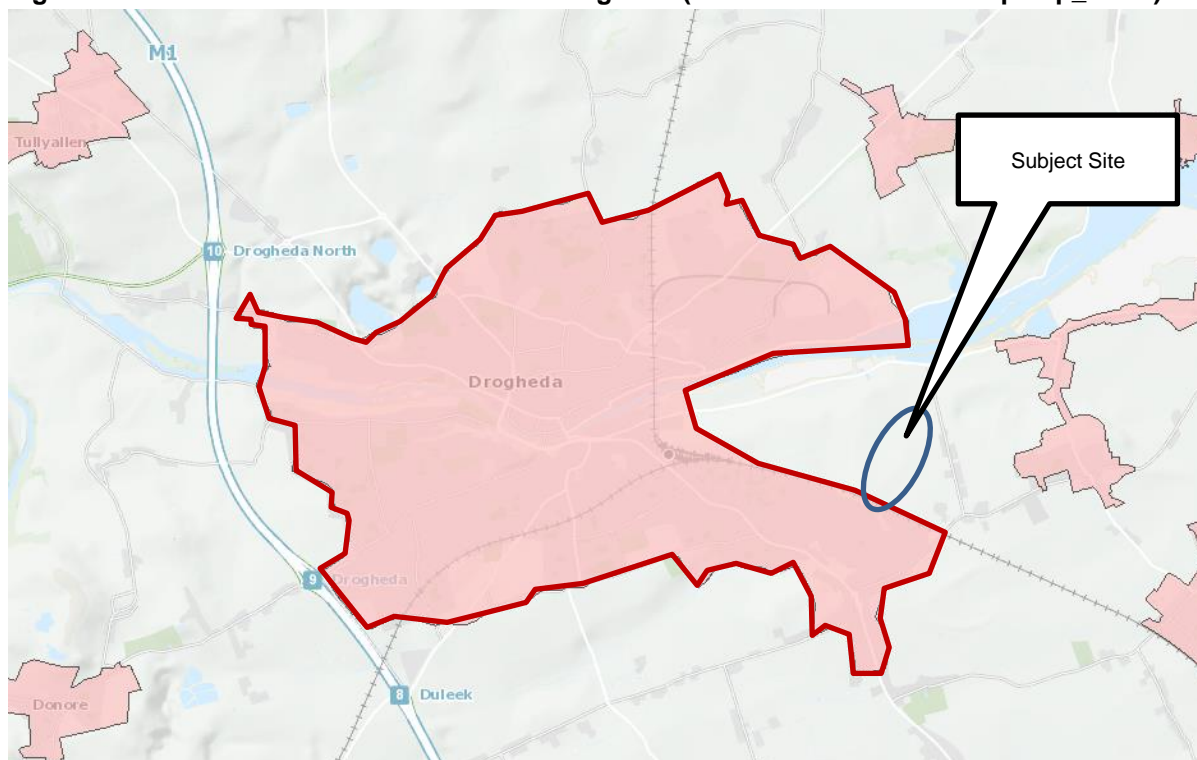


Figure 3.3: Drogheda Settlement (Source census.cso.ie/sapmap_2016/)

The CSO data illustrates that the population of the Irish State increased by 3.8% between 2011 and 2016, 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%. County Louth similarly had a higher growth in population than the State average at a rate of 4.9%

Population growth in Drogheda Settlement, and St Mary’s electoral division were both higher than the state and county averages over the intercensal period. This is in line with the settlement status and zoning of lands in Drogheda, which is designated as a node for regional growth under the RSES for the Eastern and Midlands Regional Assembly.

Pobal deprivation mapping of the area surrounding the subject site (see figure 3.2 below) reveals an area surrounding the subject site which is generally marginally above average (with some affluent areas), with no areas in the immediate vicinity which are disadvantaged. As can be seen in the figure however, areas closer to the centre of Drogheda town are generally more disadvantaged with some areas very disadvantaged further to the west of the subject site. The data represented in the figure below originates from the 2016 census and is represented by small area.

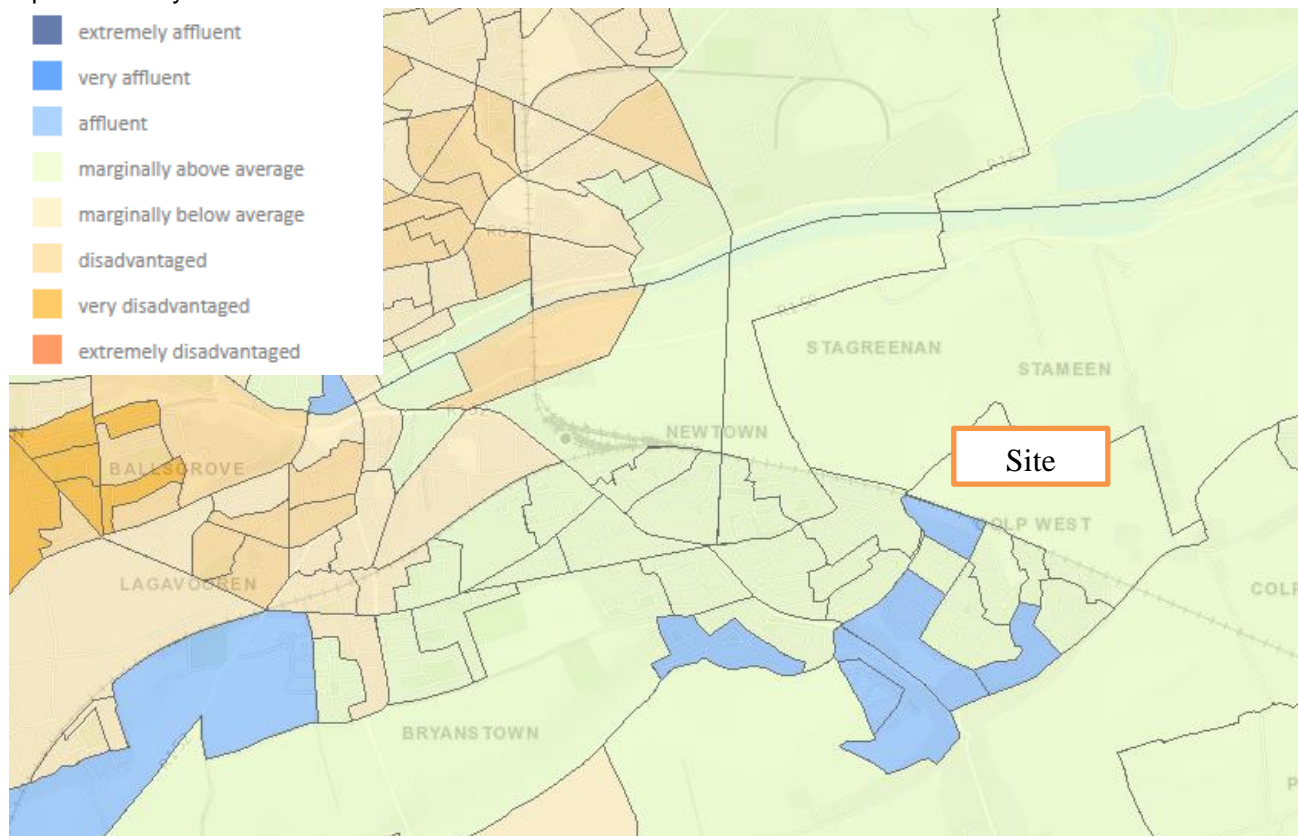


Figure 3.2: Pobal deprivation mapping of the area surrounding the subject site.

3.3.4 Land Use & Settlement Patterns

The subject site is strategically located along the Dublin-Belfast Corridor, southeast of Drogheda Town Centre, adjacent to the Belfast – Dublin rail line, and within a 30-minute drive of Dublin Airport. MacBride railway station is located approximately 2.2km north west of the subject site.

The site is located on zoned lands at Colp West, Drogheda, Co Meath, and to the south of the River Boyne. The surrounding area is characterised by agricultural, residential and educational land uses, with some commercial development also.

The site is located north of Colpe Road and to the west of Mill Road and Gaelscoil an Bhradain Feasa and is bordered to the south west by the Dublin-Belfast railway line. The site is located northwest of the permitted commercial development at Colpe Road (Reg Ref: LB/180620) which included road infrastructure and site services including water supply, foul drainage and surface water drainage. The proposed site comprises of a series of large fields which are predominantly greenfield agricultural 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 and III Directive sites (96/82/EC & 2003/105/EC & 2012/18/EU) 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. Recital 15 of the EIA Directive states that:

In order to ensure a high level of protection of the environment, precautionary actions need to be taken for certain projects which, because of their vulnerability to major accidents, and/or natural disasters (such as flooding, sea level rise, or earthquakes) are likely to have significant adverse effects on the environment. For such projects, it is important to consider their vulnerability (exposure and resilience) to major accidents and/or disasters, the risk of those accidents and/or disasters occurring and the implications for the likelihood of significant adverse effects on the environment. In order to avoid duplications, it should be possible to use any relevant information available and obtained through risk assessments carried out pursuant to Union legislation, such as Directive 2012/18/EU of the European Parliament and the Council¹ and Council Directive 2009/71/Euratom², or through relevant assessments carried out pursuant to national legislation provided that the requirements of this Directive are met.

The 2017 EPA Draft Guidelines on the information to be contained in an EIAR refer to major accidents and/or disasters in a number of sections:

Characteristics of the Project – the draft guidelines state that the project characteristics should include “a description of the Risk of Accidents – having regard to substances or technologies used.”

Impact assessment - the draft guidelines state that the impact assessment should include “the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)”.

Likelihood of Impacts - the draft guidelines state the following:

“To address unforeseen or unplanned effects the Directive further requires that the EIAR takes account of the vulnerability of the project to risk of major accidents and / or disasters relevant to the project concerned and that the EIAR therefore explicitly addresses this issue. The extent to which the effects of major accidents and / or disasters are examined in the EIAR should be guided by an assessment of the likelihood of their occurrence (risk). This may be supported by general risk assessment methods or by systematic risk assessments required under other regulations e.g. a COMAH assessment.”

The chapter identifies and assesses the likelihood and potential significant adverse impacts on the environment arising from the vulnerability of the proposed development to risks of major accidents and / or natural disasters. It considers whether the proposed development is likely to cause accidents and / or disasters and its vulnerability to them.

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.

Standard construction practices will be employed throughout the construction phase. The subject lands are not proximate to any Seveso/COMAH designated sites. The closest Seveso site is the Flogas facility at Marsh Road, which is approximately 1.4 kilometres from the subject site. This places the subject site significantly outside the consultation zone for this Seveso site (600 metres). A further site, located adjacent to the Flogas site (Maxol Ltd) has a consultation zone of 400 metres, which the subject site also falls well outside.

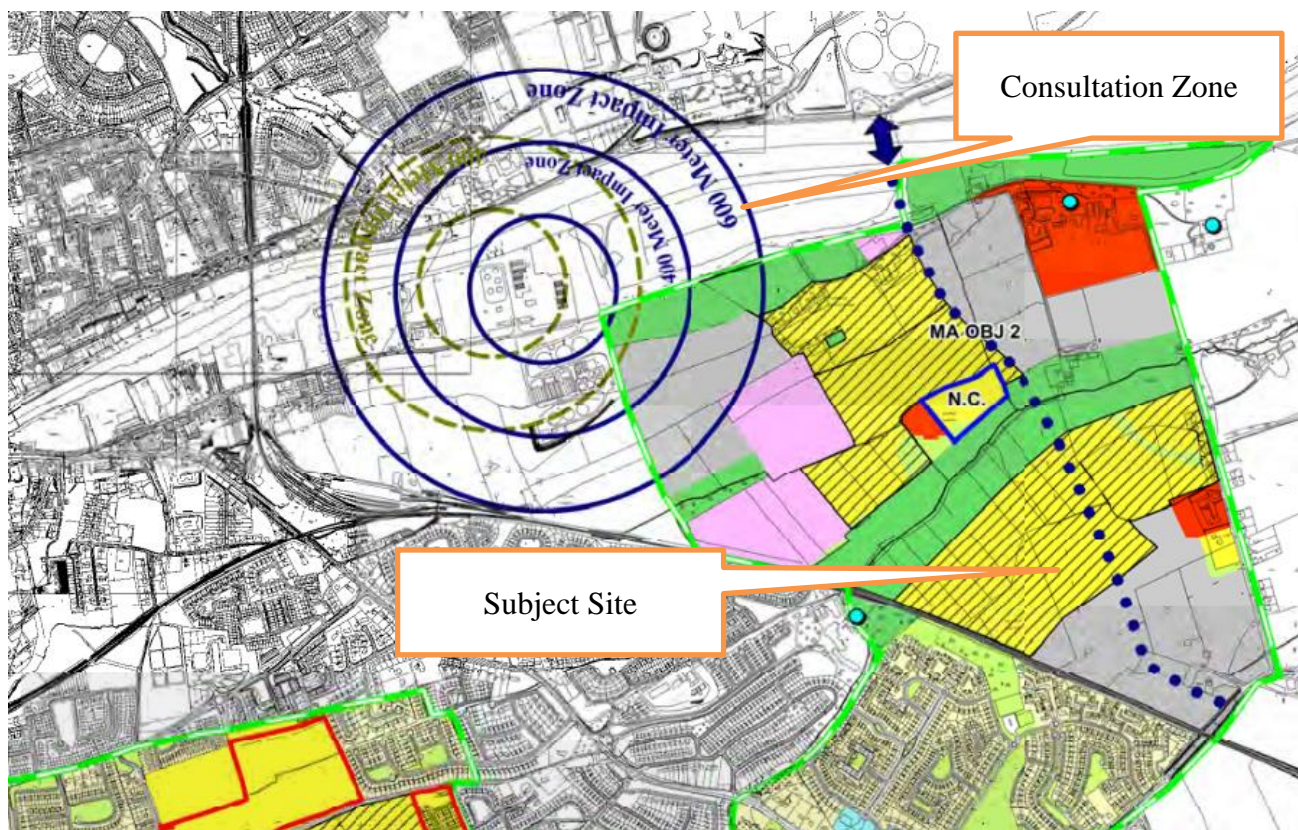


Figure 3.3: Extract from Development Plan zoning map indicating distance from consultation zones

The ECFRAMS and ICPSS indicates that the subject site is within Flood Zone C, with a low probability of flooding.

The proposed development is not considered particularly vulnerable to major accidents and/ or disasters, and therefore the expected effects are considered to be negligible.

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:

The proposed development comprises 357 no. residential units and a childcare facility on a site of c. 13.44hectares at Colp West, Drogheda, Co Meath.

The 357no. residential units proposed consist of 169 no. houses, 52 no. duplex units and 136 no. apartments.

The proposed childcare facility is a two storey building with a GFA of 439 sq.m. The proposed houses are 2 storeys in height and the duplex/apartment blocks are 3 - 6 storeys in height.

The development includes associated site and infrastructural works including all associated road infrastructure, foul and surface / storm water drainage, surface water management and storage features, car parking spaces, public open space including a linear park, bin and bike stores, substations, landscaping and boundary treatments and all ancillary works.

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 result in 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 c. 10.6 litres per second as set out within the Engineering Services Report prepared by DBFL Consulting Engineers.

It is proposed to connect to the approved 200mm diameter watermain on the Link Street, with 150mm and 100mm diameter watermains provided along local streets. The water main layout and details are in accordance with Irish Water Connection and Developer Services, 'Code of Practice for Water Infrastructure' and 'Water Infrastructure Standard Details'.

Foul flows from the development will outfall to the existing 900mm diameter foul outfall sewer which crosses the railway line to the east. This sewer continues in a northerly direction to Drogheda Wastewater Treatment Works adjacent to Marsh Road. The proposed connection to the existing foul sewer is within lands outside of the control of the applicant, however there is an existing wayleave agreement in place to facilitate a connection to this sewer.

As set out within the infrastructure design report prepared by DBFL Consulting Engineers, surface water runoff from the proposed residential development will be attenuated to Qbar in accordance with the recommendations of the GSDS, with surface water runoff exceeding the allowable outflow rate stored for up to a 1% AEP (Annual Event Probability) rainfall event. Surface water storage will be provided in an underground storage system, such as 'Stormtech' or similar approved systems and in an over ground system in the form of shallow detention basins above the 'Stormtech' units.

Primary SuDS features proposed for the management of surface water runoff from the subject site include swales, bio-retention areas and permeable paving which operate under normal rainfall events. These features encourage groundwater recharge and are sympathetic to the environment. They provide storage that not only attenuates the flow but also permits settlement of coarse silts, with plants in the water to promote settlement. Runoff would also be treated by adsorption of particles by aquatic vegetation or by soil, and by biological activity. Secondary SuDS features proposed for the subject site include 'Detention Basins' to store runoff between a 1 in 30-year and 1 in 100-year return period event.

The proposals for potable, waste, and surface water on within the proposed development will ensure effective management of water within the scheme. The potential impact on population and human health as a result of the elements of the development associated with water and water infrastructure is therefore considered to be negligible for the operational phase of the development.

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 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 directly or indirectly generate air emissions that would have any significant adverse impact on local ambient air quality. Air dispersion modelling of operational traffic emissions was undertaken to assess the impact of the development with reference to EU ambient air quality standards which are based on the protection of human health. As demonstrated by the modelling results, emissions as a result of the proposed development are

compliant with all National and EU ambient air quality limit values and, therefore, will not result in a significant impact on human health. The receptors modelled represent the worst-case locations impacted by additional traffic generated by the proposed development, all other locations, such as Julianstown or similar areas will have a lesser impact than the receptors modelled in this assessment.

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 distance of the main residential elements of the scheme from other sensitive land uses.

Operational Phase

The site is zoned for residential development and there are no specific amenity, landscape or visual objectives pertaining to the site. The proposed development is consistent with the zoning and existing and emerging character and land use of the surrounding area. The visual impact of the proposed development on the surrounding area is considered to be minimal. No significant amenity, landscape or visual effects are likely to arise from the proposed development.

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 357 no. residential dwellings, childcare facility 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 357 no. residential units and a childcare facility and associated open space. This will provide accommodation for approximately 928 persons, based upon an estimated occupancy rate of c. 2.6 persons per unit. 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 will be served by good quality road infrastructure, with ease of access to the Southgate shopping centre and 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 Drogheda, which the proposed development will be able to avail of. The proposed development will provide new 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 soil. 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 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 the childcare facility.

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 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 an outline Construction and Environmental Management Plan (CEMP) is submitted herewith. 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 have been 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 including DMURS. 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

Standard construction practices will be employed throughout the construction phase as outlined in the accompanying outline Construction Environmental Management Plan prepared by DBFL Consulting Engineers. The subject lands are not proximate to any Seveso/COMAH designated sites, the nearest site being c. 1.5 kilometres away, the development falling well outside the nearest zone of notification.

The ECFRAMS and ICPSS indicates that the subject site is within Flood Zone C, with a low probability of flooding.

Hazardous materials used during construction will be appropriately stored so as not to give rise to a risk of pollution. In the event of storms or snow, construction activity can be halted and the site secured.

The Construction Environmental Management Plan, as well as good housekeeping practices will limit the risk of accidents during construction. Fire safety will be dealt with under the Fire Safety Code at design and construction stage.

Operational Stage

The proposed development is not considered particularly vulnerable to major accidents and/or disasters, and therefore the expected effects are considered to be negligible.

The subject lands are not proximate to any Seveso/COMAH designated sites, the nearest site being c. 1.5 kilometres away, the development falling well outside the nearest zone of notification.

The ECFRAMS and ICPSS indicates that the subject site is within Flood Zone C, with a low probability of flooding.

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.

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.

3.6 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. In this regard, existing and permitted developments in the vicinity have been reviewed which could have a cumulative impact along with the current proposal in terms of population and human health. These include the permitted commercial block to the south of the main SHD site area (permitted under Reg. Ref.: LB/180620), the permitted temporary school adjoining the development site (permitted under Reg. Ref.: Reg. Ref.: LB190739), the existing new primary school adjoining the site (permitted under 2. Meath County Council Reg. Ref.: SA130927 & ABP Reference: PL17.243331), and permitted residential developments in the vicinity including that which was permitted to the northwest under Louth County Council Reg. Ref.: 17387 at Newtown.

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 357 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 when considered in the context of other developments 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 at an urban centre which is designated for growth, the accessibility of the subject site from the town centre of Drogheda, 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.

3.7 '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 (including the proposed bridge link over the railway), 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 population and human health 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.

The main high level interactions between Population and Human Health and other environmental factors include Transportation, Air and Climate, Water, and Noise and Vibration.

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. However, the reader is directed to the relevant environmental topic chapter of this EIAR document for a more detailed assessment.

3.13 DIFFICULTIES ENCOUNTERED IN COMPILING

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

3.14 REFERENCES

Regional Spatial and Economic Strategy for the EMRA, 2018.
Meath County Development Plan 2013-2019
2019 Labour Force Survey Q2 – www.cso.ie.
2019 Labour Force Survey Q1 – www.cso.ie.
2018 Labour Force Survey Q4 – www.cso.ie.
ESRI Quarterly Economic Commentary, Summer 2019.
ESRI Quarterly Economic Commentary, Spring 2019.
Central Statistics Office www.cso.ie.
Pobal.ie.