



Future Analytics

Environmental Impact Assessment Report (EIAR)

Volume 1 - Non-Technical Summary

In respect of a

**Proposed Strategic Housing Development (SHD) on
lands to the Immediate South of Ratoath, Co.
Meath**

On behalf of

Beo Properties Limited

May 2022

Chapter 2 – Planning Policy Context

The proposed developments have been prepared in the context of relevant local, regional, and national policies and objectives. The accompanying planning report included as part of this application provides a detailed review of these policies and objectives. However, for the purposes of the EIAR, a summary of the relevant policies and objectives is provided within this section.

Given that the subject site is south of Ratoath town centre, the *Meath County Development Plan 2021 - 2027* (MCDP) is the current statutory development plan for the area.

In addition, the East Municipal District Local Area Plan 2017 is also applicable to both development sites, as well various regional and national guidelines and frameworks. This chapter is a summary of the relevant policies and objectives pertaining to both development sites.

Chapter 3 – Description of Project Alternatives

The proposed development is described in detail in Chapter 1 of the EIAR. In summary, the proposed development will principally consist of the construction of 452 no. residential units and all associated ancillary accommodation, open space and site and development works. The total gross floorspace (GFA) of the overall development is c.55,714.4 (c.59,177 with ancillary uses included) of which c.54,175 is residential and c.1,539.4 is non-residential uses.

The proposed development will principally consist of;

- 150 no. semi-detached and terraced dwelling houses (3-bed - with option to convert attic in 89 no. units, thereby creating 4-bed houses)
- 182 no. maisonettes (15 no. 1-bed & 167 no. 3-bed)
- 120 no. apartments (100 no. 2-bed and 20 no. 3-bed)(with balconies/terraces across all elevations),

Heights range from 2-3 storey terraced houses and 3-4-storey duplex buildings (1 storey ground floor units and 2 storey first and second floor units; 2 storey ground and first floor units and 2 storey second and third floor units) and 6-storey apartment blocks.

The scheme is presented across 12 neighbourhoods (A-H & J-M), each with its own designated central communal open space, car and cycle parking (746 no. car parking spaces and 816 no. cycle parking space).

Planning permission is also sought for a second phase of the Ratoath Outer Relief Road (RORR) (c. 22,825 sq. m), that will run along the southern boundary of the application site. The section of the RORR proposed as part of this development runs from a new signalised junction on the R155, east for approximately 1100m, to the end of the site boundary. The proposed roadway will provide access for the site in the form of two priority controlled junctions.

A series of pedestrian and cycle connections are provided to site from the Fairyhouse Road (R155), Glasarn Lane and the new RORR as well as a pedestrian link to Carraig Na Gabhna. The site provides permeability through its internal road and shared surface networks, including pedestrian and cycle paths (implementing a segregated pedestrian and cycle path proposed

along the RORR) but also within the site. A greenway will be provided across the site that will connect the R155 Fairyhouse Road with Garraig Na Gabhna road and Glascarn Lane. This greenway will provide pedestrian/cyclist connection to the newly proposed pedestrian/cyclist infrastructure along the RORR.

All associated site development and infrastructural works, services provision, foul and surface water drainage, an extension to the foul water network, surface water and watermain along the RORR required to facilitate the development, access roads/footpaths, lighting, landscaping and boundary treatment works and all ancillary works necessary to facilitate the development is provided.

The proposed development also includes 2.247 ha of landscaped public open space which includes a civic plaza (0.513 ha), greenway spine (1.087 ha) and parklands (0.301 ha); solar PV Panels in various locations; and public lighting.

All associated site development works above and below ground including hard and soft landscaping, roads/footpaths/cycle paths, play areas, boundary treatments, SuDs, pumping station, EV charging points, green roofs, ESB substations and services to facilitate the development.

EIAR Chapter 2 also includes a summary of alternatives which were considered for the proposed development of the subject lands. These options were considered as the scheme progressed, and the key considerations and amendments to the design having regard to the key environmental issues pertaining to the lands are summarised in this section.

The environmental issues which most informed the design process included the qualities of the public open spaces to be delivered, the historic use of the site and incorporating proposals in the design which help create a sense of place that reflects the past with an emphasis on retaining natural habitats and a dedication to the promotion of sustainable methods of movement and transport. These issues informed the consideration of unit mix, density, layouts, building design, road and access arrangements, landscaping and drainage design up to the formalisation of the final scheme which is submitted to An Bord Pleanála for approval. Having examined various reasonable alternative layouts and designs it is considered that the proposed scheme is the preferable option in terms of the sustainable development of the site in line with the approved residential zoning objective.

It will provide 452 new homes at a density of approximately 42 dwellings per hectare while enhancing the connectivity and permeability of the site to open up the new neighbourhood to the adjacent lands and subsequently the existing Ratoath community. The layout will promote active and sustainable modes of transport and a varied mix of unit types, sizes and designs will provide a place for a diversity of inhabitants to form a vibrant new and sustainable community.

Chapter 4 – Population and Human Health

This chapter examines the potential population and human health effects and mitigation measures of the proposed residential development at Ratoath, Co. Meath. The purpose of this assessment is to identify and assess the potential population, human health and well-being effects of the proposed

project, and to deliver evidence-based recommendations that maximize health benefits and mitigate or remove potentially negative impacts associated with the proposed developments.

The demographic and socio-economic profile of the receiving environment and potential impact of the proposed developments on population, i.e. human beings, and human health is discussed in detail. Any likely negative impacts would be addressed through mitigating factors and actions to be applied to minimise these effects.

Chapter 5 – Biodiversity

Methodology

The Biodiversity assessment has been undertaken by Altemar Limited. It assesses the biodiversity value of the proposed development area and the potential impacts of the development on the ecology of the surrounding area and within the potential zone of influence (ZOI).

A pre-survey biodiversity data search and preliminary ecological appraisal was carried out. This included examining records and data from the National Parks and Wildlife Service (NPWS), National Biological Data Centre (NBDC) and the Environmental Protection Agency (EPA), in addition to aerial, 6 inch maps and satellite imagery. A habitat survey of the site was undertaken within the appropriate seasonal timeframe for terrestrial fieldwork. Numerous field surveys were carried out between 2019 and 2022. Habitat mapping was carried out according to Fossitt (2000) using ArcGIS 10.5 and displayed on Bing satellite imagery

Baseline

The site is not within a designated site. The nearest European site to the proposed development is 12.8 km away (Rye Water Valley Carton SAC). There is no direct or indirect hydrological pathway or biodiversity corridor from the proposed development site to this SAC. There is an indirect pathway via the surface water network to Malahide Estuary (Malahide Estuary SAC and Malahide Estuary SPA) as there is Surface water from the south-west portion of the site will drain naturally to the drainage ditch, which travels under the Fairyhouse Road where it then travels in a westerly direction towards the Bradystown Stream, which ultimately connects to the Ratoath Stream and the Broadmeadow Stream. The Broadmeadow Stream outfalls to Malahide Estuary. The remainder of the site will discharge attenuated flows to the existing surface water network on the Ratoath Outer Relief Road to the north-east.

The proposed development site is primarily a series of agricultural grassland surrounded by hedgerows in addition to areas that have undergone recent construction activity and reprofiling. The drainage ditches (acting as a biodiversity corridor) and hedgerows would be seen as the most important habitats on site, not because of the species noted but, by the linear nature of the elements providing biodiversity corridors and bat foraging routes to the surrounding areas. No other habitats of conservation significance were noted within the site outline.

No rare or threatened plant species were recorded in the vicinity of the proposed site. No invasive plant species that could hinder removal of soil from the site during groundworks, such as Japanese knotweed, giant rhubarb, Himalayan balsam or giant hogweed were noted on site. A single soprano pipistrelle was observed emerging from a large ash tree that is covered in ivy in the central/western portion of the site. This tree and the corresponding hedgerow are to be retained. Foraging activity of soprano pipistrelle, common pipistrelle and Leisler's bats were noted along the hedgerows on site. No badgers or badger activity was noted on site. Otters (*Lutra lutra*) activity or holts were not noted on site. The common frog (*Rana temporaria*) was not observed on site. However, frogspawn was noted beside the drainage ditch. No rare or bird species of conservation value were noted during the field assessment.

Predicted Impacts

The construction of the proposed development would potentially impact on the existing ecology of the site and the surrounding area. These potential construction impacts would include impacts that may arise during site clearance, re-profiling of the site, and the building phases of the proposed project. The development will result in the removal of the majority of internal hedgerows in addition to some perimeter hedgerows which would form nesting and foraging habitats and drainage ditches for local biodiversity. The removal of hedgerows will result in the removal of foraging areas and an increase in lighting would be expected to reduce bat foraging on site. Clearance, reprofiling and construction of the site will result in the loss of nesting habitat in addition to foraging habitat for birds

Once construction, all on site drainage will be connected to separate foul and surface water systems. Surface water run-off will comply with SUDS. The biodiversity value of the site would be expected to improve as the landscape measures mature. It would be expected that the localised ecological impacts in the long-term would be minor adverse once the landscape has established. Mitigation measures are outlined and include measures to protect surface waters, mammals , birds and flora.

Residual Impact

The application of the mitigation measures outlined in this EIAR will help reduce the impact on biodiversity ecology such significant impacts do not arise. It is considered that, where possible, biodiversity enhancement measures have been incorporated into the design for the benefit of the overall biodiversity value of the site and offset the loss of biodiversity on site. The overall residual impact of the proposed Project on biodiversity will be a minor adverse, long-term, site, not significant impact. This is primarily as a result of the loss of terrestrial habitats on-site, supported by the creation of additional terrestrial biodiversity features, mitigation measures and landscaping strategy.

Chapter 6 – Land and Soils

The full assessment of land and soil is contained within Chapter 6 of Volume II.

An assessment of the existing soils, geology, and hydrogeology was carried out for the proposed Strategic Housing Development located on a 14.166ha site located in Newtown, Ratoath, Co. Meath. The Ratoath SHD is comprised of a greenfield site currently used for agricultural purposes. The assessment discusses potential impacts on the existing soils, geology, and hydrogeology and was carried out using data collected from a detailed desk study and site-specific assessments.

The aquifer beneath the Site is classified as 'Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones', and the groundwater in the site area has a 'Low' Vulnerability to contamination. The Swords groundwaterbody (GWB) is presently of "Good status" and is "Not at risk" of not achieving the good status by 2027.

Based on the GSI website, the effective rainfall in the vicinity of the Ratoath site is 354.0 to 377.6 mm/year. The reported a rainfall recharge coefficient is 7.5%. (GSI, 2022) due to the presence on the site of poorly drained mineral soils and boulder clays which generally exhibit exceptionally low permeability.

The IGSL site investigation (SI) did not indicate the presence of fill material or evidence of other potential contamination sources on site. However, demolition wastes and/or fill material may be present in the area of a historic building which was located on the site adjacent to Fairyhouse Road in the 1800s.

The SI indicated the presence of 0.2 m of topsoil over firm to stiff, brown, gravelly CLAY which extended to approximately 2 mbGL. Minor variations were noted in one of the pits where boulder clay became sandier. Stiff to very stiff, grey-black, gravelly CLAY was present from approximately 2 mbGL to approximately 8.1 mbGL. Cobbles and the occasional boulders were encountered. Recovery below the

gravelly clay layer was limited, but returns were identified as grey-black, sandy, cobbly gravel. From 10.00 to 16.50 mbGL alternating layers of gravel and sand were noted with some adverse 'blowing' noted in the fine sand layers.

There are 2 No. wells located within or near the site, one for domestic use and one for an unknown use. There are at least 26 other boreholes/wells within a 2km radius of the site.

The nearest designated area of conversation is the Rye Water Valley/ Carton SAC (Site Code 001398) located 13.1km to the south. The nearest proposed Natural Heritage Area (pNHA) is the Royal Canal located 12.3km south of the Site (Site Code 002103).

The potential contamination sources identified on Site are primarily those associated with demolition debris or fill material from a former structure near the western site boundary and from agricultural land usage on Site. The potential contamination from nearby properties relate to residential fuel usage and chemicals from agricultural land usage.

There will be no significant sources of potential contamination present on the Site during the operational phase of the development.

The potential effects of the proposed development on the Land and Soils environment include:

Construction Phase:

- Contamination or cross-contamination while moving and stockpiling potentially impacted soils on Site.
- Pollution of groundwater/watercourses/soils by accidental spillage of oils/diesel from temporary storage areas, or where construction equipment is maintained.

Operational Phase:

- Accidental spills on land and soils.

Suitable waste soils management to be implemented to avoid contamination and cross-contamination of any impacted waste soils that may be identified prior to or during site works. All fill and aggregate for the project will be sourced from reputable suppliers as per the project Contract and Procurement Procedures.

The Waste and Construction Environmental Management Plan will be implemented during the construction phase to avoid accidental spills and risk of groundwater/watercourses/ surface water network pollution.

The 'reduce, reuse, and recycle' principles will guide the approach on Site during all times, especially with regard to reusable soils where feasible.

Based on the implementation of the mitigation measures discussed above, the potential for residual impacts on the environment due to site operations is negligible.

The proposed Strategic Housing Development located at Newtown, Ratoath, Co. Meath is a greenfield site south of Ratoath town center. Some activities from the construction phase might pose a risk of negative impact on the Site and its surrounding land and soils if the protective/ avoidance/mitigation measurements are not implemented. However, assuming all protective/ avoidance/mitigation measurements are implemented as per EPA guidance and the Waste and Construction Environmental Management Plan, the proposed development is not likely to give rise to any significant impacts.

The residual impact is assessed to be a slight negative, imperceptible, permanent impact

Chapter 7 – Water

The full assessment of the site conditions with regard to water, hydrology, and hydrogeology is contained within Chapter 7 of Volume II. This assessment was carried out for the proposed Strategic Housing Development site located in Newtown, Ratoath, Co. Meath using data collected from a detailed desk study and site-specific assessments.

The 14.166ha proposed SHD site is a greenfield site currently used for agricultural purposes.

The Site lies within the Fingal East Meath district hydrometric area (HA) which is part of the Eastern River Basin District (ERBD). The Fingal East Meath HA is drained the Rivers Nanny and Delvin and by all streams that enter tidal water between Mornington Point and Sea Mount, Co. Dublin. The Nanny-Delvin catchment encompasses 711 km².

The Site is located within three sub-basins of the Fingal East Meath HA: Ratoath Stream, Fairyhouse Stream, and the Broadmeadow River. The Broadmeadow River is part of the Broadmeadow sub-catchment (Broadmeadow_SC_010) that discharges to the Swords Broadmeadow Estuary.

The Broadmeadow sub-catchment has a Poor 2013-2018 ecological status with elevated orthophosphate and ammonia. The Ratoath and Fairyhouse streams have 'Poor' ecological status and impacted supporting nutrient conditions with elevated orthophosphate. Ammonia is also elevated in Ratoath Stream, and dissolved oxygen levels fail for the Fairyhouse Stream (WFD Application a, 2018).

The 2013 to 2018 WFD reports for Ratoath Stream, Fairyhouse Stream, and Broadmeadow River classify the overall status of these water bodies as 'poor' with an objective to obtain good status by 2027. In addition, these three water bodies are currently 'at risk' of not achieving a good status by 2027 due to significant pressure of nutrients and diffuse urban sources of pollution.

Based on the GSI website, the aquifer beneath the Site is 'Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones'. The groundwater vulnerability beneath the proposed Site is Low.

The effective rainfall in the vicinity of the Ratoath site is 377.6mm/year. The GSI has calculated the recharge coefficient in the immediate area of the Site at 7.50% and has modelled the total recharge to be equivalent to approximately 28 mm/year.

Fairyhouse Stream is located 0.6km south of the Site, Bradystown Stream is 0.3km west of the Site, Ratoath Stream is 1km north of the Site, and Tankardstown stream is over 1km to the east. There are no watercourses within or adjacent to the site boundary; however, there is an existing drainage ditch within the site.

The catchment area for the surface water network is 14.8 ha which includes the subject development and additional land to the west. The site is located within two surface water catchment areas with all surface water runoff on the Site currently draining to onsite drainage ditches. The two catchment areas within the Site are separated by a surface water drain. The northern catchment drains in a northerly direction. The southern catchment drains to the ditch which forms the catchment boundary. From there it flows to the west under Fairyhouse Road and toward Ratoath Stream. The Site is not located in an area which benefits from an Office of Public Works Arterial Scheme.

The site and its vicinity are located in Flood Zone C and are not at risk of fluvial flooding. There have been no records of flooding found for the site vicinity (Meath County Council, 2019). There are no flooding issues within the site and its immediately surrounding area, but Bradystown Stream to the west of the site is located in a flood Zone B, while Ratoath Stream to the north is located in a flood zone A (OPW, 2016). A flood relief scheme is in place in Ratoath along the Broadmeadow River.

The existing site is currently greenfield with no wastewater discharge to the local wastewater infrastructure. New foul and surface water drains will be constructed within the proposed development

and connected to the existing 300mm foul sewer and a 450mm surface water sewer located on the Ratoath Outer Relief Road. These are treated at the Ringsend Wastewater Treatment.

The potential effects of the proposed development on the hydrological and hydrogeological environment include:

Construction Phase:

There is a risk of groundwater/watercourses/surface water network pollution by accidental wastewater effluent spillage when connecting to live sewers and by suspended solids during site preparatory and construction phase works such as excavation .

Pollution of groundwater/watercourses/soils by accidental spillage of oils/diesel from temporary storage areas and construction equipment maintenance and refueling.

Operational Phase:

Accidental spills or contaminated run-off discharged to sewer during daily activities.

The proposed development will result in an increase in water demand on the public water distribution network.

Proper maintenance of the drainage system will be implemented in accordance with CIRIC 753, The SUDS Manual, to reduce any risk of human or mechanical error causing flood risk from blockages.

As part of the proposed development, new surface water and wastewater networks will be constructed and are designed to comply with the Greater Dublin Strategic Drainage Strategy (GSDSDS) requirements.

Suitable waste soils management to be implemented to avoid contamination and cross-contamination of waste soils.

The Waste and Construction Environmental Management Plan will be followed during the construction phase to avoid accidental spills and risk of groundwater/watercourses/ surface water network pollution.

Based on the implementation of the mitigation measures discussed above, the potential for residual impacts on the environment due to site operations is negligible. An independent surface water and wastewater network will be provided for this development and will connect to those on the Ratoath Outer Relief Road.

The proposed Strategic Housing Development located in Newtown, Ratoath, Co. Meath is a greenfield site in agricultural use. Some activities from the construction phase may pose a risk of negative impact on the Site and surrounding hydrology and hydrogeology if the protective/ avoidance/mitigation measurements are not implemented. However, assuming all protective/ avoidance/mitigation measurements are implemented as per relevant guidances and the Waste and Construction Environmental Management Plan, the proposed development will not give rise to any likely significant impacts.

Chapter 8 – Air Quality and Climate

AWN Consulting Limited has been commissioned to conduct an assessment of the likely impact on air quality and climate associated with the proposed residential development at Ratoath, Co. Meath.

In terms of the existing air quality environment, baseline monitoring data available from similar environments indicates that levels of nitrogen dioxide, particulate matter less than 10 microns and less

than 2.5 microns are generally well below the National and European Union (EU) ambient air quality standards.

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Effort Sharing Decision "EU 2020 Strategy" (Decision 406/2009/EC). The EPA state that Ireland had total GHG emissions of 57.7 Mt CO₂eq in 2020. This is 6.73 Mt CO₂eq higher than Ireland's annual target for emissions in 2020. The EPA predict that Ireland can comply with the GHG targets for 2021 – 2030 provided full implementation of the measures outlined within the Climate Action Plan and the use of the flexibilities available.

Impacts to air quality and climate can occur during both the construction and operational phases of the proposed development. With regard to the construction stage the greatest potential for air quality impacts is from fugitive dust emissions impacting nearby sensitive receptors. Impacts to climate can occur as a result of vehicle and machinery emissions. In terms of the operational stage air quality and climate impacts will predominantly occur as a result of the change in traffic flows in the local areas associated with the proposed development.

There are a small number of sensitive receptors in close proximity to the site, directly north of the site boundary along Glascarn Lane. Provided the dust mitigation measures outlined in Appendix 8.2 of Chapter 8 are implemented, dust emissions are predicted to be short-term, negative and imperceptible and will not cause a nuisance at nearby sensitive receptors.

The best practice dust mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed development will be short-term, localised, negative and imperceptible with respect to human health.

Potential impacts to air quality and climate during the operational phase of the proposed development are as a result of a change in traffic flows and volumes on the local road network. The changes in traffic flows were assessed against the UK Design Manual for Roads and Bridges (DMRB) screening criteria for an air quality and climate assessment. The operational phase air quality and climate modelling assessments determined that there is no potential for significant impacts as a result of traffic related to the proposed development. It can therefore be determined that the impact to air quality and climate as a result of altered traffic volumes during the operational phase of the proposed development is localised, negative, imperceptible and long-term in relation to air quality and climate. In addition, the proposed development has been designed to reduce the impact to climate where possible during operation.

As the National and EU standards for air quality are based on the protection of human health, and concentrations of pollutants in the operational stage of the proposed development are predicted to be significantly below these standards, the impact to human health is predicted to be imperceptible, negative and long term.

No significant impacts to either air quality or climate are predicted during the construction or operational phases of the proposed development.

Chapter 9 – Noise & Vibration

This section assesses the likely noise & vibration impacts associated with the proposed Ratoath development at Ratoath, Co. Meath, which includes the Ratoath Outer Relief Road.

The noise impact assessment has focused on the potential outward impacts associated with the construction and operational phases of the proposed development on its surrounding environment, as well as the inward impact of noise on the proposed residential dwellings.

During the main construction phase there is the potential for some temporary significant noise impacts when works are undertaken within 50m of the receptor locations. However, these occurrences will only

be short-term and the vast majority of the construction works will take place at distances from the receptors where no significant impacts are predicted and the construction criteria will be complied with. A schedule of noise mitigation measures including, noise limits and screening will all be employed to ensure any noise and vibration impacts during this phase will be reduced as far as is reasonably practicable.

During the operational phase, the outward noise impact to the surrounding environment will be limited to any additional traffic on the existing surrounding roads, the operation of the new Ratoath Outer Relief Road and any potential plant noise associated with the development.

The impact assessment has concluded that the impact from additional traffic on existing roads due to the proposed development, as well as the operation of the new Ratoath Outer Relief Road will be Not Significant. The resulting impact is of negative, not significant and long-term.

The operational plant noise from the development will be designed to ensure the prevailing background noise environment is not exceeded by plant noise such that potential adverse noise impacts are avoided. Once noise emissions from operational plant and activities are designed in accordance with BS 4142 Methods for Rating and Assessing Industrial and Commercial Sound, resultant residual noise impact from this source will be of negative, not significant, long-term impact.

The potential for inward noise impact on the proposed development has also been assessed. The assessment was carried out with reference to the guidance contained in Professional Practice Guidance on Planning & Noise (ProPG), BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings (BSI); and the local and national Noise Action Plans relevant to the area. The assessment has identified facades where upgraded acoustic glazing will be required.

External amenity noise levels within the development are predicted to meet the guidance noise levels outlined in ProPG.

Chapter 10 – Material Assets: Built Services

Beo Properties Ltd. shall deliver major trunk watermains, surface water and foul water infrastructure to service the Development lands at Ratoath South, including the proposed Ratoath Outer Relief Road (RORR). This infrastructure will be in place prior to the occupation of the developments. Surface water discharge from the site will be limited to greenfield rates through SUDS measures. Power, gas and communications infrastructure is also to be provided on the proposed RORR and the existing road network surrounding the sites and can readily be extended to service the proposed developments. As a result, there will be no appreciable external impacts in terms of built services as a result of the construction of the scheme during either the construction and or operational phases.

Chapter 11 – Traffic and Transportation

The full assessment of the site conditions with regard to traffic and transportation is contained within Chapter 11 of the EIAR. This assessment was carried out for the proposed Strategic Housing Development site located in, Ratoath, Co. Meath using the most recent pre-covid data available locally were successful in obtaining this for a number of the junctions in the study area from Idaso Ltd. The receiving environment is urban in nature. The main transportation arterials in the study area are the Fairyhouse Road, Meadowbank Hill, The Avenue, R155 and Main Street – R125 with the proposed Ratoath Outer Relief Road (RORR) acting as a key link for the area to facilitate access to the proposed development. It is noted that the second phase of the Ratoath Outer Relief Road (RORR) is proposed as part of this development. The section of the RORR runs from a new junction with the R155 east, for approximately 1100m to the end of the site boundary. The site will be accessed from the RORR through the means of two priority junctions.

In order account for the traffic generated by the future Ratoath Outer Relief Road (RORR) in this assessment, an origin-destination survey was also carried out on Wednesday 21st February 2018 which surveyed the total vehicles travelling between Fairyhouse Road – R155 to Main Street – R125. The impact of the proposed Ratoath Outer Relief Road (RORR) was analysed by surveying the existing traffic volumes from Fairyhouse Road (R125) to Main Street - R125 via Ratoath Town Centre during the peak hour. The proposed new Ratoath Outer Relief Road (RORR) will make the journey from the R155 to the R125 faster and shorter by bypassing Ratoath Town Centre, it is expected that a large proportion of vehicles would instead travel from the R155 to the R125 via the RORR. This diverted traffic was then assigned to the study area based on existing traffic flows in the area combined with an assessment of the local network layout.

The base year flows were then adjusted to the predicted Year of Opening for the development (2024) and the Design Year (2039) using medium range NRA growth factors. Consideration was given to the impact of the proposed Ratoath Outer Relief Road with respect to existing traffic flows and the potential to change travel patterns locally due to the new road creating shorter travel routes.

In addition, consideration has also been given to the two approved third-party SHD development lands adjoining the proposed development site, the future potential Phase 1 masterplan on the White Lands, located on the south of the proposed development site and planning for 100 no. residential units development, located on the north-west of the proposed development.

The estimated additional traffic was assigned to the local road network and its impact on the operation of the local links and junctions was assessed using guidance from the NRA, CIHT, the Design Manual for Roads and Bridges (DMRB) and a number of task specific traffic software (TRANSYT 15 and Junction 9). The assessment considered the following scenarios:

- Do Nothing – no development taking place in the local area and only allowance for natural background traffic growth;
- Do Something – natural background traffic growth and the additional traffic estimated to be generated by the proposed development, the approved third party SHD developments and potential future phase 1 Masterplan on White land. The proposed RORR will be connected to completed section of RORR in line with the proposed development;
- Do Maximum – natural background traffic growth, the additional traffic estimated to be generated by the proposed development, the adjoining SHD developments, potential future phase 1 Masterplan on White land, fully constructed RORR and the potential future 100 no. residential development units.

The results of the overall assessment indicated that the proposed development will not have a major or significant impact on the operation of the links and junctions in the local network with relatively minor to no impact on RFC values despite the conservative assessment with respect to trip generation estimates. In addition, the introduction of the Ratoath Outer Relief Road has been shown to improve most of the existing junctions by the redistribution of existing traffic patterns on these junctions. The existing roundabout and existing cross road junction on the R155 and R125 are shown in the Do Nothing Scenario to exceed acceptable levels of RFC for a priority junction (generally accepted as 85%), however, the introduction of the Ratoath Outer Relief Road has been shown to improve both junctions in Do Something and Do Maximum scenarios by reallocating a significant proportion of the traffic volumes on this junction. The introduction of the signalised junction on the Main Street – R125 will improve the safety and experience of pedestrians through the junction.

There is a potential interaction with human health during the Construction Phase due to noise, dust, air quality and visual impacts. A number of mitigation measures will be implemented as outlined in Section 11.8 of EIAR to minimise the public human health during Construction Phase. However, it is expected that the level of traffic generated by the construction works will be less than that generated by the operational phase of the development during the peak traffic hours.

In order to reduce the risks to human health during operational stage, the proposed link roads and streets together with the junctions, footpaths and cycle facilities have been designed in accordance with requirements of the Design Manual for Urban Roads and Streets (DMURS) and the National Cycle Manual (NCM). DMURS is the design philosophy used in the design of all new residential roads and urban streets and the key objective of DMURS is to achieve safe, attractive and vibrant streets by balancing the needs of all users, and prioritising alternatives to car journeys. The subject site is fully consistent with this recommended approach and achieves a sense of place and residential amenity whilst also facilitating efficient and secure internal movement. The site layout encourages permeability through the site, connecting to the wider area via pedestrian links and cycleways and seeks to prioritise pedestrian and cyclists in accordance with the policies set out in DMURS.

Chapter 12 – Material Assets: Resource and Waste Management

The full assessment of Resource and Waste Management is contained within Chapter 12 of Volume II.

An assessment of Resource and Waste Management was carried out for the proposed Strategic Housing Development located on a 14.166ha site located in Newtown, Ratoath, Co. Meath. The Ratoath SHD is comprised of a greenfield site currently used for agricultural purposes. The assessment discusses potential impacts on Resource and Waste Management was carried out using data collected from a detailed desk study and site-specific assessments.

Most of the waste arising during the Construction Phase will comprise soil and stone material associated with basement, foundations and the surface water outfall route. There will be some construction waste associated with the tying in of the proposed services and road to their respective networks as shown on the drawings, noting specifically the tie-in to the existing R155, the tie-in to the RORR and the foul and potable water connections.

Preliminary site investigations indicate that the material to be excavated is clean inert material (waste that does not undergo any significant physical, chemical or biological transformations) which may be suitable for off-site reuse.

The typical wastes that will be generated during the Operational Phase of the Proposed Development will include the following:

- Dry Mixed Recyclables (**DMR**) - includes wastepaper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons. These materials could potentially catch fire, and this would be a significant local effect with a short-term impact. Mitigation noted in Mitigation Section.
- Organic waste – food waste and green waste generated from internal plants / flowers. These materials could attract vermin if it is not appropriately stored, and the stores maintained. Mitigation noted in Mitigation Section.
- Glass: No significant environmental concerns have been identified for the storage of domestic glass waste at the Proposed Development.
- Mixed Non-Recyclable (**MNR**) / General Waste. These materials could attract vermin if it is not appropriately stored, and the stores maintained. Mitigation noted in Mitigation Section.

The estimated waste generation in cubic metres per week is contained in the Table 12-11 in Chapter 12. It is noted that small amounts of other wastes would also likely be produced during the operational phase of the development and this is discussed in the Chapter 12 of the EIAR and in the Operational Waste Management Plan.

As outlined in the Outline Construction Environmental Management Plan for the Site, it is proposed to ensure the highest possible levels of waste reduction, waste reuse and waste recycling are achieved for the Proposed Development. Specifically, the OCEMP aims to achieve waste prevention, maximum recycling and recovery of waste. The plan has as a central tenet, the diversion of waste from landfill wherever possible.

The OCEMP and the Outline Construction and Demolition Waste Management Plan provide context of the applicable legal and policy framework for C&D waste management in Ireland, they also estimates the category and quantity of waste generated by the Proposed Development and makes recommendations for the bespoke management of the various waste streams. The OCEMP also provides guidance on collection and transport of waste to prevent issues associated with litter or more serious environmental pollution (e.g., contamination of soil or water resources).

The Operational Waste Management Plan provides context of the applicable legal and policy framework for operational waste management in Ireland, it also estimates the category and quantity of waste generated by the Proposed Development and makes recommendations for the appropriate management of the various waste streams.

It is considered that once the mitigation measures discussed above are employed, there will be a slight negative imperceptible, permanent impact since the development will require some material to be taken on-site to an appropriate waste facility. However, it is noted that the lands are zoned for residential and as such an alternative development would be provided for on the subject site in the future.

It is considered that once the mitigation measures discussed above are employed, there will not be residual impacts on the environment in relation to waste as a result of the Proposed Development. The residual impact is assessed to be a slight negative, imperceptible, permanent impact.

Chapter 13 – Cultural Heritage

An Archaeology and Cultural Heritage assessment on the site of the proposed development of lands at Ratoath, Co. Meath (ITM 701928, 750512) was prepared Donald Murphy and Magda Lyne, Archaeological Consultancy Services Unit Ltd.

Archaeological Impact Assessment was undertaken in order to identify and describe known and potential archaeological and cultural heritage constraints within the proposed development area and its environs and to offer recommendations for the mitigation of such potential impacts.

The proposals for the site comprise of a residential development, Ratoath South SHD located on the lands immediately to the south of the existing built area of Ratoath in County Meath.

The site was subject to a number of archaeological assessments carried out in relation to the site, both invasive and non-invasive. These include Geophysical Survey (20R0026; Russell, Breen, 2020), test trenching (21E0511; Cosgrove, 2021) and Archaeological Assessment (Lyne, 2021).

The assessments were successful in identifying archaeological features on the site. Archaeological test trenching identified three areas of archaeological activity: one in Field 1 (Area 1) and two in Field 5 (Area 2 and 3). The features exposed comprise ploughed out pits, post-holes and spreads, likely associated with a prehistoric activity. Areas 4 and 5 were not subject to archaeological investigation at that time. Furthermore, four Cultural Heritage Areas (CHA) were identified; one is a site of vernacular structure (CHA1; Area 4), while the remaining three are townland boundaries (CHA 2-4).

The proposed development site contains no Recorded Monuments listed within the Record of Monuments and Places for County Meath. The nearest recorded monument to the site, an enclosure (ME045-066) located c. 180m to the east.

There are no Protected Structures listed in the Meath County Development Plan 2021-2027 nor sites listed within the National Inventory of Architectural Heritage (NIAH). The closest such structure is Ratoath Manor (RPS ID 91453; NIAH Reg. No. 14336002) located c. 1km to the north of the site.

The National Museum of Ireland Topographical Files were reviewed and list no finds for the townlands of Commons or Jamestown that the site is located within.

There is no potential for direct impacts on recorded archaeology and cultural heritage. The proposed development will have a direct impact on three areas of archaeological activity (Areas 1-3) and CHA 1-4. The development has the potential to impact upon unknown, buried archaeological remains if such are present within Areas 4 and 5.

In order to mitigate the potential impact of the proposed development on potential archaeological remains, the following measures shall be adhered to:

- Three areas of archaeological activity (Areas 1-3) identified during test trenching (21E0511) will be preserved by record (excavated). At the locations of the features identified, in Field 1 an area measuring 37m by 27m and in Field 5 two areas measuring 25m by 25m and 20m by 20m will be stripped of topsoil, features identified including any features associated that might be exposed, will be preserved by record. This will be carried out under licence from the National Monuments Service of the DHLGH by a suitably qualified archaeologist. The appointed archaeologist shall consult with the Licensing Section of the NMS regarding the methodology to be employed in the resolution of all sites. This will be carried out prior to construction works commencing.
- Archaeological investigations (test trenching and/or monitoring) of Area 5 within the northeast portion of the site will be carried out. Should archaeological features be identified further mitigation including preservation in situ (if feasible) or by record (excavation) will be required. This will be carried out under licence from the National Monuments Service of the DHLGH by a suitably qualified archaeologist. The appointed archaeologist shall consult with the Licensing Section of the NMS regarding the methodology to be employed in the resolution of all sites. This will be carried out prior to construction works commencing.
- Prior to development of the site a photographic and measured survey (including written description, photographic record) will be carried out of Cultural Heritage Area CHA2 – townland boundary between Commons and Jamestown, as well as CHA3 and CHA4 townland boundaries between Commons and Ratoath.
- Prior to development of the site, an area measuring 20m by 25m around the location of Cultural Heritage Area CHA1 shall be stripped of topsoil to establish if any remains of the structure are present. Further archaeological investigation may be required depending on the results, including full archaeological excavation of any features and deposits identified, by a licensed archaeologist in accordance with a methodology to be agreed with the National Monuments Service.
- Adequate time and resources will be provided by the developer for the resolution of any archaeology identified within the development site, which will be directly impacted by groundworks. Time and resources will also be allowed for any post-excavation work and specialist analysis necessary following any archaeological excavation that takes place.
- A full report including all post-excavation analysis will be submitted to the relevant authorities within 12 months of the completion of the archaeological excavations.

If these recommendations are implemented, the potential impact on archaeological and built heritage material will be sufficiently mitigated.

Chapter 14

The Landscape and Visual Impact Assessment (LVIA) was informed by a desktop study and a survey of the site and receiving environment. This LVIA identifies and discusses the landscape and the receiving environment in relation to the proposed development on lands south of Ratoath town centre, Co. Meath.

'Landscape' results from the interplay between the physical, natural and cultural components of our surroundings. Different combinations of these elements and their spatial distribution create distinctive character of landscape in different places. 'Landscape character assessment' is the method used in LVIA to describe landscape, and by which to understand the potential effects of a development on the landscape as 'a resource'. Character is not just about the physical elements and features that make up a landscape, but also embraces the aesthetic, perceptual and experiential aspects of landscape that make a place distinctive.

Whilst the proposed development lands are currently unspoilt green field countryside, they lie with the development boundaries of Ratoath. The existing landscape is relatively and visually flat comprising agricultural / former agricultural lands with mature hedgerows bounded by existing residential development and roads to the west and north, by permitted residential development to the east / north-east and by agricultural lands to the south and southeast. The lands are zoned for residential land use and there is an objective to provide for a section of the proposed Ratoath Outer Relief Road (RORR) along the southern boundary of the residential lands. Views to the site are generally limited to glimpses from adjoining roads, (i.e. short sections of R155 Fairyhouse Road and Glascarn Lane) where views are generally well-screened by roadside hedgerows and from residential properties bounding the site (i.e. of R155 Fairyhouse Road, Carriag na Gabhna, Manor Court, and Glascarn Lane) – though some have mature boundaries with the site.

Therefore, the landscape sensitivity of the receiving environment (reflecting its zoning within the wider LCA) is classified as '**low to medium significance**' - *Landscapes / views that have no valued feature or characteristic, and where the composition and character are such that there is capacity for change. This category includes landscapes / views experienced by people involved in activities with no particular focus on the landscape. For such landscapes / views the principle management objective is to facilitate change that does not detract from landscape value / visual amenity or enhances them*