ENVIRONMENTAL IMPACT ASSESSMENT REPORT

NON-TECHNICAL SUMMARY

PROPOSED RESIDENTIAL & NEIGHBOURHOOD CENTRE DEVELOPMENT

AT

FORMER MAGEE BARRACKS SITE, HOSPITAL STREET (R445), KILDARE TOWN, CO KILDARE

JSA John Spain Associates

Planning & Development Consultants
Chartered Town Planners & Chartered Surveyors

In Association with:

RKD Architects | Garlands Consulting Engineers | BSM Landscape, Planning and Environmental Consultants | AWN Consulting Ltd | Courtney Deery Heritage Consultancy | Cathal Crimmins Conservation Architect | BlueRock Environmental Limited

July 2019

Non-Technical Summary

INTRODUCTION

An Environmental Impact Assessment Report (EIAR) has been prepared in support of an application made to An Bord Pleanála by Ballymount Properties Limited for a strategic housing development including demolition of existing buildings and the provision of 375 no. residential units, a neighbourhood centre, open space and associated infrastructure on part of the former Magee Barracks site, Hospital Street (R445), Kildare Town, Co. Kildare.

This document is a summary of the information contained in the EIAR. For detailed information, including detail of mitigation measures, please consult the EIAR document.

Purpose of the EIAR

An EIAR should identify and predict the likely significant environmental effects of a proposed development, describe the means by and extent to which adverse effects can be reduced or ameliorated, interpret and communicate information about likely effects and provide an input into the planning and decision-making processes.

The EIAR is a primary element of the Environmental Impact Assessment (EIA) process and is recognised as a key mechanism for promoting sustainable development by identifying environmental issues and ensuring that such issues are properly addressed within the capacity of the planning system.

Requirement for an EIAR

Schedule 5 (Part 2) of the Planning & Development Regulations 2001-2018 sets mandatory thresholds for various different project classes. Sub-section 10(b) (iv) addresses 'infrastructure projects' and requires that the following class of project be subject to EIA, of relevance to this project:

> *'Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere.'*

The proposed development involves the demolition of existing buildings and the construction of a residential development of 375 no. units and a neighbourhood centre on a site of 11.35 hectares within the built-up area of Kildare Town. EIA is therefore considered to be mandatory for the proposed development as it exceeds the relevant urban development area threshold of 10 hectares.

Structure of the EIAR

The following environmental topics / issues are assessed in the EIAR in the context of the proposed development, and summarised in this report:

- Project Description and Alternatives
- Population and Human Health
- Archaeology and Cultural Heritage
- Architectural Heritage
- Biodiversity
- Landscape and Visual Impact
- Land and Soils
- Water and Hydrogeology

- Air Quality and Climate
- Noise and Vibration
- Material Assets
- Risk Management
- Interactions of the Foregoing
- Principle Mitigation and Monitoring Measures

Technical Reports

In addition to the EIAR, a series of standalone technical reports accompany the planning application, which have helped inform the EIAR where relevant:

- RKD Architects have prepared a Site Heritage / Sense of Place Report;
- Garland Consulting Engineers have prepared a Flood Risk Assessment, a Construction Environmental Management Plan, a Construction and Demolition Waste Management Plan, an Operational Waste Management Plan and a structural survey of the Officers' Mess building and water tower on site;
- Roadplan Consulting Engineers have prepared a Transport Impact Assessment and Quality Audit; and
- BSM have prepared an Appropriate Assessment Screening Report.

References to the relevant background information or analysis contained within these documents are provided within the EIAR.

PROJECT DESCRIPTION AND ALTERNATIVES

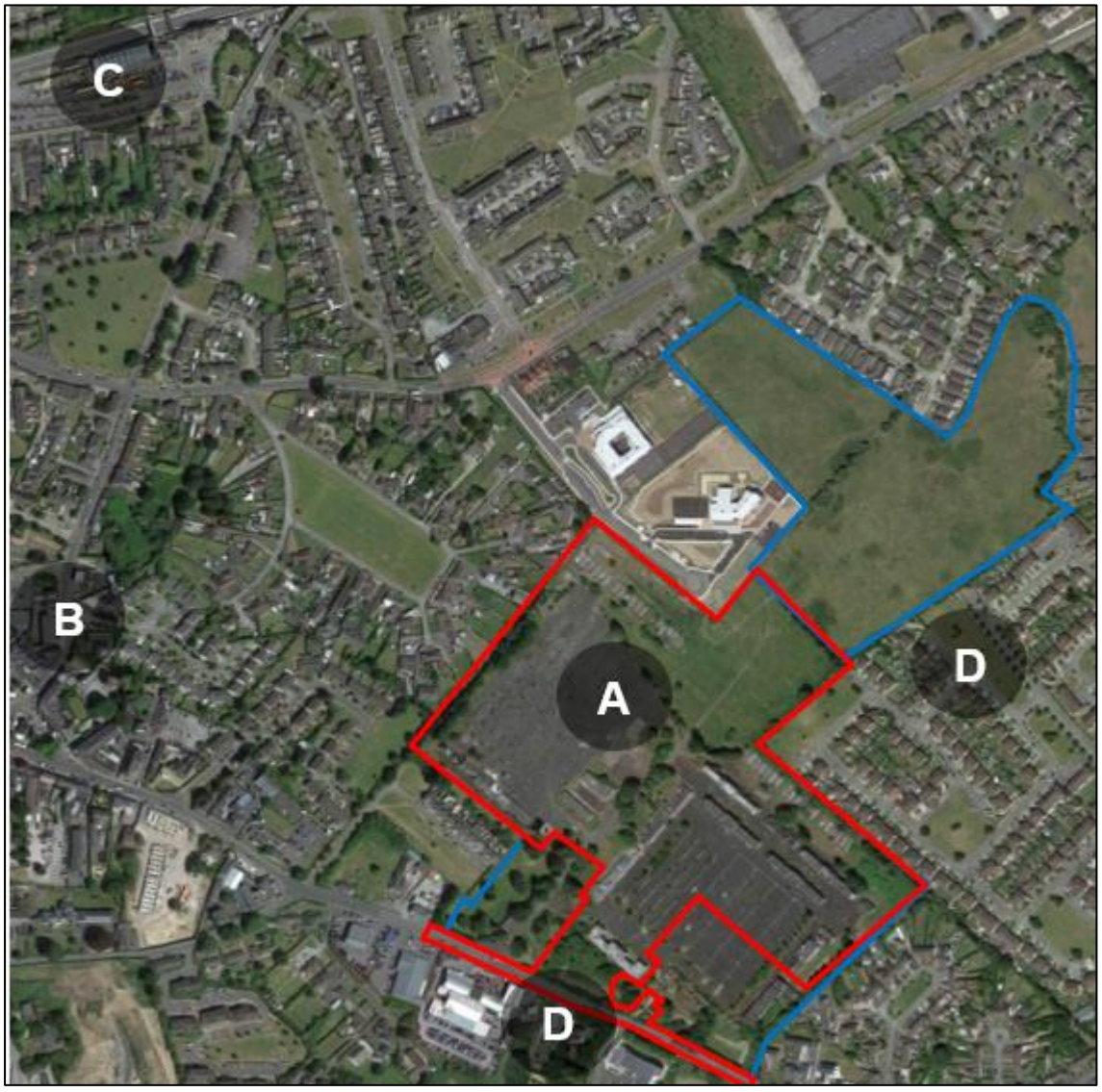
Site Location and Context

The application site (11.35 ha) [**A**] (see Figure 1) comprises approximately the southern half of the former Magee Barracks site in Kildare town, County Kildare. The site currently consists of a number of vacant former military buildings, all of which are in serious disrepair, areas of hard surfacing formerly used as training grounds / assembly areas and underutilised green-field lands. The former use of the site as a barracks was discontinued in 1998; the site was subsequently used for refugee accommodation and is currently vacant / unused.

The application site is located within c. 750 metres of the centre of Kildare town [**B**] and within walking distance of Kildare railway station [**C**]. Surrounding land uses include predominantly residential developments to the north, east and west, with a number of commercial / community land uses located to the south of the site along Hospital Street (the R445) [**D**]. A wide range of existing community facilities is available in Kildare town centre.

The site is located within the administrative area of Kildare County Council and is subject to the land use policies and objectives of the Kildare County Development Plan 2017-2023 and the Kildare Town Local Area Plan 2012-2018. Under the Kildare Town LAP, the entire former barracks site is zoned 'Z' - 'Regeneration of Magee Barracks'.

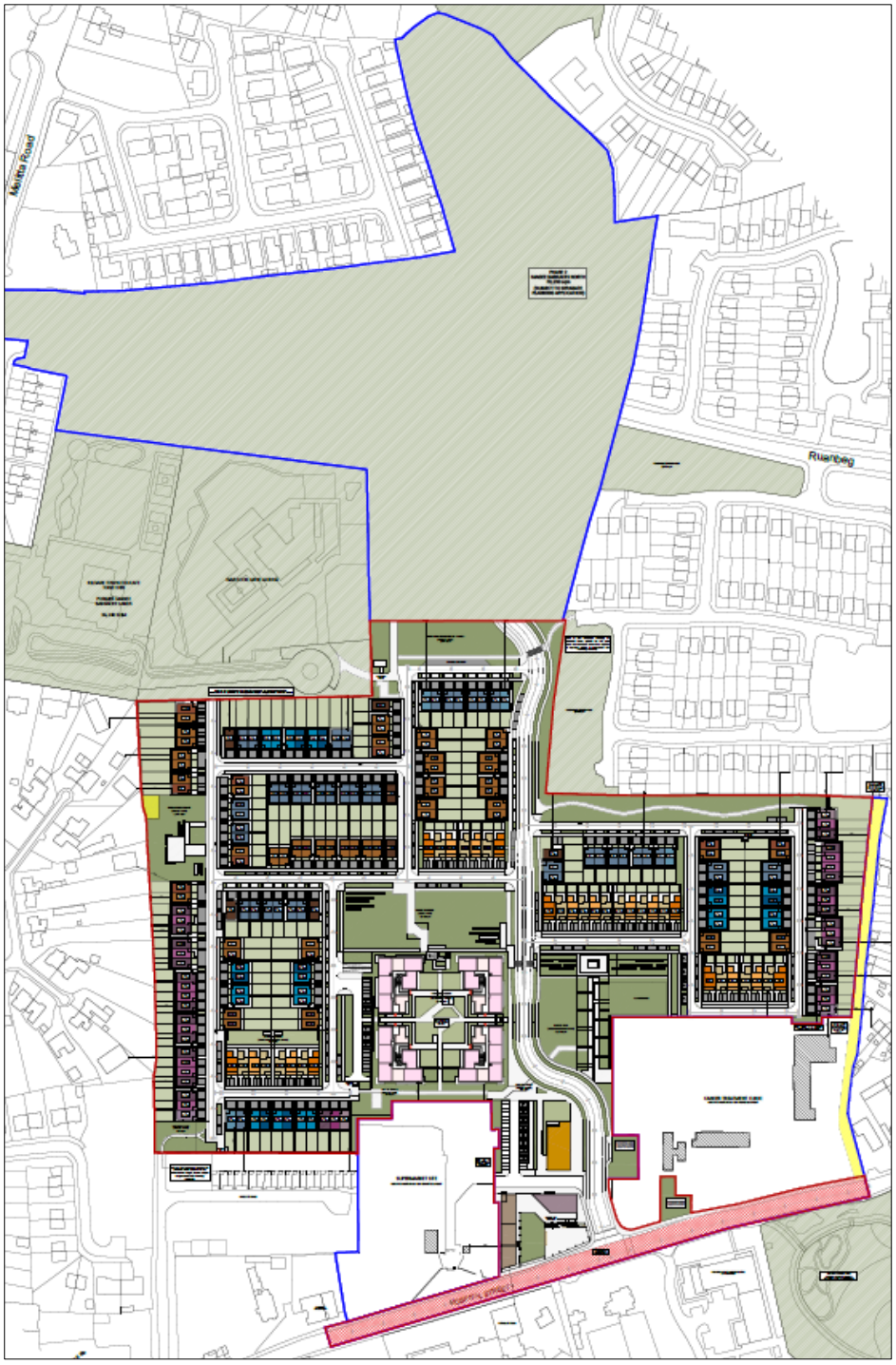
Fig. 1: Annotated satellite photograph showing the application site (approximate in red) and surrounding area



Proposed Development

The proposed development is described in detail in in Chapter 2 of the EIAR. In summary, the development proposals consist of the demolition of 17 no. existing buildings (including a range of former Barracks buildings, the Officers' Mess building and Water Tower structure) with a GFA of 16,320 sq.m, and the construction of a development comprising of 375 no. residential units, a neighbourhood centre comprising of 3 no. single-storey retail units with a GFA of 130 sq.m, 105 sq.m and 100 sq.m respectively, a café (including gallery / exhibition area at mezzanine level) with a GFA of 300 sq.m, a two-storey childcare facility with a GFA of 680 sq.m and associated play area, all internal roads, car parking, pedestrian and cycle paths, public open space, and all associated site and infrastructural works on an application site of c. 11.35 ha.

Fig. 2: Proposed Phase 1 Site Layout Plan



The 375 no. residential units proposed consist of the following:

- 76 no. 3 bed semi-detached units;
- 42 no. 3 bed terrace units;
- 60 no. 4 bed semi-detached units;
- 7 no. 4 bed detached units;
- 16 no. 1 bed apartment units within the duplex blocks;
- 34 no. 2 bed apartment units within the duplex blocks;
- 18 no. 3 bed apartment units within the duplex blocks;
- 30 no. 1 bed apartment units within the apartment blocks; and

- 92 no. 2 bed apartment units within the apartment blocks.

The houses are 2 to 3 storeys in height, the duplex blocks are 2 to 3 storeys in height and the apartment blocks are 4 to 5 storeys in height over basement car park. The associated site and infrastructural works include foul and surface / storm water drainage, attenuation tanks, 639 no. car parking spaces comprising, 560 no. spaces for the residential units, 51 no. visitor spaces and 28 no. spaces to serve the proposed creche, retail, and café units, public open space measuring c. 1.80 hectares, bin and bike stores, 3 no. electricity substations, landscaping, boundary walls, railings and fences.

A new signalised road junction is proposed onto Hospital Street providing access to the proposed development and also to the adjacent lands where a supermarket and cancer treatment clinic are proposed. Road works are also proposed to Hospital Street (R445), including pedestrian crossings, provision of cycle lanes, upgrades to footpaths, signage, road markings and traffic signalling.

The proposed development comprises Phase 1 of the overall development of the applicant's c. 20.78 ha landholding at this location. The planning application is accompanied by an overall site masterplan drawing indicating permitted and future phases on the remainder of the lands, which include a permitted supermarket, a cancer treatment clinic (proton therapy) (subject to appeal to ABP), and a Phase 2 residential development of c. 250 units, which will be subject to separate planning applications. The EIAR includes a cumulative assessment of the relevant environmental impacts associated with the potential redevelopment provided for in the overall Masterplan, and the baseline surveys undertaken by the EIAR consultants cover the entire c. 20.78 ha landholding.

Alternatives Examined

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 urban environment 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, traffic and transport, biodiversity, re-use of a brownfield site and impact on soil and water, and sustainable drainage solutions. 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.

POPULATION AND HUMAN HEALTH

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 also meets the requirement for assessment of 'Human Beings', as set out in Schedule 6 of the Regulations.

Population (human beings) 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.

- Economic Activity;
- Social Patterns;
- Land-Use & Settlement Patterns;

- Employment; and
- Health & Safety.

The construction of the proposed development is likely to have a positive direct effect on local employment and economic activity, particularly in the construction sector. The construction phase will also have positive indirect effects on employment and economic activity in associated and secondary building services industries, e.g. quarrying, building supplies, retail and technical professions. These positive effects will be temporary (3-5 years in duration) but will contribute to the overall viability of the local construction sector and associated industries and services during the period.

The proposed development will deliver 375 no. residential units, 3 no. retail units, a café unit (including gallery / exhibition area) and a childcare facility. The resultant increase in population will assist with the delivery of critical mass to support a wider range of businesses, services, public transport and employment opportunities in Kildare Town. The proposed retail units, café and childcare facility will generate permanent employment opportunities.

The proposed development will cater for a portion of Kildare Town's planned population growth, enhance its urban structure and built fabric and provide new connections between existing residential areas to the north and east and the town centre, rail station and community facilities to the south and west. These new connections will include a road link between Hospital Street and Melitta Road (to be delivered with Phase 2), a specific local planning policy objective. Substantial areas of public open space are proposed within the development, which will serve the new residents and the wider community. New residents are likely to benefit from the wide range of community facilities available within walking distance of the site, and existing residents are likely to benefit from new community facilities to be delivered as part of the proposed development, including significant quantities of public open space.

Further positive cumulative socio-economic effects will result from the wider Magee Barracks regeneration proposals.

With respect to potential human health effects arising from drainage, re-use of brownfield land, changes in water or air quality, and noise, a range of mainly demolition and construction-related mitigation measures are proposed in the EIAR with reference to the various environmental topics examined. These measures are likely to result in the avoidance of any adverse effects on human health. Readers are referred to Chapter 15 of the EIAR for a summary of mitigation measures proposed.

ARCHAEOLOGY AND CULTURAL HERITAGE

This chapter was prepared by Courtney Deery Heritage Consultancy Ltd. and was based on a desk-study, with a detailed documentary and cartographical review, and a field inspection, and included consultation with the Department of Culture, Heritage and the Gaeltacht.

There are no Record of Monuments and Places (RMP) or Sites and Monuments Record (SMR) sites within the site of the proposed (Phase 1) development (or within the overall Masterplan area), although the western corner of the site encroaches slightly into the RMP zone of archaeological potential for the historic town of Kildare (KD022-029). The Phase 1 site is predominantly brownfield and occupied by the various redundant military installations of the former Magee Barracks, with limited greenfield areas. The Phase 2 development area to the northeast is greenfield.

Prior to the 19th century, the site was farmland on the outskirts of Kildare town. A 'lock hospital' (a name given to institutions treating venereal diseases) was constructed on part of the Phase 1 site in 1869 and from c. 1900 onwards the site has been occupied by a military barracks. The majority of the Phase I site has been disturbed through the construction of the 19th century hospital, the various military buildings and

by the extensive sewage / drainage network that was evident within the site. Such disturbance is likely to have destroyed any archaeological sites, features and deposits that may have been present. Two small areas of potentially less disturbed or undisturbed ground remain within the Phase 1 site: 'Field 1' (an area where no permanent buildings were constructed, though temporary enclosures or structures are depicted on historic OS mapping) and a former garden area at the Officers' Mess building. These small areas have an inherent 'greenfield' archaeological potential, though this would be reduced or even negated if the ground has suffered disturbance in the past (it should be noted that areas where no structures are depicted on the historic OS maps may have been disturbed sub-surface by the sewage / drainage network that may extend beneath the entirety of the Phase 1 site). It is possible, where there has been no disturbance, that previously unknown archaeological deposits or features survive subsurface within these areas.

Consultation with the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht regarding appropriate mitigation measures for the overall Magee Barracks regeneration masterplan area took place on the 10th November 2017. Archaeological monitoring will be undertaken in advance of demolition and construction at the former Lock Hospital site to identify and record the surviving foundations, and at the site of the former gravel pit associated with the hospital, in order to identify (if possible in this disturbed location) whether this area might have been used for burial purposes.

Archaeological monitoring will also be carried out in the former parade ground, by an archaeologist with specialist knowledge of military / industrial archaeology, with a view to establishing the date and function of the network and channels identified there. Archaeological testing will be undertaken in the former garden area at the Officers' Mess building in the vicinity of the former pump / sewage tank associated with the hospital, in order to identify whether this location might have been used for burial purposes. Archaeological testing will also be undertaken within Field 1 to identify any previously unknown archaeological features or deposits that may survive (albeit truncated) below ground in this area. All archaeological investigations will be carried out during the site preparations stage and well in advance of construction. This process of monitoring in advance of demolition and construction was accepted as being most appropriate given the existing conditions on site.

Given the greenfield nature of the Phase 2 development area, it is recommended that a geophysical survey be undertaken in advance of future development in this area, which will be subject to a separate planning application.

In summary, there is no predicted impact on any recorded or known archaeological sites, features or deposits. The proposed development may, however, directly impact upon potential (previously unrecorded) below-ground archaeological remains. Archaeological monitoring and testing have been specified to mitigate any such potential impacts. This work will be carried out well in advance of the construction phase.

ARCHITECTURAL HERITAGE

This chapter of the EIAR was prepared by Cathal Crimmins, RIAI Grade 1 Conservation Architect and Julia Crimmins, Historic Buildings Consultant, and was based on a desk-study, with a detailed documentary and cartographical review, and a field inspection. An assessment prepared by a structural engineer was also consulted, included under separate cover with the application, as detailed in the Chapter.

The former Magee Barracks site is predominantly brownfield, containing 23 no. buildings, all associated with the former barracks, 17 of which fall within the planning application site. Most of current buildings date from the 1937-43 reconstruction of the barracks, except the water tower, which is assumed to date from c.1900. The buildings are largely of concrete and brick construction with some stone enrichment. The main features of note are the modernist entrance in the centre of the south elevation of the Officers' Mess building, together with its internal and external joinery. The water tower has dominance within the site on

account of its height. It is not of architectural interest. It has minor historic and technical interest, but this has diminished owing to its condition.

Magee Barracks was the first purpose-built barracks to be constructed by the Irish Free State, but in architectural terms it is not unique. The c.1938 airbase administration block at Baldonnel Aerodrome shares many features. Under the Built Heritage section of the 2012 Kildare Town Local Area Plan (LAP), the Officers' Mess building, water tower and entrance gates on Hospital Street are listed as features of heritage importance on site. However, it is also notable that since the LAP was published, none of the existing buildings within the former barracks site have been listed as protected structures in the County Development Plan or included in the National Inventory of Architectural Heritage (NIAH), and neither does the subject site form part of an architectural conservation area (ACA).

All of the buildings on site were found to be in very poor physical condition. The buildings have frequently been subject to anti-social behaviour, vandalism and fires, damaging building fabric. The roofs of some of the buildings have fallen in as a result. There has also been considerable metal theft as the premises has been stripped of scrap metal and copper wiring, and even manhole covers. The removal of lead or copper flashings allows water penetration and further deterioration of the buildings on site, all of which was visible on inspection.

The Officers' Mess building has deteriorated significantly in condition since the publication of the LAP in 2012 and is in an advanced state of disrepair. The structural survey report by Garland Consulting Engineers that accompanies the planning application noted the following:

- The external skin of the building is showing signs of significant mortar loss. The brick sections of the façade are out of plane in some locations due to the loss of mortar;
- Lintels above windows in many locations are beyond repair; and
- The structural timber visible throughout the ground floor level of the building is beyond recovery. (The upper internal floors were too dangerous to inspect but the level of deterioration is anticipated to be similar)

The applicant and design team have investigated the possibility of retaining the Officers' Mess building. Section 3 of the Site Heritage and Sense of Place Report by RKD Architects that accompanies the planning application contains an Officers' Mess Retention and Re-Use Feasibility study prepared in association with design team members. The study finds that partial re-construction of the building would be needed in order to render the building fit for modern occupation, including the replacement of the roof and installation of two new fire escape staircases. The layout of the building is not suited to café or retail uses; whilst it is too large to house the proposed crèche facilities.

The building is not exempt from building regulations and to bring it to modern standards, especially to energy standards would be challenging and economically prohibitive. The concrete masonry construction would require thermal upgrading to meet building regulation standards. To carry this out externally would take away from whatever character remains of the building. To internally insulate would be difficult in relation to windows, doors, stairs and cold bridging at walls.

The water tower has also deteriorated significantly in condition since the publication of the LAP. The structural survey of the water tower by Garland Consulting Engineers that accompanies the planning application notes the advanced corrosion of structural steel elements and connection points, the failure of bracing and resultant risk of collapse.

The retention of any of the structures on site including the Officer's Mess and water tower is therefore not considered viable or warranted in conservation terms. Alternative measures are incorporated into the design to reflect the historic use of the site as a Barracks as set out in the Sense of Place / Site Heritage Report.

In assessing the predicted impact of the development, the site and its buildings were evaluated against criteria contained in Government guidance, including the Architectural Heritage Protection Guidelines for Planning Authorities issued by the Department of Arts, Heritage and the Gaeltacht (DoAHG) in 2011. In summary, the existing buildings within the site are not of architectural interest or have suffered so badly from neglect, metal theft, vandalism and fire that they have lost much of their character. The cultural and social significance of the site relates to its use as a barracks and the contribution of the defence forces to the cultural and social life of Kildare town. The site lost this interest when it was vacated and has since become associated with anti-social behaviour. The proposed demolition of all of the existing buildings on site is not considered to constitute a loss of significant architectural or historic fabric.

The Magee Barracks lands are strategically located yet underutilised and act as an island within the town, severing potential connectivity and disconnected from the town centre. The re-development of the site, including demolition of the existing buildings on the site, will integrate a substantial area of zoned lands back into the urban footprint and improve the overall vitality and connectivity of Kildare Town.

The proposed development will open up the subject site to the town, and the boundary treatment will significantly improve the character of the streetscape along Hospital Street. It will improve the vista to and from the Kildare Town ACA and the setting of adjoining protected structures. In addition to the elevation drawings, a series of photomontages have been prepared illustrating the potential visual impact of the proposed development on its location and surroundings, including the Kildare Town ACA, as set out in Chapter 7 of the EIAR.

The cultural and social significance of the site which is connected to its former military use has been integrated into the place making strategy so that the cultural and social significance of the site will be enhanced. The proposed development will include the following design and landscaping features designed to reflect and increase awareness of the site's military heritage:

- The water tower clock is to be retained, refurbished and incorporated into the proposed Magee Square, which is located at the site entrance and the first element of the redevelopment which will provide an acknowledgement of the military history of the site through design, landscaping and interpretative measures;
- Parade Park, one of the proposed public open spaces, will be laid out in a formal manner, surrounded by proposed housing, and is located within part of the former parade ground;
- A dedicated exhibition / gallery space is proposed within the café unit proposed within the neighbourhood centre;
- A series of landscaping and design measures are incorporated to reflect the military history of the site. The detail of street furniture / hard and soft landscaped areas is proposed so as to evoke the memory / site heritage of the former barracks. Prefabricated metal panels modelled on former site gates are proposed for the entrance to Parade Park and boundary treatments also reflect the former use in various locations;
- All of the proposed street and place names reference people and places associated with the site's history;
- The architectural detailing and design reflects the existing buildings on site, and the site layout is arranged in a formal pattern to further reflect the former use; and
- A detailed photographic survey of all buildings to be demolished will be undertaken and it is proposed that the concrete, brick and stone of the existing structures be reused in the proposed development to evoke the memory of the historical built form.

The development proposals of relevance to architectural heritage are fully illustrated within the documentation prepared by RKD Architects and BSM Landscape Architects.

The heritage-related mitigation measures incorporated into the development proposals are a suitable way of reflecting the site's history. In summary, the predicted impact of the proposed development on architectural heritage is assessed in EIA terms as a minor positive.

BIODIVERSITY

This chapter of the EIAR was prepared by Brady Shipman Martin. An appraisal of the likely effects on biodiversity (flora and fauna) arising out of the proposed development was undertaken and measures to mitigate the potential impacts on defined key ecological receptors are proposed. The appraisal involved a desk study and field surveys by suitably qualified ecologists and other specialists. The methodologies used to determine the value of ecological resources, to characterise impacts of proposed development and to assess the significance of impacts and any residual effects are in accordance with the NRA Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA / TII, 2009). This methodology is consistent with the Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland – Terrestrial, Freshwater and Coastal (the 'CIEEM Guidelines', CIEEM, January 2016).

An Appropriate Assessment (AA) screening report accompanies the planning application. It is considered that the AA screening report provides sufficient relevant information to allow the An Bord Pleanála to carry out an AA screening and reach a determination that the proposed development will not affect the integrity of any of the relevant European sites under Article 6 of the Habitats Directive (92/43/EEC) in light of their conservation objectives.

The nearest site designated for nature conservation is the Curragh proposed Natural Heritage Area (pNHA), approximately 1.3km to the east at its closest point. The nearest European designated sites are Pollardstown Fen Special Area of Conservation (SAC) (4.3km to the north east) and Moud's Bog SAC (7.2km to the north east), with the River Barrow and River Nore SAC located 7.4km to the south at its closest point. Ballynafagh Lake SAC and Ballynafagh Bog SAC are approximately 15km and 16km to the north-east respectively. The nearest Special Protection Area (SPA) is Poulaphouca Bog SPA, 22km to the east.

The proposed development site is dominated by hard surfaces and abandoned military buildings. Areas of abandoned and unmanaged planting and lawns as well as groups of trees and hedges are also present in this area. The future Phase 2 site (approximately the northern half of the former barracks site) is quite different in character, comprising a number of agricultural fields, grazed by sheep at the time of the survey, and divided by relatively unmanaged hedgerows. The trees and hedgerows present in parts of the proposed development site are of some use for commuting and foraging bats. A number of former military buildings, in very poor condition, are present. None of these buildings, or any of the trees, are confirmed to be bat roosts.

No rare species or habitats, or habitats of high ecological value, are present on the site. No rare plants were recorded during the site visit. No evidence of badgers, lepidoptera, reptiles or amphibians was recorded and no significant features suitable for use by these species were recorded on or in the vicinity of the proposed development site.

Two invasive alien plant species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011) (Giant hogweed (*Heracleummantegazzium*) and Japanese knotweed (*Fallopia japonica*)) were recorded near the eastern boundary of the site, in close proximity to the buildings. An invasive species management plan statement is being implemented at the site, by the landowner, and the latest report prepared by the specialist (Jonathan Ryan, RLH Ltd) is presented as Appendix 6.1 of this EIAR

Overall, with the possible exception of the hedgerows and tree groups, which may be of local importance (lower value), for example for nesting birds and commuting / foraging (but not roosting) bats, it is considered that the site is of no ecological value in accordance with the ecological resource valuations presented in the National Roads Authority Guidelines for Assessment of Ecological Impacts of National Road Schemes.

The detailed assessment of the hydrogeological regime at the site and its regional environs in EIAR Chapter 9 – Water and Hydrogeology concluded that the site is not located within the groundwater catchment of Pollardstown Fen SAC, and the interpreted groundwater flow in the area is in the opposite direction. The proposed development therefore does not pose a risk to this highly sensitive groundwater dependent terrestrial ecosystem.

The development will involve the removal of derelict buildings and hard standing areas of negligible ecological value. This will have no long-term impacts on biodiversity. It will be necessary to remove elements of the internal hedgerow, tree line and unmanaged scrub and grassland habitat. These habitats are of no more than low local significance although they do provide some wildlife (bird nesting) habitat and act as corridors for movement. However, the extensive landscape planting that is proposed will ensure that there will be no residual impact from the loss of habitat on the site.

No bat roosts have been recorded within the proposed development area and no impacts are expected on roosting bats, as it is not expected that any features of significant potential for roosting bats will be removed. The proposed development may result in minor impacts at the local level on commuting and foraging bats, however it is not expected that these impacts will be significant, particularly in view of the fact that the proposed landscape strategy will introduce new habitat throughout the proposed development. Increased lighting and increased human activity have the potential to impact on bat feeding and commuting behaviour. There will be no impacts on badgers and other large mammals, amphibians, reptiles, lepidoptera or other species groups as a result of the proposed development.

Although there are no watercourses on or in the vicinity of the site, both the construction and operational phases of the proposed development at Magee Barracks could have impacts on water quality, via runoff to the wider surface water network, including the sewer network, and via infiltration to the ground, but, provided that site facilities are correctly designed and proper working procedures are strictly adhered to, no impacts on existing waterbodies are expected, either during the construction or operation of the proposed development.

No designated conservation areas (Including Pollardstown Fen SAC) will be impacted in any way by the proposed development and no mitigation measures are required in this regard. All site clearance and landscaping works will comply with current legislative requirements and best practice. The proposed planting will, over time, provide additional habitat of benefit to bats and birds that will continue to use the site. All new lighting for the proposed development shall be designed and constructed taking account of the recommendations of Bat Conservation Ireland (2010). A total of 9 bat boxes shall be erected on mature trees to be retained as part of the Phase 1 and 2 development proposals, with advice from an experienced bat specialist.

In conclusion, the proposed development will result in the removal of derelict buildings, hard surfaces and neglected habitats and their replacement with a mixed residential development and associated public open space and landscaped areas. This will result in no long-term residual impact on any ecological receptors, either within or in the vicinity of the site, or associated with any site designated for nature conservation.

LANDSCAPE AND VISUAL IMPACT

This chapter was prepared by Brady Shipman Martin Landscape, Planning and Environmental Consultants and comprises an assessment of the likely effects of the proposed development on the landscape and

visual environment. The assessment also considers the potential cumulative landscape and visual impacts arising from the wider Magee Barracks regeneration proposals.

A series of photomontages was prepared to illustrate the physical and visual character of the proposed development as viewed from the surrounding environment (please refer to EIAR Appendix 7.1).

The application site is a large, mainly brownfield site comprising the southern portion of the former Magee Barracks. The overall barracks lands extend north from Hospital Street (R445) to Melitta Road (R413) and are in effect surrounded by established residential estates, associated open space and the sites of two new schools on the western boundary of the lands. Predominately commercial premises lie to the south of Hospital Street. Sites for a permitted supermarket and proposed cancer treatment centre are located in the south-western and south-eastern corners respectively of the former Magee Barracks lands.

The existing residential estates that surround the overall lands of the former barracks include Rowanville and Ruanbeg to the east and Coolaghknock, Curragh Plains, The Plains and Melitta Park to the north. Maryville, St. Barbara's Park and Melitta Road lie to the north-west, with the two school sites, Campion Crescent and Beechgrove residential areas to the west. A short terrace of residential properties named Magee Terrace is located to the southwest.

The Phase 1 application site is located within the southern portion of the former barracks lands and is substantially a brownfield site with derelict buildings, open hard standings and mature trees. Nevertheless, the area retains the character of its former use as a barracks. The lands north of the Phase 1 site are open grassland with some hedgerows.

The trees, which include deciduous and coniferous species, are generally concentrated towards the southern end of the site. The majority of trees are in fair or poor condition; however, a line of good quality plane trees is located north of the former entrance off Hospital Street.

The site is zoned 'Z - Regeneration of Magee Barracks' in the Kildare Town Local Area Plan (LAP) 2012-2018. The land use zoning for Magee Barracks identifies a number of objectives in relation to landscape including protection of residential amenity and the provision of significant elements of open space including a neighbourhood park.

The site is significant in terms of its location within the structure of Kildare Town and its interface with the adjoining largely developed townscape. The principal landscape and visual sensitivities relate to the interface with the adjoining primarily residential areas and open spaces and to the interface with Hospital Street to the south.

The proposed development includes the demolition of existing buildings, the construction of residential units and a neighbourhood centre and all associated site, infrastructure and landscape works.

The residential units proposed in Phase 1 include a wide range of housing types comprising three and four bedroom detached, semi-detached and terraced houses, and 1, 2 and 3 bedroom apartments and duplex units. The housing units are 2 to 3 storeys in height and the duplex units are 2 to 3 storeys in height. The proposal introduces 3+1 and 4+1 floor apartment blocks which provide a landmark element to the scheme. Associated site and infrastructure works include the provision of a new entrance off Hospital Street (in the vicinity of the existing site access), internal roads and footpaths, water supply, foul water drainage, surface water drainage and attenuation, car parking, cycle parking and new site and property boundaries.

Landscape works include the provision of c. 1.8 hectares of high-quality public open space, playgrounds, and amenity and recreation space. The landscape approach draws on the previous military character of the site.

The masterplan for the overall development indicates that a potential Phase 2 development will deliver further residential units which will be subject to a separate planning application. The overall masterplan also indicates that a cancer treatment clinic is to be located in the southeast corner of the site and that a supermarket is to be located to the south-west. Both of these developments, which are accessed from Hospital Street, are subject to separate planning applications to Kildare County Council.

The development will involve the construction of a significant new primarily residential development, including roads, open spaces and supporting infrastructure on currently derelict former military barracks lands north of Hospital Road, in Kildare Town. Potential landscape and visual effects will arise from:

- Site establishment, including provision of site compound, provision of hoarding, etc.;
- Removal of the majority of internal trees and vegetation;
- Loss of existing open landscape / visual character;
- Soil stripping, stockpiling and earthworks;
- Materials import and export and general construction traffic movement on site;
- Provision of services and infrastructure;
- General construction activity through the construction period;
- Emergence of new residential and neighbourhood centre development;
- Provision of lighting, footpaths and cycleways etc.;
- Provision of landscape measures and planting; and
- Completion and occupation of the development.

Short-term site development and construction works will result in temporary and short-term negative landscape and visual impact for existing properties located at Rowanville and Ruanbeg to the east and northeast, and at Campion Crescent, Beechgrove and Magee Terrace to the west. The impact arises from the initial site disturbance, building and tree removal and from the loss of perceived landscape.

The initial negative landscape and visual impacts of the construction stage will gradually be replaced by the positive visual interventions arising from the introduction of a new development with establishment of significant high-quality public open space, landscape proposals and amenities with recreational opportunities within a neighbourhood park.

In effect, the proposed development replaces an existing enclosed and derelict brownfield site with a new urban mixed-use permeable development. This will have a significant positive effect on local townscape character, including the emerging character of Hospital Street. It is considered that the proposed development responds positively both in terms of land use, layout and design of the development and in terms of provision of a high-quality, site specific and permeable public open space network.

The proposed development will have no landscape or visual effect on surrounding key views, or on the town centre or its associated Architectural Conservation Area.

Consideration has been given to avoiding landscape and visual impact in the design and layout of the scheme as a whole, including the architectural layout and design and the engineering and landscape approach. The landscape design recognises the former use of the site as a military barracks and proposes a series of character areas and open spaces that provide a sense of place as well as passive and active recreation, increased permeability and pedestrian links through the scheme. The central open spaces are formal in style, reflecting the military past that is unique to the site.

The taller apartment elements of the proposed development and duplex units have been located centrally within the development and away from site boundaries with neighbouring residential areas, providing a higher density core and a more appropriate urban design solution, whilst addressing concerns about potential impact on residential amenity.

The EIAR includes specific landscape and visual mitigation measures in relation to:

- Protection of trees to be retained during construction;
- Protection of open space during construction;
- Provision of open space, play and landscape proposals;
- Provision of planting plans; and
- Landscape maintenance.

The completed development provides for positive response to the existing enclosed brownfield site. It provides for a detailed, permeable and site-specific response to the provision of high-quality public open spaces that reflect the previous land use and provide for an attractive and diverse range of amenity and recreational opportunities. As a whole the proposed development will make a significant and positive contribution to the townscape / urban structure of wider area. Likewise, the proposed network of open spaces will make a significant and positive contribution to the emerging landscape character, biodiversity, amenity and recreational opportunities of the area.

LAND AND SOILS

This chapter of the EIAR was prepared by Garland Consulting Engineers and Niall Mitchell, Bluerock Hydrogeology. The assessment involved a desktop study of soils, subsoils and bedrock, a review of existing site investigation data and the interpretation and reporting of data. It includes an Environmental Site Assessment report as Appendix 8.1 and a Ground Investigations Report as Appendix 8.2.

Site investigations revealed that the proposed development site is underlain primarily by made ground overlying natural granular and cohesive glacial tills. The granular till comprises sands and gravels and the cohesive soils comprise sandy gravelly clays becoming firmer to stiff or stiff with depth. The made ground comprises a combination of a shallow layer of tarmac and stone fill (where present) and brown slightly sandy gravelly clay with frequent cobbles containing occasional fragments of concrete, red brick, glass and plastic. The made ground was detected in over 60% of investigation locations and is attributed to historical construction and demolition (C&D) material from previous activities across the site. The underlying bedrock consists of carboniferous limestone of the Rickardstown formation. Bedrock was not detected within any investigation locations (i.e. up to 15 metres below ground). Groundwater was not encountered within any of the site investigation locations, and is expected to be present at depths greater than 7 metres below ground level.

Whilst no detections of contaminated soils or other contaminated material were recorded during site investigations to date, a review of historical site activities was undertaken and a number of potential sources of contamination were identified that warrant further testing in advance of the commencement of development works. These include:

- An area in the southeast of the former barracks site (outside the proposed development site boundary) where up to 8.3 metres of infill appears to have been backfilled;
- An earthen ridge of material in the northeast of the former barracks site (outside the proposed development site boundary) with C&D waste entrained within;
- Former fuel storage areas of the former hospital and barracks facilities (within the proposed development site);
- A former infilled gravel pit to the north of the former hospital building footprint (within the proposed development site); and
- Possible former ammunitions storage areas (within the proposed development site).

In addition, subject to future testing, the presence of asbestos material within the C&D made ground material was considered a possibility.

The identified potential construction and operational stage impacts on sensitive receptors (i.e. site geology, construction operatives, future site users and off-site residents) predominantly relate to the disturbance of potential ground contamination, the storage of fuels on site and general construction / excavation activities. Mitigation measures proposed to ensure predicted impacts are imperceptible include:

- Undertaking further site investigations prior to the commencement of site development works and the implementation of site-specific remedial measures if deemed necessary;
- Undertaking a geophysical survey to assess the possibility of buried ammunition or unexploded ordnances being present on site, and subsequent follow-on investigation and remediation to remove all risks to construction operatives, nearby residents or future site users;
- Implementation of the Construction & Demolition Waste Management Plan and Construction Environmental Management Plan that accompany the planning application;
- Providing suitable fuel and waste storage during construction;
- Implementing suitable runoff and sediment control measures; and
- Minimisation of surplus soil arisings during construction works.

WATER

This chapter of the EIAR was prepared by Niall Mitchell of BlueRock Environmental Limited. The assessment involved a desktop study of soils, subsoils and bedrock, a review of existing monitoring / site investigation data, a desktop review of sensitive receptors in the area and the interpretation and reporting of data.

Site investigations revealed that the proposed development site is underlain primarily by made ground overlying natural granular and cohesive glacial tills. The granular till comprises sands and gravels and the cohesive soils comprise sandy gravelly clays becoming firmer to stiff or stiff with depth. The underlying bedrock consists of carboniferous limestone of the Rickardstown formation. Bedrock was not detected within any investigation locations (i.e. up to 15 metres below ground). Groundwater was not encountered within any of the site investigation locations and is expected to be present at depths greater than 7 metres below ground level.

The site is underlain by the regionally important Curragh Gravel Aquifer West groundwater body (GWB). This aquifer lies in a shallow trough, oriented NE-SW, at the surface of the limestone bedrock. The topography of the bedrock surface primarily controls the depth of this aquifer with the areas of greatest thickness to the northeast, where it can be up to 70 metres in thickness, with reduced thickness away from this area of higher elevation. The GWB is recharged from rainwater percolating through the topsoil and unsaturated sand and gravel deposits. The limestone bedrock aquifer underlying the gravel aquifer comprises a regionally important aquifer (karstified (diffuse)).

Pollardstown Fen Special Area of Conservation (SAC) is situated on the northern margin of the Curragh of Kildare, approximately 3km west northwest of Newbridge and 4.5 km northeast of Kildare town. It lies in a shallow depression, running in a north-west / south-east direction. About 40 springs provide a continuous supply of water to the Fen, rising chiefly at its margins, along distinct seepage areas of mineral ground above the Fen level. The continual inflow of calcium-rich water from the south of the Fen, primarily from the Curragh, and from the limestone ground to the north, creates waterlogged conditions which lead to peat formation. There are layers of calcareous marl in this peat, reflecting inundation by calcium-rich water.

Regional and local scale groundwater flow directions have been confirmed immediately south of Pollardstown Fen to be generally in a northeasterly direction towards the Fen. However a groundwater divide was confirmed and mapped to the northeast of Kildare town. South of this divide, groundwater is interpreted to flow in a southwesterly direction across Kildare town. The proposed development is located

southwest of this divide and therefore groundwater is interpreted to flow locally in a southwesterly direction across the site and not towards Pollardstown Fen.

There are no mapped streams / rivers in the vicinity of the site. The Tully Stream, located 2.5 km to the south of the site, flows in a southwesterly direction and ultimately into the River Barrow. This surface water feature is not considered at direct risk from the proposed development, although it is anticipated that at least one of these features is contributed to by groundwater baseflow.

The planning application is accompanied by a site-specific flood risk assessment which concludes that the risk of flooding is low for all identified sources of flood risk (i.e. fluvial, pluvial, groundwater).

There are no source protection areas within 3km of the site. According to the Geological Survey of Ireland, (GSI) the vulnerability classification for the site is classified as High, likely based on the presence of high permeability sand and gravel subsoils.

Whilst no detections of contaminated soils or other contaminated material were recorded during site investigations to date, a review of historical site activities was undertaken and a number of potential sources of contamination were identified that warrant further testing in advance of the commencement of development works. These include:

- An area in the southeast of the former barracks site (outside the proposed development site boundary) where up to 8.3 metres of infill appears to have been backfilled;
- An earthen ridge of material in the northeast of the former barracks site (outside the proposed development site boundary) with C&D waste entrained within;
- Former fuel storage areas of the former hospital and barracks facilities (within the proposed development site);
- A former infilled gravel pit to the north of the former hospital building footprint (within the proposed development site); and
- Possible former ammunitions storage areas (within the proposed development site).

The main risks to groundwater, and to a much lesser extent surface waters, during the construction stage of the proposed development include the storage of fuel on site, the possibility of encountering buried contaminated materials and the subsequent release of contaminants into the subsurface and general construction / excavation activities. Mitigation measures proposed to ensure predicted impacts are imperceptible include:

- Undertaking further site investigations prior to the commencement of site development works and the implementation of site-specific remedial measures if deemed necessary;
- Implementation of the Construction & Demolition Waste Management Plan and Construction Environmental Management Plan that accompany the planning application;
- Providing suitable fuel and waste storage during construction; and
- Implementing suitable runoff and sediment control measures.

Potential risks during the operational phase of development relate to potential impacts from the surface water drainage system in relation to contaminants, and reduced infiltration to the subsurface GWB.

The proposed drainage system is designed in accordance with the Greater Dublin Strategic Drainage Study (GDSDS), the CIRIA SUDS Manual 2015 and Recommendations for Site Development Works for Housing Areas published by the Department of the Environment and Local Government. It will ensure a sufficiently high level of treatment of runoff prior to discharge to ground in areas selected for infiltration and will facilitate a similar, if not higher, level of infiltration of rainwater runoff to ground in comparison to existing conditions

on site. These design measures will ensure the residual impact on groundwater and surface waters during the operational phase will be imperceptible.

AIR QUALITY AND CLIMATE

AWN Consulting Limited was commissioned to conduct an assessment of the likely impact on air quality and climate associated with the proposed development and wider Magee Barracks regeneration masterplan proposals.

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

The operational impact of the developments was assessed for the pollutants nitrogen dioxide, particulate matter less than 10 microns, particulate matter less than 2.5 microns, carbon monoxide and benzene using the UK Design Manual for Roads and Bridges screening model which is a recommended screening model for assessing the impact of traffic on air quality. The inputs to the air dispersion model consist of information on road layouts, receptor locations, annual average daily traffic movements, annual average traffic speeds and background concentrations. The greenhouse gas regional impact of the proposed development on emissions of CO_2 was assessed using the Design Manual for Roads and Bridges screening model.

Scenarios whereby development does not progress were modelled to indicate whether concentrations will be within EU ambient air quality standards under all scenarios and for all five pollutants assessed. In addition, the impact of the traffic from proposed development and wider Magee Barracks regeneration masterplan proposals in comparison to the respective EU limit values for the pollutants was assessed. Based on the UK Design Manual for Roads and Bridges modelling results, the impacts of the developments in terms of ambient levels of nitrogen dioxide, particulate matter less than 10 microns, particulate matter less than 2.5 microns, carbon monoxide and benzene are predicted to be negligible with respect to the operational phase local air quality assessment for the long and short term.

Mitigation measures in relation to traffic-derived pollutants have focused on improvements in both engine technology and fuel quality with vehicles over recent years significantly cleaner than those prior to this period.

The greatest potential impact on air quality during the construction phase is predicted to be from construction dust emissions – particulate matter less than 10 microns, particulate matter less than 2.5 microns and the potential for nuisance dust. In order to minimise dust emissions during construction, a series of mitigation measures are proposed in the form of a Dust Minimisation Plan. When the dust minimisation measures set out in the Plan are implemented, fugitive emissions of dust from the site will be insignificant and pose no nuisance at nearby receptors.

NOISE AND VIBRATION

AWN Consulting Limited was commissioned to conduct an assessment of the noise and vibration impacts associated with the proposed development and wider Magee Barracks regeneration masterplan proposals.

The existing noise climate in the vicinity of the former Magee Barracks site was surveyed. Prevailing noise levels are primarily due to local road traffic.

The noise impact assessment has focused on the potential outward impacts associated with the construction and operational phases of the development on the surrounding environment.

During the main construction phases involving site clearance, demolition and building construction works, the assessment has determined that the construction noise criteria can be complied with at the nearest properties. There is potential for elevated levels of noise at some adjacent properties during demolition works of buildings within the grounds. A schedule of noise mitigation measures including noise limits and screening will all be employed to ensure noise and vibration impacts during construction and demolition will not exceed the recommended limit values.

During the operational phase, the outward noise impact on the surrounding environment will be limited to any additional traffic on surrounding roads and plant noise from the commercial / community buildings proposed as part of the development. The impact assessment has concluded that the noise effects of additional traffic from the proposed development and wider Magee Barracks regeneration masterplan proposals will not be significant. The resulting impact is neutral, long-term and non-significant.

MATERIAL ASSETS

This chapter was prepared by John Spain Associates Planning and Development Consultants in consultation with RKD Architects and Garland Consulting Engineer. This chapter considers the impact of the proposed development on environmental resources of human origin. The objective of the assessment is to ensure that these assets are used in a sustainable manner, so that they will remain available for future generations after the delivery of the proposed development.

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

- Urban Settlements
- Ownership and Access
- Transport Infrastructure
- Foul and Surface Water Disposal
- Potable Water Supply
- Natural Gas Supply
- Electrical Supply
- Telecoms
- Municipal Waste

The proposed development will contribute to the renewal and regeneration of Kildare Town, enhance its urban structure and built fabric and improve overall connectivity and permeability within the town by providing new pedestrian and cycle links between existing residential areas on the eastern side of the town and the town centre, rail station and community facilities on Hospital Street and Melitta Road. As such, the proposed development is anticipated to have significant positive effects on urban settlements, ownership and access and transport infrastructure.

Further positive cumulative effects will result from the wider Magee Barracks regeneration proposals, which include a supermarket, cancer treatment clinic and completion of a road link between Hospital Street and Melitta Road, a specific local planning policy objective.

Subject to the implementation of the various construction phase mitigation measures recommended in the EIAR, the proposed development is not anticipated to have any significant adverse impacts on foul and surface water disposal, water, gas or electricity supply, telecoms infrastructure or municipal waste services.

This chapter concludes that there is unlikely to be any significant adverse impacts on material assets as a result of the proposed development during either the construction or operational phases of development.

RISK MANAGEMENT

The 2014 EIA Directive (2014/52/EU) has updated the list of topics to be addressed in an EIAR and has included 'Risk Management' as a new chapter to be addressed. Article 3 of the new EIA Directive requires that the EIA shall identify, describe and assess in the appropriate manner, the direct and indirect significant effects on population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage, and landscape deriving from (amongst other things) the *"vulnerability of the project to risks of major accidents and / or disasters that are relevant to the project concerned".*

As the site is not located within the catchment of a SEVESO site, the risks identified relate to accidents during construction (traffic or otherwise) or fires or falls during operation. Mitigation measures during construction regarding health and safety practices and a traffic management plan will ensure that the likelihood of accidents is low. Fire safety has been designed into the proposed development. The risk of falls has been considered in the design of the proposed development so as operationally they are not likely to occur.

INTERACTIONS OF THE FOREGOING

The purpose of this chapter of the EIAR is to draw attention to significant interaction and interrelationships in the existing environment. In preparing and co-ordinating the EIAR, John Spain Associates Planning and Development Consultants ensured that each of the specialist consultants liaised with each other and dealt with the likely interactions between effects predicted as a result of the proposed development, ensuring that appropriate mitigation measures were incorporated into the design process.

John Spain Associates required that a specific section on interactions be included in each of the environmental topic chapters of the EIAR. This approach is considered to meet with the requirements of Part X of the Planning and Development Act 2000 (as amended), and Part 10, and Schedules 5, 6 and 7 of the Planning and Development Regulations 2001-2018. The detail in relation to interactions between environmental factors is covered in each chapter of the EIAR.

PRINCIPAL MITIGATION AND MONITORING MEASURES

This chapter provides a summary of all mitigation and monitoring measures proposed throughout the EIAR for ease of reference for the consent authority and all interested parties.