ENVIRONMENTAL IMPACT ASSESSMENT REPORT

VOLUME 3 - Non Technical Summaries

GRANGE CASTLE MEDIA PARK

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PLANNING FOR THE FUTURE

APRIL 2024

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1.0 INTRODUCTION AND METHODOLOGY

This is the Non-Technical Summary (NTS) of an Environmental Impact Assessment Report (EIAR) that accompanies a planning application for a media park development located in the townlands of Coolscuddan, Brownstown and Milltown, west of Grange Castle Business Park, Newcastle, County Dublin.

This NTS has been prepared by Tom Phillips + Associates Town Planning Consultants in conjunction with a multi-disciplinary EIA team for Lens Media Limited.

As per the requirements of the Directive, the NTS comprises an easily accessible summary of the EIAR, using non-technical language. It is formulated to be understandable to those without a prior background to the Project or particular environmental expertise.

1.1 Nature and Extent of Project

The site of the Project is a greenfield site of c. 22.6 hectares located c.2km west of Grange Castle Business Park and c.700m north of Peamount Hospital. Gollierstown Bridge is located to the northeast of the site and the Grand Canal proposed Natural Heritage Area ("pNHA", site code 002104) runs along the north of the site (the Site).

This planning application relates to the proposed development of a media park. Further details of the relevant planning history are set out in Chapter 3 of this EIAR.

The proposed development constitutes "the Project" for the purposes of EIA and is set out in more detail in Chapter 3 of this EIAR.

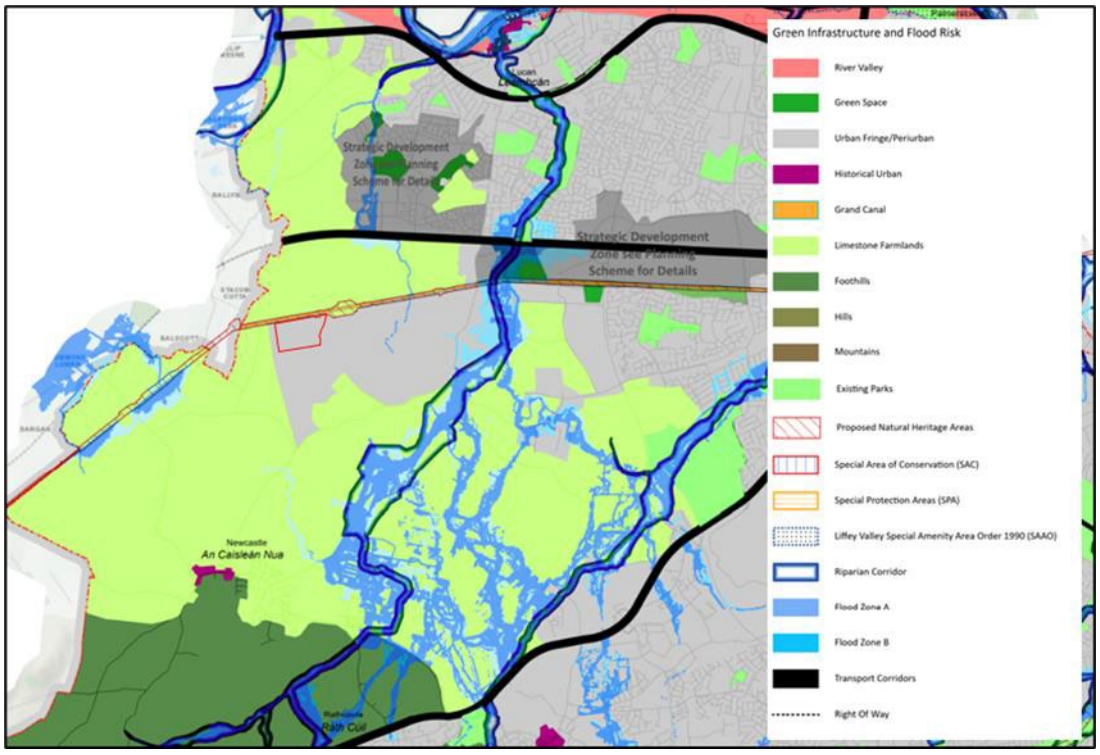

Figure 1.1: Indicative site outlined in red (Source: Map 13 South Dublin County Council Development Plan 2022-2028, cropped and edited by TPA 2024).

1.2 EIA Process

EIA requirements are governed by Directive 2014/52/EU, which amends the previous EIA Directive (Directive 2011/92/EU). The primary objective of the EIA Directive is to ensure that projects that are likely to have significant effects on the environment are subjected to an assessment of their likely impacts.

EIA forms part of the planning consent process and is carried out by the Competent Authority. An EIAR is prepared by / on behalf of a Developer is respect of a project seeking planning consent. The EIAR this becomes an integral informing element in the Competent Authority's EIA. The 2014 Directive has introduced strict new requirements in respect of the competency of experts responsible for the preparation of the EIAR (see Appendix of 1.1 of the EIAR for details on the experts involved in the preparation of this document).

The main purpose of the EIA process is to identify the likely significant effects on the environment associated with a proposed development and to eliminate or mitigate these effects. There are a number of steps involved.

The EIA process may be summarised as follows:

1. Screening – Is EIA required?
2. Scoping – If EIA is required, what aspects of the environment should be considered/
3. Preparation of EIAR
4. EIAR informs EIA (as part of the consent process)

1.3 Need for EIAR - Screening

The EIA Directives list those projects for which an EIA is mandatory (Annex I) and those projects for which member states must provide a process to determine if it is likely to have significant effects on the environment and therefore an EIA should be undertaken (Annex II). This process may involve a case-by-case examination, the establishment of objective thresholds or other criteria, or a combination of these.

Annex I projects are listed in Part 1 of Schedule 5 of the *Planning and Development Regulations 2001 (as amended) (*"the Regulations").

The proposed development is not of a type listed within Part 1 of Schedule 5 of the Regulations and therefore a mandatory EIA is not required in this instance.

Annex II projects are set out in Part 2 of Schedule 5, together with specified thresholds above which a project must be subject to an EIA. The following classes of project listed in Part 2 of Schedule 5 are relevant in light of the nature of the proposed development:

Class 10 (a)

"Industrial estate development projects, where the area would exceed 15 hectares".

[Class 10 (dd)

"All private roads which would exceed 2,000 metres in length."]

The proposed development is by its nature an estate type development with several buildings which, while engaged in the same industry (namely film, music, and other media production), may be utilised at different times by different undertakings, all sharing common infrastructure

on a c.22 hectare site. The proposed development is therefore industrial estate development required to undergo an EIA under the EIA Directive.

[Furthermore, the proposed development includes the development of 3,423m of internal private roads. As this exceeds 2km the proposed development, the proposed development is also required to undergo an EIA as it includes development within class 10(dd) of Part 2 of Schedule 5.]

On this basis we have determined that the proposed development is a project of a type which is required to undergo an EIA in accordance with the EIA Directive.

1.4 Purpose of the Environmental Impact Assessment Report

An EIAR's purpose is to predict and assess the likely significant effects (direct and indirect) on the environment arising from the proposed development. It is used during the consent process to inform EIA.

As per Article 5(1) of the amended Directive and Schedule 6 of the 2018 Regulations, an EIAR must include the following information:

- Description of Project
- Description of Baseline Scenario
- Description of Likely Significant Effects
- Description of Avoidance / Mitigation Measures
- Description of Reasonable Alternatives (and rationale for chosen option)
- A Non-Technical Summary

Annex IV of the Directive sets out a more detailed outline of the information required in an EIAR as follows. The subject EIAR has been prepared in full compliance with the stated requirements of Annex IV, together with Schedule 6 of the 2018 Regulations.

1.5 Scoping of the Environmental Impact Assessment

The scope of the EIAR has been prepared in consultation with the respective specialists within the EIA team. The Scoping Report set out a detailed justification relating to the environmental aspects to be considered in detail in the EIAR for the proposed development on the basis of the potential for significant effects. The Scoping Report also related to the construction and operational phases of the proposed development.

Table 1.1 below outlines the environmental aspects covered in this EIAR and the justification for why they have been included.

Environmental Aspect	Detailed Assessment	Justification
Population and Human Health	Yes	The proposed development may impact on population and human health, employment, local community, and amenity uses, during the construction and operational phases.
Biodiversity	Yes	The subject site is greenfield in nature, and there are no existing buildings or structures on site at present.

		As the proposed development includes significant amounts of construction and development and is located close to a proposed Natural Heritage Areas (pNHA), an assessment of effects on Biodiversity is required.
Land, Soils and Groundwater	Yes	Impacts on geology and hydrogeology will be assessed in terms of the construction, operational and decommissioning phase of the proposed development. This will include geo-technical and environmental site investigation. Potential cumulative impacts with other projects will also be assessed.
Hydrology	Yes	The proposed development has the potential to impact on water (including flood risk, hydrology, and drainage) as there will be ground disturbance associated with the proposed development.
Air Quality and Climatic Factors	Yes	Construction and operational phases will have the potential to give rise to air quality impacts, principally relating to traffic associated with the proposed development. A baseline air quality assessment will be undertaken, with reference to EPA monitoring data which is representative of the current location which lies in Zone A (Dublin) of the 4 No. Air Quality Monitoring Zones (A-D) in Ireland.
Noise and Vibration	Yes	Construction and operational phases will have the potential to give rise to impacts relating to noise and vibration. A baseline noise survey will be undertaken to determine the prevailing noise level representative of the site and nearest noise sensitive locations. Noise monitoring will be installed on site at secure locations. In addition, an attended day survey will be conducted on a cyclical basis at locations representative of the nearest noise sensitive locations and development facades.
Material Assets – Waste (Construction and Demolition)	Yes	It is likely that the proposed development will generate waste arisings that will require management during construction and operation.
Material Assets – Traffic and Transportation	Yes	The transportation chapter of the EIAR will present an assessment of the potential traffic and transport impacts of the proposed development.
Material Assets – Site Services	Yes	The Material Assets section of the EIAR will examine the likely significant effects of the construction and operation of the proposed development on intrinsic and valuable assets of material value.
Cultural Heritage incl. Archaeological, Architectural	Yes	The site is not identified as being in an area with any relevant Archaeological Conservation Area – however, given the extent of works proposed and the location of the site, an assessment is considered appropriate. The archaeological, architectural, and cultural assessment will provide an assessment of the archaeological, architectural, and cultural heritage potential within, and in the vicinity of the extent of the proposed development.
Landscape and Visual Impact Assessment (LVIA)	Yes	Given the scale of the buildings proposed, the LVIA will consider effects on the landscape character of the existing setting (i.e., as a result of the

		construction and existence of the proposed development) and visual impacts (i.e. the extent to which the proposed development can be seen).
Interactions	Yes	This is the potential for multiple direct or indirect effects (from various environmental aspects) to result in an accumulation or magnified effects from the proposed development.
Cumulative Impacts	Yes	The proposed development will be in proximity to other permitted and proposed developments and thus has the potential to exacerbate or create larger, more significant effects. The EIAR will assess the impact inter alia of the proposal in line with relevant proposals within 1km of the subject site. The relevant proposals are set out in Appendix 1.1 of the EIAR.

Table 1.1: Environmental aspects covered in this EIAR and the justification for why they have been included. (Source: TPA, 2023).

1.6 EIAR Methodology and Format

In addition to the 2014 Directive, the subject EIAR has been informed by:

- *Guidelines on the Information to be contained in Environmental Impact Statements (EPA, 2022);*
- *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (EPA, 2003);*
- *Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, August 2017);*
- *Draft Advice Notes for Preparing Environmental Impact Statements,* Draft, (EPA draft September 2015a);
- *Draft Revised Guidelines on the Information to be Contained in Environmental Impact Statements* (EPA draft September 2015b);
- *Environmental Impact Assessment of Projects: Guidance on Screening* (European Commission, 2017);
- *Environmental Impact Assessment of Projects: Guidance on Scoping* (European Commission, 2017);
- *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report* (European Commission, 2017);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment,* (August 2018);
- *Guidance of Integrating Climate Change and Biodiversity into Environmental Impact Assessment* (European Commission, 2013);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Environment, Community and Local Government 2013);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Government of Ireland, 2018);
- *Key Issues Consultation Paper on the Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems* (Department of Housing, Planning, Community and Local Government 2017);
- *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions* (European Commission, 1999);

- *Implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment* (European Commission, 2003);
- *Circular PL 05/2018 – Transposition into Planning Law of Directive 2014/52/EU amending Directive 2011/92/EU on the effects of certain public and private projects on the environment (the EIA Directive) And Revised Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Planning and Local Government, 2018)

The above Is not a fully exhaustive list. The EIAR contributors have referred to heading-specific legislation, policy, and/or guidelines within each in individual EIAR Chapter.

EIARs require the assimilation, co-ordination, and presentation of a wide range of relevant information in order to allow for the overall assessment of a proposed development. To allow for ease of presentation, and consistency when considering the various environmental factors considered, a systematic structure is used for the main body of the Report. The structure of the EIAR is outlined below.

1.6.1 Introduction and Project Description Chapters

The chapters of this EIAR introduce and describe the proposed development in sufficient detail to allow for a full assessment of the potential environmental effects.

The need for the proposed development is also described and a detailed outlined of the consideration of alternatives is presented in order to clearly outline the decision making process leading to the proposed development including the environmental appraisal of reasonable alternatives.

1.6.2 Environmental Baseline and Assessment CHAPTERS

Each of the chapters of this EIAR broadly follow the same structure. This structure is as follows:

- Introduction;
- Methodology;
- Receiving Environment (Baseline and Predicted Baseline);
- Characteristics of the Proposed Development;
- Potential Impact of the Proposed Development;
- Mitigation Measures;
- Predicted Impact of the Proposed Development;
- Monitoring;
- Reinstatement (if required);
- Interactions and Potential Cumulative Impacts;
- References

1.6.3 EIAR Study Team and Competency

This EIAR was completed by a project team led by Tom Phillips + Associates, who also prepared a number of the chapters.

In accordance with EIA Directive 2014/52/EU, we confirm that the experts involved in the preparation of this EIAR are fully qualified and competent in their respective fields.

Each contributor has extensive proven expertise in the relevant field concerned, thus ensuring that the information provided herein is complete and of high quality.

Chapter	Aspects of the Environment Considered	Contributor	Person Responsible
Chapter 1	Introduction and Methodology	Tom Phillips + Associates (TPA)	Gavin Lawlor/ Bernard Dwyer
Chapter 2	Site Location and Context	TPA	Gavin Lawlor/ Bernard Dwyer
Chapter 3	Description of the Proposed Development	TPA	Gavin Lawlor/ Bernard Dwyer
Chapter 4	Key Alternatives Considered	TPA	Gavin Lawlor/ Bernard Dwyer
Chapter 5	Population and Human Health	TPA	Gavin Lawlor/ Bernard Dwyer
Chapter 6	Biodiversity	AWN	Mairead Rawal
Chapter 7	Land, Soils, and Ground Water	AWN	Mairead Rawal
Chapter 8	Hydrology (Surface Water and Waste Water)	AWN	Mairead Rawal
Chapter 9	Air	AWN	Mairead Rawal
Chapter 10	Climate	AWN	Mairead Rawal
Chapter 11	Noise and Vibration	AWN	Mairead Rawal
Chapter 12	Material Assets – Waste (Construction and Demolition)	AWN	Mairead Rawal
Chapter 13	Material Assets – Traffic and Transportation	BMCE	Ciaran Kennedy/Christina Fox
Chapter 14	Material Assets – Site Services	BMCE	Ciaran Kennedy/Christina Fox
Chapter 15	Cultural Heritage incl. Archaeology	IAC	Faith Bailey
Chapter 16	Landscape Visual Impact Assessment	Murray & Associates	John Ward
Chapter 17	Interactions and Cumulative Impacts	TPA	Gavin Lawlor/ Bernard Dwyer
Chapter 18	Mitigation	TPA	Gavin Lawlor/ Bernard Dwyer
	Non-Technical Summary	All Contributors	

Table 1.2: List of EIAR Chapters and Contributors (Source: TPA, 2022.)

2.0 SITE LOCATION AND CONTEXT

2.1 Location of the Subject Site

The application site comprises 22.6 hectares of undeveloped land, located west of Grange Castle Business Park, c.20km south-west from Dublin Airport and c.16km south-west from Dublin city centre. The site is bounded by the banks of the Grand Canal, a proposed Natural Heritage Area (pNHA) to the north, agricultural land to the south, east and west.

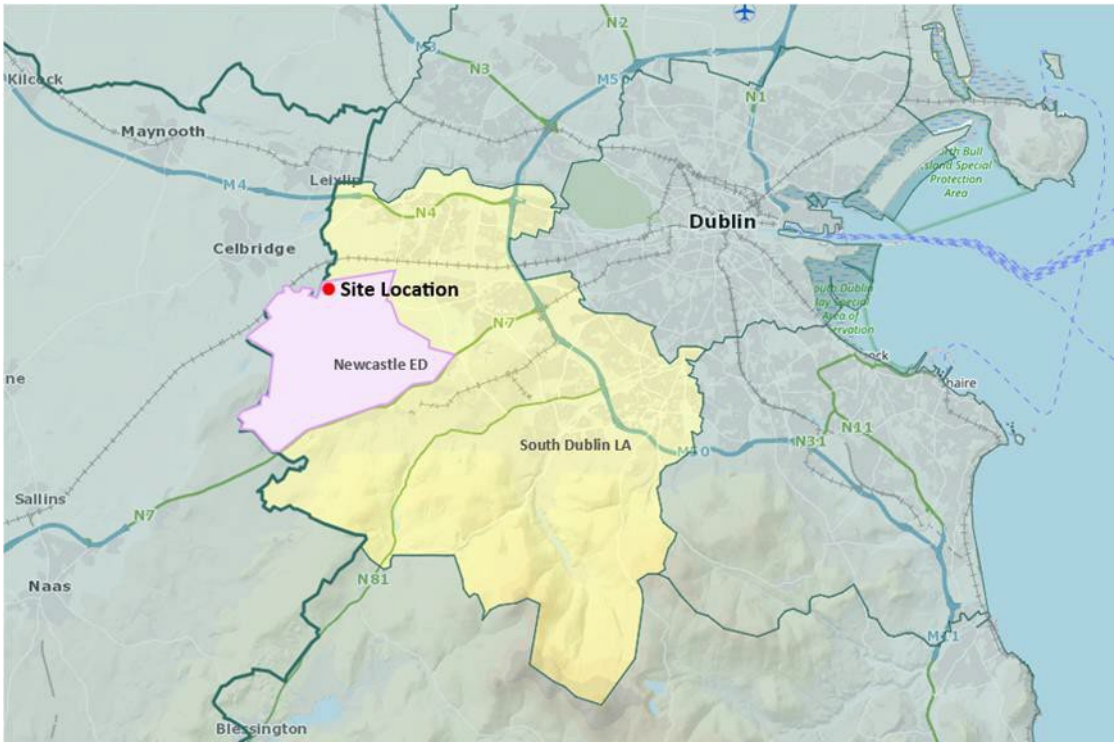

Figure 2.1: Media Park site location within Greater Dublin Area (Source: myplan.ie, annotated by TPA 2023).

2.2 Site Description and Development Context

The site is currently a greenfield site used for agriculture and its immediate surrounds are also in agricultural use. The site is at a key transition point between agriculture land and enterprise and employment zoned land. It is also proximate to the Kildare border with Celbridge town approx. 3km northwest of the site. The site is c.700m north of Peamount Hospital. Gollierstown Bridge is located to the northeast of the site and Grand Canal pNHA (site code: 002104) runs along the north of the site. There are minimal sensitive receptors in the vicinity of the site with the nearest residential properties being located along Relickeen lane. There are 2 existing farm holdings located approximately 70 m and 100 metres from the south western boundary of the site with a cluster of residential properties approximately 600 metres to the south west. We also note ribbon development of residential and farm properties along Tubber lane, approximately 700 metres to the west and on the northern side of the Grand Canal. There is a stud farm located approximately 2.8 km to the north west and a boarding kennels located approximately 800 metres to the south.

The proposed development site is situated on land zoned as Objective EE: Enterprise and Employment, "*to provide for enterprise and employment related uses*", under the South Dublin County Development Plan 2022-2028. The wider Grange Castle area is characterised by a mixture of land uses including extensive areas of greenfield/agricultural land, residential uses, and industrial uses.

The existing Grange Castle Business Park, situated to the East of the subject site, includes a number of major employers including Microsoft, Pfizer, and Takeda among others in a mix of manufacturing and data centre developments. Peamount Hospital is located to the south of the application site, and Weston airport is located to the northwest of the site. The lands are therefore within close proximity to flight approach routes of these two airports as outlined within the South Dublin Development Plan 2022-2028. In order to address any potential concerns with regard to aviation, the applicants have appointed O'Dwyer and Jones Design Partnership, Aviation Specialists to the project to carry out an Aviation Assessment. This Assessment has been included as Appendix 2.1 of this EIAR.

Grange Castle has acted as a magnet for large-scale employment developments that would be unsuitable to more central locations due to their particular locational or operational requirements. The subject site was selected as most suitable given the unique security and privacy requirements of proposed development. The subject site also presents reduced constraints in terms of nearby sensitive receptors. The relatively flat and low lying site results in minimal visual impact from surrounding vantage points. Chapter 4 of the EIAR provides additional detail on the locational requirements and alternative locations that were explored earlier on in the evolution of the project including the environmental advantages of the subject site compared to other sites.

In relation to both built and cultural heritage designations, there are no Protected Structures or proposed Protected Structures within the boundaries of the site. The nearest protected structure, Gollierstown Bridge (Ref. No. 131), is located north east of the application site. The site is not located in or within the vicinity of an Architectural Conservation Area (ACA).

There are no monuments on the Record of Monuments and Places (RMPs) located within the boundary of the subject site.

The subject site is not located within the consultation distance for any of the existing SEVESO sites located within the wider Grange Castle area and surrounding areas. The closest Upper Tier site is the Brenntag Chemicals facility approximately 3.2 km to the south.

The site as mentioned previously, is bounded by the Grand Canal, which is subject to a proposed Natural Heritage Designation (pNHA). The Grand Canal is an artificial linear waterway that hosts a variety of habitats and plant and animal species, including protected species. The canal acts as a direct national link and an ecological corridor between the River Shannon and Dublin Bay and while the site is not a Natura 2000 site, it is now recognised as a pNHA.

The nearest Natura 2000 site is Rye Water Valley/Carton SAC (site code: 001398) which is located approx. 7km northwest of the subject site.

In terms of access and existing public transport connections, the subject site benefits from being located in relative proximity to Dublin Airport, which is a key requirement in terms of providing accessibility for talent and ensuring efficient production turnaround times.

Additionally, the main Dublin to Cork rail line including Commuter services runs approximately 1km north of the site, with nearby stations at Hazelhatch and Celbridge, and Adamstown. At

present, the nearest bus stops to the subject site are located at the Grange Castle Business Park. These stops are serviced by the following routes outlined below.

- **13**: Harristown – Grange Castle Business Park
- **151:** Balgaddy Road – East Road
- **869**: Greenogue – Park West Station
- **W4**: The Square Tallaght – Blanchardstown SC

Access to the proposed development is to be provided via the recently completed Grange Castle West Access Road (planning ref. no. SD188/0009), to the east of the site(Note access road is under construction in figure 2.5) . The new access road provides a raised 2m wide cycle path and a separate 2m wide pedestrian walkway.

2.3 Planning Context

This section provides an overview of the most relevant planning policies and guidance to the proposed development at national, regional, and local levels. The full planning policy context is set out in detail in the Planning Report prepared by Tom Phillips + Associates that accompanies the planning application.

2.3.1 South Dublin County Development Plan 2022-2028

Land-Use Zoning

The South Dublin Development Plan 2022-2028 notes that the subject site is on lands zoned '*EE: Enterprise and Employment'*. Lands under this zoning objective are to provide for enterprise and employment related uses only.

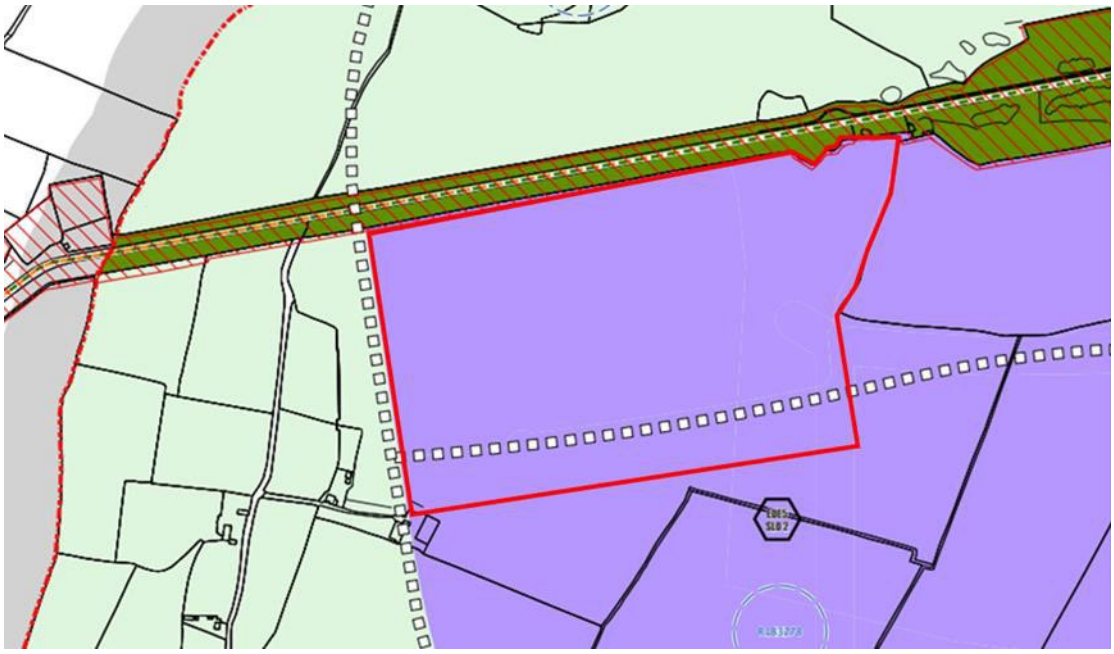

Figure 2.7: Indicative site boundary within zoning objective EE on South Dublin County Council Zoning Map (Source: South Dublin County Council; annotated by TPA 2023).

The use classes for zoning objective EE are set out in the Plan. Although the land use of a "media park" or "media campus" is not expressly stated, the Plan states that uses that have not been listed under the land use zoning tables "*will be considered on a case-by-case basis in relation to conformity with the relevant policies, objectives and standards contained within the Plan, particularly in relation to the zoning objective of the subject site and its impact on the development of the County at a strategic and local level*".

Enterprise and Economic Growth

In relation to the economic growth and development of South Dublin, the Council sets out an overarching objective to "*support sustainable enterprise and employment growth (in South Dublin County) recognising the County's role in the Dublin region as a driver of economic growth".* The following objectives provide further context as to how the Council's aims to support further economic growth in the County.

EDE1 Objective 1: To enable a strong, inclusive, and resilient economy, supported by enterprise, innovation, and skills through the creation of places that can foster enterprise and innovation and attract investment and talent, consistent with National Strategic Outcomes 4,5 and 6 of the NPF.

EDE1 Objective 2: To develop and support the Dublin Metropolitan Area Strategic Plan (MASP) through the growth in the identified strategic development and employment areas of South Dublin County, as part of the growth of the Dublin Region to a sufficient scale and quality to compete internationally and to be drivers of national and regional growth, investment, and prosperity consistent with NSO 5 of the NPF.

EDE4 Objective 8: To support the provision of a broad diversity of employment opportunities in the County that can attract a wide range of skills, training, and educational qualifications for a resilient and inclusive economy.

The Plan acknowledges that to maintain a good quality of life and vibrant and attractive places, the creation of a strong and resilient economic base that provides opportunities for employment, must be facilitated. In line with National and Regional policy, the Eastern and Midlands Region will accommodate approximately 320,000 additional people at work by 2040 (1m in 2016 to 1.34 million in 2040). To provide for the additional population in the workforce, there is a need to attract both new foreign direct investment (FDI) and indigenous investment to the County. For this to be achieved, a supply of high-quality, marketable, serviced lands and premises is needed.

Arts and Culture

In relation to arts and culture development within South Dublin County, the Plan sets out to develop and introduce new initiatives to strengthen the existing programmes and to bolster the pivotal role of the arts and culture infrastructure within South Dublin county.

Airports and Aerodromes

As mentioned earlier in this chapter, the application site is located in proximity to two airport surfaces; Casement Aerodrome and Weston Airport. Casement Aerodrome according to the Plan, is in continuous aviation use and is Ireland's only fully equipped military airbase, serving as the main centre of Air Corps operations. IE9 Objective 2 of the Plan *seeks to maintain the airspace around Casement Aerodrome free from obstacles to facilitate aircraft operations to*

be conducted safely, as identified in the Development Plan Index map. IE9 Objective 3 *to implement the principles of shielding in assessing proposed development in the vicinity of Aerodromes*, having regard to Section 3.23 of the Irish Aviation Authority *Guidance Material on Aerodrome Annex 14 Surfaces* (2015). The Plan states that in the case for development close to an aerodrome, the applicant must submit a longitudinal section through the relevant 'Obstacle Limitation Surface'.

Weston Airport is used for general aviation purposes, and consists of one runway, designated as a Code 2B runway, as per ICAO and EASA definitions. As Weston Airports obstacle limitation surface overlaps with those of Casement Aerodrome, the more stringent requirements of the two shall apply. In relation to the proposed development, the following objective is relevant;

IE Objective 2: *To maintain the airspace around the airport free from obstacles so as to facilitate aircraft operations to be conducted safely, including restricting development in the environs of the aerodrome, as identified by the Obstacle Limitations surfaces shown on the Development Plan Index Map*.

Green Infrastructure

Mapping of the green and blue assets of the county allowed for the key Green Infrastructure assets to be identified, and a vision and spatial framework to be developed based on a network of core areas, stepping stones and local and strategic corridors. Strategic Corridor 3 of the South Dublin GI network is the Grand Canal Corridor. The Canal as a pNHA, supports a range of key ecosystem services along its entire route and offers a major route for protected species from Dublin's rural hinterland through the urban environment of South Dublin County. As such, an overarching objective is put forward to *ensure that development along and adjacent to the Grand Canal, including the sensitive provision of amenity and recreational facilities, recognises the Canal's ecological status, avoiding areas and features of biodiversity and heritage sensitivity, and that appropriate set-back distances or buffer areas are identified and included*.

As per the requirements of the Plan, the development proposal is accompanied by detailed GI plans, submitted as part of the suite of Landscape Plans which are generally required for development. The plans have regard to the various considerations of the site, including the needs of the business and biodiversity enhancement, while simultaneously being cognisant of aviation safety given the proximity of the development site to both Casement Aerodrome and Weston Airport.

Space Extensive Enterprises

As far as possible, South Dublin County Council stipulate that space extensive enterprise should be located on lands which are outside the M50, and which do not compromise labour intensive opportunity on zoned lands adjacent to public transport, as per EDE7 Objective 1. The proposed media park development will be located on Enterprise and Employment zoned land beyond the M50, and as per the requirements of the Plan for space extensive enterprises, will include various sustainability measures including the energy efficient design of buildings and rooftop pv.

Built Form and Corporate Identity

As the surrounding context of the site comprises largely of undeveloped, agricultural land, the Building Heights and Density Guide principles have limited applicability to the current

proposal. However, the main architectural concept has been to develop an architectural form and articulation that sites a grouping of functionally specific boxes within a rural Dublin hinterland setting whilst providing a clear separation between large private working zones and welcoming/open public areas. Sensitivity to the surrounding rural landscape is the main inspiration for the appropriate material and colour palette developed by Foley Design and MCA. A succinct range of colours and materials drawing on Irish rural architectural typographies and native fauna and flora will be employed throughout the project.

The design of the proposed development has regard to the requirements of aviation safety in the area and will not exceed any of the maximum allowable heights in this regard. At its tallest point (sound stage buildings), the proposed development stands at an estimated ridge height 24.5m.

	Key Principle	GCMP Scheme
Access and Movement	• Major links to and through a site are provided as identified within the County Development Plan or relevant Local Area Plan, Masterplan and / or as determined by a site analysis process and / consultation with the planning authority; • The street network is easy to navigate with a clear hierarchy of streets identifying the function of each street; • Individual streets are designed in accordance with the requirements of the (DMURS) Design Manual for Urban Roads and Streets; • Large areas of parking (in particular staff parking) is located to the rear of buildings and screened from the street. Smaller areas of parking may be located to the front of buildings provided they are well designed (including areas of planting) and do not result in excessive setbacks from the street; • The design and layout of new business parks shall promote walking, cycling and the use of public transport, including adequate provision of cycle and pedestrian linkages.	The site is located at the western edge of the Grange Castle Business Park and will be facilitated by existing infrastructure in the area. The layout of the campus has been designed to ensure easy navigation and a clear delineation between restricted and publicly accessible areas. The campus has been designed in accordance with the principles of DMURS to ensure priority is given to pedestrians and cyclists and

Open Space and Landscape	• Provision of a detailed landscape plan showing site appropriate open space which may include a hierarchy of spaces suited to a variety of functions and activities. The landscape plan will also incorporate GI elements (see GI below); • Important natural features of the site such as trees, hedgerows and watercourses are retained, integrated within the landscape plan, and reinforced with the planting of native species; • Natural buffer zones and defensive planting are used to define private space and the use of fencing to the front of buildings is minimised. Where fences interface with the public domain they should be of a high quality and incorporate elements of landscaping (for screening); • Development within business parks shall maintain and promote a parkland-like setting with high quality landscaping	The proposal is accompanied by detailed landscaping plans prepared by Murray and Associates which outline the hierarchy of spaces within the camps and the various proposed GI features. A key element of the landscape strategy is the inclusion of a linear amenity space between the main camps and the Grand canal to the north which will provide a dual amenity and biodiversity function. The landscape for the new studios at Grangecastle has been developed as 'Fields' to emphasise the greenspace approach to the studio campus development. The concept for the design of the campus is to show the development emerging from the agricultural character of the original landscape. Insofar as is possible the design retains features of the existing agricultural landscape, and introduces new elements based around an agricultural theme
Green Infrastructure	• All development proposals shall be accompanied by a GI Infrastructure Plan, which will normally be submitted as part of the suite of Landscape Plans that are required for a development. Plans shall include the following: • Site location plan showing the development site in the context of the wider GI as shown on the GI Strategy for the County; • Site survey and analysis, identifying existing GI and key assets within the site; • Indicate how the development proposals link to and enhance the wider GI network of the County;	The application is accompanied by Detailed GI plans and landscaping proposals prepared by Murray and Associates. The plans will be developed in consultation with SDCC and having regard to the various considerations of the site including the needs of the business and biodiversity enhancement while also being cognisant of aviation safety given the location of the site within 3km of both Casement Aerodrome and Weston Airports. All GI proposals will need to be developed to in a manner that reduces risk of Bird Strike hazards. O'Dwyer and Jones Aviation planning have been appointed to the project to advise in this regard.

	• Proposed GI protection, enhancement, and restoration proposals as part of the landscape plan, where appropriate, for the site; • Proposals for identification and control of invasive species. Regardless of development size or type, applicants must submit an overall site summary quantifying and detailing the following: ○ tree and hedgerow removal; ○ tree and hedgerow retention; ○ new tree and hedgerow planting. This information will be submitted in a digital format agreed with the Council to allow amalgamation and reporting on tree and hedgerow cover within the County over time.	A key element of the proposal will be the provision of a linear amenity park along the boundary of the site with the Grand canal. Further details on the GI context of the site are outlined in chapter 16 of the EIAR (Landscape and Visual Impact Assessment).
Built Form and Corporate Identity	• Building heights respond to the surrounding context with transitions provided where necessary which reinforce the urban structure with taller buildings located along key movement corridors, gateways and nodes; • Individual buildings should be of contemporary architectural design and finish (including use of colour); • Various treatments, finishes and colours should be employed to reduce the bulk, massing and scale of larger buildings; • The layout and design of buildings should maximise frontages onto the public realm and enclose private external spaces (such as service yards and car parks) and storage areas behind them; à	• Building heights: The building heights for the taller elements in the project, the stage buildings (c. 24.5 metres), respond to specific functional/operational requirements of the television and movie industry. Each stage building has an adjoining , lower, 2 storey or three storey office area which provides both a public face and a step down transition in height for the larger stage boxes. These office fronted buildings address both north and south site boundaries providing appropriately scaled frontage to the public realm. The main gateway to the project opens onto a large external courtyard space which is flanked by 2/3 storey buildings to the north , south and west. These building clearly define the entrance space and circulation.

	Signage should be simple in design and designed to integrate with architectural features and / or the landscape setting (see also Section 12.5.7 Advertising, Corporate Identification and Public Information Signs).	• Contemporary Architectural Design: As the functional requirements for this specific type of project are rigid in terms of scale, layout and proximities, the main architectural concept has been to develop an architectural form and articulation that sites a grouping of functionally specific boxes within a rural Dublin hinterland setting whilst providing a clear separation between large private working zones and welcoming/open public areas. Sensitivity to the surrounding rural landscape is the main inspiration for the appropriate material and colour palette developed by Foley Design and MCA. A succinct range of colours and materials drawing on Irish rural architectural typographies and native fauna and flora will be employed throughout the project. • Reducing bulk, mass, and scale: In response to functional requirements of the movie making industry the stage buildings become the larger elements within the scheme. The massing and bulk of these elements has been reduced by employing a 3m high cladding strip around the base of each box to provide a datum which links up with the 2 storey adjoining office and also relates to the pedestrian scale circulation between buildings . The main stage box is clad with a lighter coloured panelled cladding which breaks down the scale and minimises the visual weight. Architectural detailing will emphasize horizontal bands around the buildings and covered connection between the buildings to visually break the scale of each building. • Maximise frontage: Whilst the project is situated in a rural context, the site layout employs a

		configuration which addresses both public realm and a large external landscaped space at main public entry. Buildings have been designed to provide frontage to the 50m public greenway along the canal to the north whilst also anticipating future public interface along the southern boundary. The main public entry to the east is structured around an external landscaped space with buildings providing frontage on all sides. • Signage: Clear but sensitive signage is crucial within a large working campus dealing. The design for signage has been developed in tandem with the architectural language of the buildings within the project based on a sensitivity to the surrounding rural landscape and Irish rural architectural typographies.
Space Extensive Enterprises		
	Insofar as possible, space extensive enterprise should be located on lands which are outside the M50 and which do not compromise labour intensive opportunity on zoned lands adjacent to public transport, as per EDE7 Objective 1.	The proposed GCMP will be located on Enterprise and Employment Zoned land beyond the M50.
To require that space extensive enterprises demonstrate the following:	Strong energy efficiency measures to reduce their carbon footprint in support of national targets towards a net zero carbon economy, including renewable energy generation;	The proposed development will include various sustainability measures including energy efficient design of buildings and rooftop PV. PV proposals will be accompanied by glint and glare assessments and will have regard to the needs of aviation in the area. O'Dwyer and Jones Aviation planning have been appointed to the project to advise in this regard.
	Maximise onsite renewable energy generation to ensure as far as possible 100% powered by renewable energy,	The application is accompanied by an Energy statement prepared by Homan O'Brien that will outline the energy

	where on site demand cannot be met in this way provide evidence of engagement with power purchase agreements (PPA) in Ireland	demands of the proposal and the various measures that will be taken to maximise energy efficiency and boost renewable energy production. The report has also looked at alternative energy proposals which were explored and ruled out.
	Sufficient capacity within the relevant water and wastewater and electricity network to accommodate the use proposed;	Pre-application Consultation has been carried out with the relevant bodies including SDCC, Uisce Eireann and ESB Networks to ensure that the needs of the Media Park can be met by the available local infrastructure.
	Measures to support the just transition to a circular economy;	An Operational Waste Management Plan will be developed for the Media Park which will aim to ensure that waste generation is minimised where possible, while opportunities for re-use or recycling of materials will be maximised.
	Measures to facilitate district heating or heat networks where excess heat is produced;	N/A
	A high-quality design approach to buildings which reduces the massing and visual impact;	The proposed scheme will be designed with high quality, durable materials that will provide attractive building finishes and will help to minimise visual impact.
	A comprehensive understanding of employment once operational;	GCMP, once fully operational and operating at capacity, is expected to provide employment in the region of 2,000 people both on and off site. This employment will be provided across a range of skill sets and disciplines.
	A comprehensive understanding of levels of traffic to and from the site at construction and operation stage;	The application will be accompanied by a detailed Traffic and Transport Assessment that will assess the potential impact of the development on the local road network at both construction and operational phases. A complimentary mobility management plan will also be developed to ensure that opportunities for sustainable travel are maximised where possible.

3.0 DESCRIPTION OF THE PROPOED DEVELOPMENT

3.1 Introduction

This chapter of the Environmental Impact Assessment Report has been prepared by Gavin Lawlor and Bernard Dwyer of Tom Philips + Associates with input from the project design team.

This chapter has been prepared in accordance with Article 5(1)(a) and Paragraph 1 of Annex IV of the EIA Directive and Article 94 and Paragraph 1(a) 2(a) of Schedule 6 of the Planning and Development Regulations 2001 (as amended), which states that the description of a project should comprise:

> *(a) a description of the proposed development, including, in particular—*
>
> *(i) a description of the location of the proposed development,*
>
> *(ii) a description of the physical characteristics of the whole proposed development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases,*
>
> *(iii) a description of the main characteristics of the operational phase of the proposed development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used, and*
>
> *(iv) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases;*

3.2 Overview of the Project

The proposed Media Park is intended to provide a world-class production facility, capable of delivering large scale film and television productions. Globally, consumer habits of film and television content consumption is evolving. The emergence and growth of mobile devices and new platforms such as subscription based TV (Netflix, Amazon Prime) has led to a surge in the demand for high quality content. This growing global demand for premium content requires additional suitable studio facilities and that Ireland is uniquely positioned to cater for and benefit from.

3.2.1 Site Location

The application site comprises 22.6 hectares of undeveloped land, located c. 1km north of Peamount Hospital, c.2km west of Grange Castle Business Park, c. 20km south-west from Dublin Airport, c. 14km south-west from Dublin city centre and c. 3km north-west of the Casement Aerodrome (Baldonnell). The site is bounded by the banks of the Grand Canal, a proposed Natural Heritage Area (pNHA) to the north, agricultural land to the south, east and west.

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The site is currently a greenfield site used for agriculture and its immediate surrounds are also in agricultural use. The site is at a transition point between agricultural land and enterprise and employment zoned land. It is also proximate to the Kildare border with Celbridge town approx. 3km northwest of the site. The site is c.700m north of Peamount Hospital. Gollierstown Bridge is located to the northeast of the site and Grand Canal pNHA (site code: 002104) runs along the north of the site. There are minimal sensitive receptors in the vicinity of the site with the nearest residential properties being located along Relickeen lane. There are 2 existing farm holdings located approximately 70 m and 100 metres from the south western boundary of the site with a cluster of residential properties approximately 600 metres to the south west. We also note ribbon development of residential and farm properties along Tubber lane, approximately 700 metres to the west and on the northern side of the Grand Canal. There is a stud farm located approximately 2.8 km to the north west and a boarding kennels located approximately 800 metres to the south.

Additional details on Site Location and Context are included in Chapter 2 of the EIAR

3.2.3 Land Use

The proposed development site is situated on land zoned as Objective EE: Enterprise and Employment, "*to provide for enterprise and employment related uses*", under the South Dublin County Development Plan 2022-2028. The wider Grange Castle area is characterised by a mixture of land uses including extensive areas of greenfield/agricultural land, residential uses, and industrial uses.

The proposed development will include removal of existing wall and vegetation at south western boundary and the construction of:

- 6 no. Stage buildings (buildings 1,2,3,11,13 &14) ranging in height between c. 20m and c. 23 m and comprising 11 no. Internal sound stages with overhead catwalks and 2-storey ancillary production offices including office space, plant and switch rooms, toilets, ICT rooms, staff toilets and showers and rooftop plant (totalling c. 35,187 sq. m);

- 4 no. workshops (buildings 15,16,17 &18) ranging in height between c. 9m and c. 10.5 m and comprising internal workshop areas, staff toilets and showers, ICT, plant and switch rooms(totalling c. 18,244 sq. m);

- TV studio and reception (building 4) comprising 3 no. TV studios (c. 17.8m height) and various supporting spaces across 3 floors including backstage shooting area, green rooms, hair and makeup rooms, production suites with ancillary offices, wardrobe, laundry room, Technical support offices, vision dept, lighting dept, pro service, run and crew kit room, chief engineer office, studio manager office, scenic store, props store, cameras and grip room, lighting and electrical room, plant room, sound control rooms, vision rooms, recording rooms and toilets at ground floor level; standard dressing rooms, tv post

production spaces, kitchen and crew area, toilets, mechanical/electrical room, technical offices, media store at first floor level; star dressing rooms, tv post production, lounge and kitchen, toilets; Single storey reception building to include guest holding areas, VIP and Guest service, security offices, staff toilets, showers and locker rooms (c. 10,875sq. m);

- 2-storey Dining Hall with ancillary 100 seat theatre (building 6) comprising indoor and outdoor dining areas, kitchen, storage and mechanical rooms, toilets and 3 no. meeting rooms at ground floor level; office space and covered outdoor balconies at First floor level (c. 4,351sq. m);
- Standalone café (building 5) (c. 96 sq. m);
- 3 no. single storey production suites (buildings 7,8 & 9) comprising offices, conference room, kitchenette, communal areas, and toilets (totalling c. 795 sq. m);
- 3-storey car parking deck (building 19) (c. 14,782.sq.m) to include 438 no car parking spaces with ancillary offices (building 20) (c. 4,307sq.m) refuse recycling area and rooftop plant; and,
- Outdoor stage area associated with the TV Studio and Reception Building;
- Site landscaping to include:
    - an amenity walkway and biodiversity area along the northern boundary of the site;
    - public realm and planting areas in the vicinity of TV Studio and Reception Building and production suite offices;
    - green roofs; and,
    - boundary treatments.
- Hard standing to include 'backlot' area (c. 14,160 sq.m) and 'shooting lanes' (c.18,900 sq.m) to facilitate outdoor filming;
- Electrical Substation (c 236 sq. m);
- primary and secondary gate houses (buildings 10 & 12);

The proposed development will include the provision of 516 no. surface car parking spaces (including 96no. EV, 13 no. disabled and 13 no. EV / disabled); 36 no. Large Vehicle parking spaces & 3 no. bus parking spaces to front of reception building as well as provision of Bicycle parking to include 274 no. covered spaces and 96 no. external spaces.

Additional works to include removal of existing wall and vegetation at south western boundary; provision of bin store adjacent to the proposed 'backlot' area and additional waste storage area adjacent to proposed dining hall; proposed pump station; rooftop PV panels (Buildings 17 & 18);rooftop plant; Building signage; LED video screen on eastern elevation of TV studio and reception building; public lighting; drainage and services provision; boundary treatments (including security fencing); piped site wide services and all ancillary works and services necessary to facilitate construction and operation.

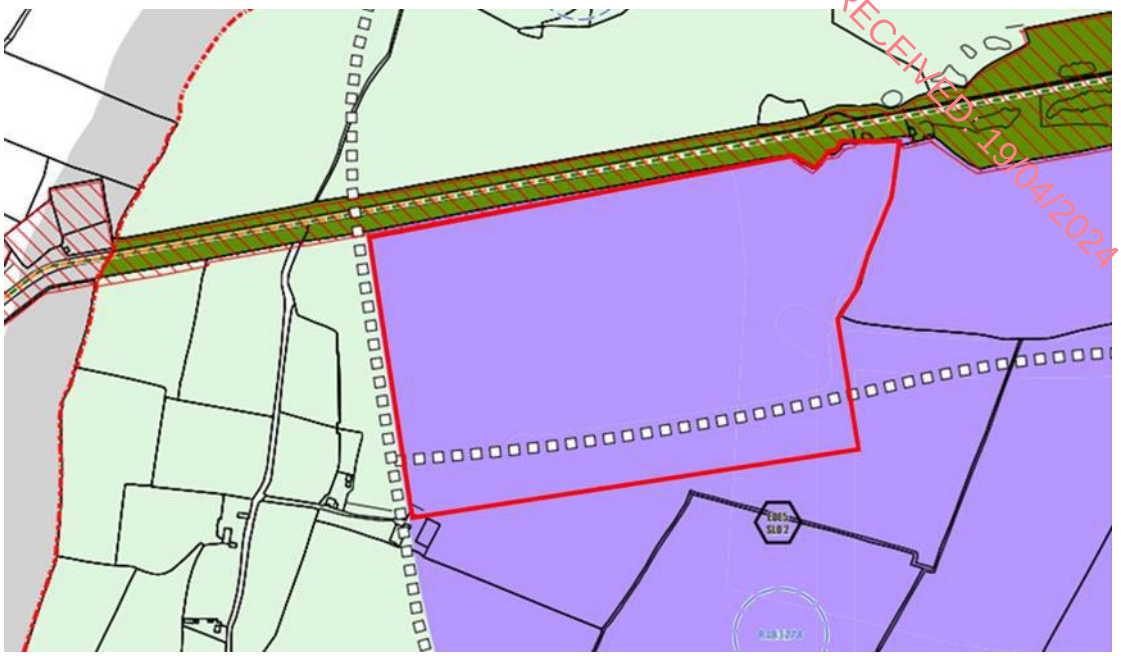

Figure 3.2: Indicative site boundary within zoning objective EE on South Dublin County Council Zoning Map (Source: South Dublin County Council; annotated by TPA 2023).

3.2.4 Site Layout and Design

A full description of the site layout and design is contained within the Architectural Design Statement prepared by MCA that accompanies this planning application.

The proposed Grange Castle Media Park (GCMP) once complete will consist of a combination of studios and workshops with additional office space and support buildings. The park will also feature a backlot area and shooting lanes.

GCMP is designed for Medium to Large Television and Movie Productions, which require multiple stages, support and office areas, workshops, parking, staging areas, base camps, security, shooting lanes and backlots. The entire site is intended to be utilized during productions and will often include multiple stages and areas for each filming session.

The proposed overall site strategy is split into 3 distinct zones which combine to form the overall site strategy. These comprise of a public landscaped amenity to the north, a “Front of House” area accessible to the public to the east and a secure “Back of House” area to the west.

The following sections include a description of each of these zones and the various buildings including descriptions of some of the key terminology used in the industry.

3.3 Site Services Infrastructure

The existing and proposed site services are described in detail in the Material Assets Chapters of this EIAR (Chapter 14 Site Services) and in the Infrastructure Design Report prepared by Barrett Mahony Civil & Structural Consulting Engineers that accompanies this planning application. This section provides a summary of the infrastructure requirements of the proposed development.

3.4 Risks of Major Accidents and/ or Disasters

Article 3 of the Environmental Impact Assessment (EIA) Directive 2014/52/EU requires the assessment of expected effects of major accidents and/or disasters within an EIA. Article 3(2) of the Directive states that "*The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned".* As set out within Chapter 2 of the EIAR, the subject site is not within any SEVESO consultation distance.

3.5 Risk of Accidents

The risk of accidents arising as a result of the proposed development at both construction and operational phases will be minimised through detailed design considerations and health and safety management. Details of these design considerations and management measures are contained in the *Construction Environmental Management Plan* accompanying this EIAR.

Due to the nature of the proposed use which does not involve the use, storage or processing of hazardous substances, the Proposed Development is not likely to cause a major accident or disaster.

4.0 ALTERNATIVES CONSIDERED

4.1 Introduction

In accordance with Directive 2014/52/EU, this chapter provides a description of the alternatives considered.

4.2 Rationale for the Proposed Development

The proposed development at Grange Castle would serve to support the Government's aim of securing Ireland's position as a centre of excellence and global leader in media production, as well as continuing to develop indigenous production delivering on the commitment of Pillar 4 of the Government of Ireland's 'Creative Ireland Programme' as part of the Audiovisual Action Plan. The overarching and long-term objective of Pillar 4 is to elevate Ireland's creative industries including media, with an initial key focus on Ireland's potential to become a global leader in film production, TV drama, documentary, children's storytelling, and animation for the screen.

It is envisaged that the Project will address the significant shortage of studio / production space in Ireland as well as shortage of 'premium' studio facilities internationally. The full-service film studio will provide sufficient scale, capacity, and capability to compete globally which can satisfy the broadest of production needs and the growing global demand.

4.3 Main Alternatives Considered

4.3.1 "Do Nothing" Alternative

The Do Nothing alternative would mean that the lands are not developed and remain as is in a vacant state. Under the Do Nothing alternative, both the scenario where nothing is done with the site and the scenario where no media park is developed on the site are considered.

If the Site is not developed it will remain in agricultural use and will not fulfil the policy objectives contained in *South Dublin County Development Plan 2022-2028* to deliver Enterprise and Employment land uses.

If a Media Park is not delivered at this site, it will not contribute towards meeting the national policy objective for Ireland to become a global leader in in film production, TV drama, documentary, children's storytelling, and animation. - i.e. do nothing is not viable and therefore is not a reasonable alternative.

The Do-Nothing scenario is considered to be an undesirable, unsustainable and inefficient use of this zoned site within Grange Castle for which there are local, regional, and national planning policies and objectives for its development.

A full analysis of the "do nothing" alternative is available in Section 4.4.1 of Chapter 4 of the EIAR.

4.3.2 Alternative Locations

Alternative locations have previously been explored for the proposed media park, including the Poolbeg Strategic Development Zone (SDZ) lands in the Dublin City Docklands. This would have involved developing an eight hectare site within the overall 34 hectare Poolbeg West SDZ as indicated in figure 4.1 below.

Figure 4.1: Aerial view of the Poolbeg West lands subject of the SDZ.

Full details of alternative locations considered are available in Section 4.4.2 of Chapter 4 of the EIAR.

4.3.3 Alternative Land Uses

The proposed development has been designed to adhere to the *South Dublin Development Plan 2022-2028* which notes that the subject site is on lands zoned 'EE: Enterprise and Employment'. Lands under this zoning objective are to '*provide for enterprise and employment*' related uses only.

The use classes for zoning objective EE are set out in the Plan and include:

Abattoir, Advertisements and Advertising Structures, Boarding Kennels, Enterprise Centre, Fuel Depot, Heavy Vehicle Park, Home Based Economic Activities, Industry-General, Industry-Light, Industry-Special, Office-Based Industry, Office less than 100 sq.m m, Open Space, Petrol Station, Public Services, Recycling Facility, Refuse Transfer Station, Science and Technology Based Enterprises, Scrap Yard, Service Garage, Shop-Local, Transport Depot, Traveller Accommodation, Warehousing, Wholesale Outlet.

In addition to the above, uses that are open for consideration in this zoning objective include:

Agriculture, Allotments, Car Park, Childcare Facilities, Concrete / Asphalt Plant in or adjacent to a Quarry, Data Centre, Garden Centre, Hotel / Hostel, Industry-Extractive, Motor Sales Outlet, Nightclub, Offices 100 sq.m m-1,000 sq. m, Offices over 1,000 sq.m, Public House, Refuse Landfill / Tip, Restaurant / Café, Retail Warehouse, Social Club, Sports Club / Facility, Stadium, Veterinary Surgery.

The policy objective for the site supports a wide range of employment uses, some of which would pose more significant risks for effects on the environment. The proposed development by comparison, will have limited environmental impact and will include various measures to enhance sustainability including provision of green roofs, rooftop PV, mobility management and energy efficiency measures.

Although the land use of a "media park" or "media campus" is not expressly stated, the Plan states that uses that have not been listed under the land use zoning tables,

"will be considered on a case-by-case basis in relation to conformity with the relevant policies, objectives and standards contained within the Plan, particularly in relation to the zoning objective of the subject site and its impact on the development of the County at a strategic and local level".

The project will provide significant employment opportunities at both construction and operational phases .

Having regard to the above, the proposed development is considered to be plan led and therefore alternative land uses are not considered to be reasonable options.

4.3.4 Alternative Layouts and Design

The design of the project has been developed in line with the South Dublin Development Plan 2022-2028, while the layout and selection of materials has been approached in such a way as to minimise the environmental impacts in a manner that is most sensitive to the receiving environment. Full details are available in Section 4.3.4 of Chapter 4 of the EIAR.

4.3.5 Alternative Processes

The EIA Guidelines states that within each design solution there can be a number of different options as to how the processes or activities of the development can be carried out.

The main alternative to studio based film productions is "on location" filming. Shooting productions on location involves significant additional logistical overheads in terms of transportation of cast, crew, and equipment. Owing to advances in video screen and computer generated technologies, it is possible to carry out an increasing number of productions within a dedicated studio environment such as that proposed at GCMP. This is a much more cost effective manner in which to produce film and television and has a significantly reduced impact on the environment in terms of carbon emissions. This is borne out in the increased demand for such facilities both in Ireland and internationally.

4.3.6 Alternative Mitigation Measures

The mitigation measures which have been proposed in the various chapters of the EIAR by the specialist competent Consultants are considered appropriate to the location, nature and

extent of the project and its potential impacts. Alternative mitigation measures for specific impacts have been proposed in a number of areas.

4.4 Conclusion

Having examined reasonable alternative options and having regard to the relative environmental impact of these options, it is considered that the proposed development is the preferred option in terms of land use, layout, and design for the sustainable development of the subject site.

5.0 POPULATION AND HUMAN HEALTH

5.1 Introduction

This chapter addresses potential impacts of the proposed development at Grange Castle, on population and human health. It is considered that the change from 'human beings' to 'population and human health' in relation to EIA is primarily for clarification and to ensure consistency with the SEA Directive.

5.2 Methodology

The Environmental Impact Assessment Reports of Projects – Guidance on the Preparation of the Environmental Impact Assessment Report (2017 European Commission) states the following in relation to Population and Human Health:

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

In addition, the EU Commissions SEA Implementation Guidance from 2003 does give an indication of how 'human health' should be considered in terms of environmental assessment. It states that "*the notion of human health should be considered in the context of the other issues mentioned" (*in the list of factors to be identified, described, and assessed) and thus environmentally related health issues such as exposure to traffic noise or air pollutants in other sections of this EIAR.

The Department of Environment, Community and Local Government set out an appropriate approach to reflect the requirements of the 2014 EIA Directive in relation to Population and Human Health in their Key Issues Consultation Paper. Firstly, the paper states that '*it is considered that the change from "human beings" to "population and human health" in relation to EIA is primarily clarificatory and to ensure consistency with, in particular, the Strategic Environmental Assessment (SEA) Directive'.*

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

The potential impacts on human health primarily arise from many factors including traffic, noise and air quality impacts and visual impacts among others. These issues are addressed in specific chapters within the EIAR. This chapter addresses other potential impacts on

population and human health which have not been covered in other chapters. Any assessment of population and human health will necessarily be context and project specific, although there are certain overarching human health considerations that should be considered for any EIA project.

The following guidelines have informed the preparation of this chapter:

- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment (European Union, 2017);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessments (Department of Housing, Planning and Local Government – August 2018);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DHPLG, 2018).
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, May 2022);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2002);

The preparation of this chapter was also informed by desktop studies of relevant policy documents and data sources including:

- Central Statistics Office (2023) – *Census 2022, 2016*
- Central Statistics Office (2023) – *CSO PxStat*
- Department of Health (2022) – Health in Ireland, 2022

A description of the receiving environment provides a baseline from which environmental impact can be measured. In the context of Population and Human Health the baseline consists of current population demographics, land use and the available facilities within the zone of influence of development.

The Zone of Influence (ZOI) of a development depends upon the development scale, the sensitivity of the receiving environment and the type of impact. The potential zone of influence for population and human health varies from factor to factor. Due to this, the population and demographics of this chapter will be considered at different scales as set out below. The baseline consists of current population demographics, land use and zoning and the available facilities within the zone of influence (ZOI) of the development.

In order to assess the likely significant impacts of the proposed development on population and human health, an analysis of recent Census data was undertaken relating to the economic, demographic, and social characteristics of the study area. For the purpose of this demographic analysis, the study area comprises 2 no. district enumeration areas as identified by the Central Statistics Office (CSO) of relevance to the proposed development, as follows:

1. The Electoral Divisions (ED) of Newcastle (1), Donaghcumper (2), Lucan-St Helens (3) and Clondalkin-Dunawley (4). Where 50% or more of the ED was encompassed by a 5km radius from the subject site, they were included in the combined ED.
2. The larger South Dublin Local Authority administrative boundary.

These enumeration areas provide demographic information for the local and regional populations which are likely to be impacted by the proposed development. Where relevant, information on national averages in each demographic area is also provided.

5.3 Key Factors

5.3.1 Social Patterns and Population Trends

Population demographics for each of the study areas were obtained from the Central Statistics Office Small Area Population Statistics for this assessment. Table 5.1 indicates that the population of Newcastle grew by 30.4% in the period between 2016 and 2022. This rate of growth is higher than the growth experienced in both South Dublin LA and the State, which grew by 7.4% and 8.1% respectively.

Study Area	2016	2022	% Change
ED - Newcastle	4,257	5,552	30.4%
Combined ED's	32,495	40,307	19.4%
LA – South Dublin	278,767	301,075	7.4%
State - Ireland	4,761,865	5,149,139	8.1%

Table 5.1: Population Trends (CSO 2016, 2022).

A comparison of the age profile of Newcastle and the larger administrative area of South Dublin is set out in Table 5.2 below. The age profile is similar. It is noted that the primary population within Newcastle (15.6%) is slightly higher than that of South Dublin (12%). The young adult population in Newcastle (5.3%) is slightly lower than South Dublin (7.5%).

Age Cohorts	Newcastle		Combined ED		South Dublin	
Population 2022	Population	%Total	Population	%Total	Population	% Total
Preschool (0-4)	409	7.4%	2,923	7.3%	18,677	6.2%
Primary (5-12)	866	15.6%	5,354	13.3%	36,054	12%
Secondary (13-18)	441	7.9%	3,426	8.5%	25,696	8.5%
Young Adults (19-24)	292	5.3%	2,744	6.8%	22,492	7.5%
Adults (25-64)	2,860	51.5%	21,453	53.2%	158,322	52.6%
Older Adults (65+)	684	12.3%	4,407	10.9%	39,834	13.2%
Total	5,552	100%	40,307	100%	301,075	100%

Table 5.2: Comparison of Age Profiles (CSO 2022).

5.3.2 Land Use and Settlement Patterns

The subject site is currently vacant, but a variety of land uses are present in the immediate vicinity. Chapter 2 of the EIAR describes in greater detail the land uses within the site context area. Grange Castle is characterised by a number large-scale manufacturing and data centre developments, including Pfizer Ireland Pharmaceuticals, Microsoft, and Takeda among others. There are a number of established residential neighbourhoods lying to the east of the neighbouring Grange Castle Business Park.

According to the 2022 Census, the total permanent private housing stock for Newcastle was 1,919 no. units. The vacancy rate for this area at 5% was higher than the vacancy rate of South Dublin (3.7%), but lower than the State (7.8%).

Year	2016			2022		
Study Area	Total Stock[1]	Vacant Stock[2]	Vacancy Rate	Total Stock	Vacant Stock	Vacancy Rate
ED Newcastle	1,527	84	5.5%	1,919	88	5%
Combined ED	11,440	521	4.6%	13,944	736	5.3%
LA - South Dublin	99,026	3,947	4.0%	106,074	3,897	3.67%
State - Ireland	2,003,645	183,312	9.1%	2,124,590	166,752	7.8%

Table 5.4: Change in Total Permanent Housing Stock (Census 2016, 2022).

The Development Plan states that the subject site's zoning objective is EE: Enterprise and Employment, which is defined as follows:

"To provide for enterprise and employment related uses".

The overarching aim of South Dublin County Council in relation to economic development and employment is 'to support sustainable enterprise and employment in South Dublin County recognising the County's role in the Dublin region as a driver of economic growth'. The proposed Media Park intends to provide a world-class production facility, capable of delivering large scale film and tv productions.

In terms of the local and wider economy, the development of the Media Park would result in extensive job creation (up to c. 2,000 between construction and operation) and associated economic benefits, the potential to create educational and apprenticeship programmes, and a boost in future tourism to the area associated with productions. In addition, Foreign and Direct Investment (FDI) would become a significant contributor to the local and wider economy.

It is envisaged that c. 1265 No. staff will be employed on site when the Park is fully constructed and operating at full capacity, with a much smaller number (c. 70 No.) on site during the night shift.

[1] *The housing stock is defined as the total number of permanent residential dwellings that were available for occupancy at the time of Census enumeration. In this report, the housing stock consists of permanent private households (inhabited by both usual residents and visitors), holiday homes, vacant house, or apartments along with dwellings where all occupants were temporarily absent on Census night. However, communal establishments, temporary private households (e.g., caravans and mobile homes), along with dwellings categorised by the enumerators as being derelict, commercial only, or under construction are excluded from this definition. This applies to both 2016 and 2022 figures.*
[2] *Includes vacant house, apartments, and holiday homes. Applies to both 2016 and 2022 figures.*

5.3.3 Economic and Employment Activity

Employment Rates

Nationally, The Economic and Social Research Institute (ESRI) Quarterly Economic Commentary Autumn 2023[3] noted that unemployment, which had averaged at 4.3 per cent in the first quarter of last year, is set to finish the year at 4.8 per cent in the final quarter.

At the local level, unemployed persons comprised c. 4.5.% of the population aged 15+ years within the Combined ED Study area in 2022.

Deprivation Index

Regarding the socio-economic status of local residents, the Pobal Deprivation Index (2022) utilises CSO statistics to analyse areas with high levels of affluence or disadvantage throughout the country by combining three dimensions of relative affluence and deprivation including the demographic profile, social class composition and labour market situation of each area.

The Newcastle Electoral Division (including the subject site at Grange Castle) was identified as a 'marginally above average area' in 2016 at 4.19 and remained as a 'marginally above average area' in 2022 at 2.39 by Pobal.

Commuter Patterns

A total of 2,279 no. commuters were recorded as resident within the Newcastle ED Area in 2022. Figures in relation to commuting as collected in Census 2022 were released by CSO on 5th December 2023. A total of 747,961 people nationally reported working from home at least 1 day per week in 2022. This represents 32% of the workforce.

Within the Combined ED Area, the majority of residents travel to work, school, college, or childcare using private car (50.4%) as a driver or passenger, followed by those travelling by bus(13.6%) and by those who walk (13%). Figures for the rest of South Dublin also indicated a lower number of car users (48.4%), followed by pedestrians (15.1%) and bus/coach users (12.4%).

5.3.4 Human Health

The Department of Health's latest policy report *Health in Ireland: Key Trends 2022* provides statistical analysis on health and healthcare in Ireland over the last ten years, and deals specifically with issues including life expectancy, mortality, and other health indicators within the country.

These key factors which contribute to population health are discussed in relation to the EU27 average below. Ireland was performing at pace or better than the rest of the EU27 in the majority of these factors (incl. stroke, suicide, and treatable death rates), but held a significantly higher 'Self-Perceived Health Status' than anywhere else in the European cohort.

[3] *The Economic and Social Research Institute (ESRI) Quarterly Economic Commentary Winter 2023*

Life Expectancy

Life expectancy at present, stands at 84 years for women and 81 years for men. These figures are higher than the average expectancy estimates of their EU counterparts.

Mortality

National health figures show that there has been an improvement in overall age-standardised mortality rates and a rise in life expectancy in Ireland over the past ten years; however, these figures may have been impacted by the COVID-19 pandemic and its effects on the healthcare system. The *Health in Ireland* report states also:

"Mortality rates have declined for all causes over the past decade by 15.8%. This decrease is particularly strong for mortality rates from suicide (-32.6%), transport accidents (-54.7%), pneumonia (-59.1%) and stroke (-47.8%). Infant mortality, measured as deaths per 1,000 live births, has also decreased by 14.3% since 2011 and remains below the EU average". [Department of Health, Health in Ireland: Key Trends 2022].

With respect to the particular causes of death within the population, the report identifies strong decreases in the mortality rates for suicide (-32.6%), pneumonia (-59.1%) and stroke (-47.8%), as shown below.

Perceived Health Status

At the national level, the Health in Ireland report identified that 45.6% of the male population and 45.2% of the female population of Ireland held a self-perceived health status of 'Very Good' in 2022, compared to only 24.3% of the male population and 21.1% of the female population within the greater EU27 population.

Ireland also topped the list of EU27 countries in this area in 2022 as shown in Figure 5.7, with c. 82.1% of the population rating their health as good or very good. However, health status varies in respect of income inequality, with fewer low-income earners reporting good health both in Ireland and across the EU.

At the local level, 84.1% of the population of South Dublin reported their health to be 'Good' or 'Very Good' accounting for 459,083 no. people within the Local Authority. These figures are mirrored within the ED Study Area, which also reported c. 82.9% of the population as having 'Good' or 'Very Good' health in 2022. Only 1.4-1.5% of the population in each area perceived themselves as having 'Bad' or 'Very Bad' health at the time of the Census.

5.4 Likely Impacts and Proposed Mitigation Measures

Refer to Section 5.5 of the EIAR for the likely impacts on population and human health and proposed mitigation measures for the same.

6.0 Biodiversity

6.1 Introduction

This chapter provides an assessment of the effects of the Proposed Development on the ecological environment, i.e. flora and fauna. It has been compiled by Moore Group, with input from Eire Ecology.

6.1.1 Statement of Authority

This chapter of the EIAR has been prepared by Ger O'Donohoe M.Sc. of Moore Group. Ger is the principal ecologist with Moore Group and has 30 years' experience in ecological impact assessment. He graduated from ATU Galway in 1993 with a B.Sc. in Applied Freshwater & Marine Biology and subsequently worked in environmental consultancy while completing an M.Sc. in Environmental Sciences, graduating from Trinity College, Dublin in 1999. (He also has over 15 years' experience of carrying out bat surveys and has completed the Bat Conservation Ireland, Bat Detector Workshop. In addition, Ger is an active member of the Galway Bat Group and Bat Conservation Ireland.

Expertise on Birds and Mammals has been provided by John Curtin of Éire Ecology. John Curtin B.Sc. is the principal ecologist with Éire Ecology and has over 10 years of experience in ecological impact assessment having conducted plant, habitats, birds, bats and mammal surveys since 2010 including at windfarm and solar sites. John holds a first class honour's degree in Environmental Science from NUI Galway, and has served on the Council of Bat Conservation Ireland since 2017. Primarily a field worker with experience in botanical and habitat identification, ornithological surveys, monitoring and mammal surveys.

6.1.2 Description of the Subject Site

The proposed development site is located to the south of the Grand Canal at Grange Castle West in west Dublin. The proposed development areas comprise arable land which are bounded by fringing woodland adjacent to the Grand Canal. Access to the site will be provided by an extension of the eastern section of the Grange Castle West Business Park (GCWBP) access route.

6.2 Methodology

This chapter of the EIA Report concentrates on ecological features within the development area of significance, primarily designated habitats and species. This includes habitats/species listed in Annex I, II and IV of the EU Habitats Directive, rare plants and animals listed in the Flora Protection Order[1] and The Wildlife Act 1976 (as amended) and other semi-natural habitats of conservation value.

Desktop research to determine existing records in relation to habitats and species present in the study areas was firstly undertaken. This included research on the National Parks and Wildlife Services (NPWS) metadata website, the National Biodiversity Data Centre (NBDC) database and a literature review of published information on flora and fauna occurring in the Proposed Development study areas.

[1] Statutory Instruments. S.I. No. 235 Of 2022 Flora (Protection) Order 2022. Government Of Ireland

Other environmental information for the area was reviewed, including soils, geology, hydrogeology and hydrology. Interactions in terms of these topics were important in the determination of source vector pathways and links with potentially hydrologically connected areas outside the Proposed Development site. The potential effects on European sites are assessed in this chapter of the EIA Report in relation to the requirements of the EIA Directive and Irish legislation and does not purport to comprise information for the purposes of the screening assessment to be carried out by the competent authority or authorities pursuant to Article 6(3) of the Habitats Directive. The obligation to undertake Appropriate Assessment derives from Article 6(3) of the Habitats Directive and is the subject of an Appropriate Assessment process presented in separate reports but with pertinent data included in relevant section herein on European sites.

The following legislation, policy and guidance were considered as part of this assessment:

- EU Habitats Directive (Council Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Flora and Fauna)
- EU Birds Directive (European Council (2009) Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds)
- Wildlife Acts 1976 – 2021
- Birds and Natural Habitats Regulations
- SDCC Development Plan, 2022 – 2028

6.3 Assessment Criteria

While the main focus of biodiversity was on the proposed development site within the red line boundary, the study extending outside the boundary area as appropriate was taken into account in addition to potential biological and hydrological connectivity in relation to European sites in a Zone of Influence. The ecological surveys were designed based upon the characteristics of the Proposed Development and its likely significant impacts on the baseline environment during construction and/or operation.

Desktop research to determine existing records in relation to habitats and species present in the study areas included research on the National Parks and Wildlife Services (NPWS) metadata website, and the National Biodiversity Data Centre (NBDC) database.

6.4 Receiving Environment

6.4.1 Flora

The Proposed Development is located adjacent to and south of the Grand Canal pNHA. There is an existing watercourse approx. 100m West of the site, which is culverted under the Grand Canal and parts of Adamstown and under the N4 at west Lucan where it joins the Lucan Stream and eventually the River Liffey c. 4.7 km downstream. The hydrological pathway to the European sites located in Dublin Bay at Alexandra Road Extension, Dublin Port is over 25 river km downstream.

During EIAR fieldwork, numbers of Golden Plover were recorded within the site and buffer zone of regional importance. This species was also recorded frequently, adding to the potential importance of the subject lands as supporting habitat. They are considered by the consultant ornithologist as an *ex situ* component of the North Bull Island flock.

The site comprises fields of existing arable land. The habitat of highest value is the Woodland fringe of the Grand Canal. This woodland provides a green corridor of between 15m and up to 45m in width for Badgers, Otters, Bats and Birds and as a proposed Natural Heritage Area it has *de facto* conservation status at a National level. Areas of woodland c. 100m further to the west are located outside the proposed development site and have high local value as a supporting habitat for birds and bats. The open fields within the site comprise Arable land of relatively low botanical ecological value. There were no invasive species recorded during site visits.

6.4.2 Fauna

Bats
Buildings outside the proposed development area to the southwest were surveyed for bat roost potential. Three sheds were ranked moderate for bat roosting potential while another was ranked low potential. Hedgerows within the site have no potential to host a bat roosts. A tree located just outside the boundary also had no potential. Low levels of bat activity were recorded on sit during surveys carried out. The development of the site is unlikely to impact the local bat population given the low levels of activity recorded.

Otters
No evidence of otters was found in the site.

Badgers
No evidence of badgers was found in the site.

Birds
The site of the proposed development consists of tillage, hedgerows and built land.
Species of note found within the site include Black-headed Gull, Buzzard, Golden Plover, Great Black-backed Gull, Herring Gull, Kestrel, Meadow Pipit, Mew Gull, Northern Lapwing, Redwing and Snipe.

The closest SPA with Golden Plover as a Conservation Objective is Bull Island SPA located 20.3km to the east. Additional bird surveys conducted in the area from February 2023 (and are still ongoing) show Golden plover regularly using the overall landbank during the winter months particularly from November to March. The site is of ecological value for wintering Golden Plover who can be found within the site and the surrounds in regionally important numbers.

No grazing swans (Whooper, Bewick's or Mute) was recorded within the site from any survey.

6.5 Predicted Impacts of the Proposed Development

There are no rare or protected habitats recorded in the study area inside the proposed development boundary. The nearest habitat of conservation value is the Grand Canal corridor which is part of the Grand Canal pNHA. There are no Habitats Directive Annexed habitats at the proposed development site. The habitats under the footprint of the proposed development are of relatively low local ecological value.

There are no direct pathways to water courses leading to European sites. The new surface water network within the site will convey surface water flows to two swales located within the 50m buffer zone between the proposed development and the Grand Canal to the North

of the site. Surface water flows from the site will outfall to the stream west of the site, which eventually joins the River Liffey. The hydrological pathway to the European sites located in Dublin Bay at Alexandra Road Extension, Dublin Port is over 25 river km downstream. All of the European sites in Dublin Bay with the exception of the North Bull Island SPA were excluded at preliminary screening stage due to distance of removal and large dilution factor which occurs in the downstream water bodies including the River Liffey and Dublin Bay itself.

During EIAR fieldwork, numbers of Golden Plover were recorded within the site and buffer zone of regional importance. This species was also recorded frequently, adding to the potential importance of the subject lands as supporting habitat. They are considered by the consultant ornithologist as an ex situ component of the North Bull Island flock.

Proposed development will result in permanent loss of feeding habitat. At this point significant impacts cannot be ruled out, particularly when considering the in-combination effect of this development alongside other plans in the locality. The project NIS has established that it cannot be excluded, on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on the Special Conservation Interest; A140 *Pluvialis apricaria* Golden Plover, of one European site; the North Bull Island SPA (Site code 004006).

6.5.1 Do Nothing Scenario

If the proposed development were not to proceed, the site would continue to be managed as arable farmland. The resulting scenario would incur **neutral effects**.

6.5.2 Construction Phase

Habitats

There will be a loss of c. 2 Ha or 0.2km^2 of relatively low value (ecologically) arable farmland. The overall effect on biodiversity is **imperceptible** and **neutral**. However, the value of these lands as supporting habitat to Golden Plover is examined further below.

There will be **no direct or indirect effects** on any Annexed habitats. There are no direct pathways and no connectivity to any European sites in the Zone of Influence. All of the European sites with the exception of the North Bull Island SPA are excluded at preliminary screening stage due to distance of removal and large dilution factor which occurs in the downstream water bodies including the River Liffey and Dublin Bay itself.

Fauna

Nonvolant Mammals

Mammal surveys on site did not find any badger setts or signs. Fox and rabbits can be found throughout the site. There will be **no significant negative effects** on any species of nonvolant fauna including badgers or otters during the construction stage.

Bats

The magnitude of the impact is assessed as **Very Low**. No likely significant effects at a local level are predicted.

Birds

No likely significant effects at a local level are predicted for Buzzard, Kestrel, Meadow pipit Lapwing, Snipe and Redwing.

In terms of direct habitat loss; The development will result in the permanent loss of feeding and resting habitat within the site for Golden Plover. In terms of displacement; the IECS Toolkit26 (EU, 2010) suggests that golden plover is of moderate sensitivity to disturbance. There is the potential of disturbance to wintering Golden Plover located in the hinterland through construction phase activities.

In the absence of mitigation the magnitude of impact is assessed as **Low**. Medium sensitivity species + Low Impact = Low effect significance. **No likely significant effects** at a local level are predicted.

6.5.3 Operational Phase

There will be **no significant negative operational effects** on adjacent habitats.

Habitats

The stormwater from the proposed development will be managed through a combination of several drainage techniques, including permeable pavement, filter drains, swales, and attenuation ponds. There is no real likelihood of any significant effects on European Sites in the wider catchment area.

Fauna

Nonvolant mammals

Mammal surveys on site did not find any badger setts although prints of badgers were recorded on two occasions suggesting occasional usage. Fox and rabbits can be found throughout the site. There will be **no significant negative effects** on any species of nonvolant fauna including badgers or otters during the operational stage.

Bats

There will be **no significant negative operational effects** on any species of bats during the operational phase.

Birds

Species of interest include Buzzard, Kestrel, Meadow pipit Lapwing, Snipe and Redwing. No likely significant effects at a local level are predicted for these species.

Considering Golden Plover, the development will result in the permanent loss of feeding and roosting habitat within the site. This proposal constitutes one portion of a larger scheme (Grange Castle West) where much of the landbank will be transformed from tillage to built lands. A road network to the east alongside other developments within the landbank will likely result in the eventual loss of all the Grange Castle lands for use by Golden Plover as even if the fields to the south are not developed, the location of an industrial unit close to a favoured field will likely lead to too much disturbance.

The magnitude of the impact in the absence of mitigation is assessed as very high. Medium sensitivity species + very high Impact = very high effect significance.

6.6 Mitigation Measures

6.6.1 Construction Phase

Habitats

There are no specific mitigation measures for habitats during the construction phase. Treelines located at the periphery of the site will be retained.

Fauna

Nonvolant mammals

There are no specific mitigation measures for nonvolant mammals during the construction phase.

Bats

No loss of bat roosts will occur due to the development. The development of the site will not impact bats utilising the Grand Canal. It is important to limit artificial lighting within the site to ensure no additional light pollution occurs on bat friendly habitat features, considered under the operational phase below.

Birds

Vegetation removal (soil heaps with sticks) should be carried out only outside the bird-nesting season March 1st – August 31st in order to avoid impacts on nesting birds. In the event this work is required earlier an ecological clerk of works (ECoW) should be onsite to ensure no nesting birds are present. Should an occupied nest be found the clearance works will have to wait until after fledging. An Ornithologist ECoW will be employed during the construction phase to micromanage construction locations to avoid disturbance on key species.

An ECoW will be involved in the construction and limit construction in areas based on when they are of value to birds. For Golden Plover, a 300m buffer zone will be set in place surrounding the typical resting place of identified flocks.

6.6.2 Operational Phase

Habitats

In addition to retention of existing green areas where feasible, the proposed development includes a Landscape Plan which provides for biodiversity offset through the additional planting, including extensive planting along a supporting strip adjacent to the southern boundary of the Grand Canal corridor and supports native species proposals having regard to the All-Ireland Pollinator Plan for the promotion of supporting habitats and a positive impact in terms of Biodiversity Nett Gain.

Fauna

Nonvolant Mammals

There are no specific mitigation measures for nonvolant mammals during the operational phase.

Bats

It is important to limit artificial lighting within the site to ensure no additional light pollution occurs on bat friendly habitat features. The lighting plan is designed to achieve this. A static monitoring program and Lux survey should be completed in the grassland to the north of the site, adjacent to the Grand Canal prior and after construction.

Birds

The loss of lands usable by Golden plover is of concern and it is essential the flocks utilising the site have alternative, suitable lands they can use going into the future, particularly as development continues westwards. These lands need to be identified and farming practices

managed in such a way that Golden Plover can utilise them. Ideally, these lands will already be used by Golden plover as the species appears faithful to existing sites. Communication with South Dublin County Council have identified that such lands are available. SDCC are making available an area of land in its ownership within an overall landholding comprising 37 hectares in provision with the policies and objectives set out in the South Dublin County Development Plan 2022-2028 and the South Dublin Biodiversity Action Plan. Land management strategies will be agreed with farmers and will form part of the conditions of relevant land management licences issued by the Council to farmers managing the relevant lands.

The project NIS has reviewed the predicted impacts arising from the Proposed Development and found that with the implementation of appropriate mitigation measures specifically with regard to Golden Plover, the proposed development will not result in a 'lasting and irreparable' adverse effect on the integrity of the North Bull Island SPA in light of its conservation objectives relating to the Golden Plover.

A bird box scheme will be enacted along the Landscape Plan proposed woodland strip bordering the Grand Canal.

6.7 Residual Impacts

6.7.1 Construction Phase

With the employment of appropriate mitigation measures with regard to local biodiversity, the Proposed Development will have a **neutral, imperceptible effect** on biodiversity.

6.7.2 Operational Phase

The provision of suitable lands agreed with South Dublin County Council will offset the loss of feeding ground for Golden Plover so that there will be no long term effect. The Landscape Plan provides for extensive planting along a supporting strip adjacent to the southern boundary of the Grand Canal corridor and supports native species proposals having regard to the All-Ireland Pollinator Plan for the promotion of supporting habitats and a positive impact in terms of Biodiversity Nett Gain and is considered a **positive impact**.

There will be **no negative operational effects** on biodiversity, habitats or fauna therefore, there are no residual effects.

6.8 Cumulative Impacts

A review of the National Planning Application Database was undertaken.

Given the proposed mitigation measure for the avoidance of negative effects on biodiversity, the potential for in-combination or cumulative effects will be avoided.

6.9 References

CIEEM (2019) Guidelines for Ecological Impact Assessment in the UK And Ireland Terrestrial, Freshwater, Coastal and Marine September 2018 Version 1.1 - Updated September 2019.

Department of the Environment, Heritage and Local Government (2010) Guidance on Appropriate Assessment of Plans and Projects in Ireland (as amended February 2010).

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7.0 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY

7.1 Introduction

The land, soils, geology, and hydrogeology assessment was undertaken by AWN Consulting Ltd. This chapter assesses and evaluates the likely significant effects of the development on the soils and subsoils, geology and hydrogeology aspects of the site and surrounding area. In assessing likely potential and predicted effects, account is taken of both the importance of the attributes and the predicted scale and duration of the likely effects.

7.1.1 Statement of Authority

This chapter of the EIAR has been prepared by Hana Blandford and Marcelo Allende.

Hana Blandford is an Environmental Consultant at AWN, working on a range of projects involving EIA Reports, EPA licence applications and site visits carrying out Soil, Water and Air sampling for analysis. She holds a BSc. Agri-Environmental Science with structured electives in Earth Sciences from University College Dublin.

Marcelo Allende (BSc, BEng) is a Senior Environmental Consultant (Hydrologist) at AWN with over 17 years of experience in Environmental Consulting as well as hydrological and hydrogeological technical studies. Marcelo holds a degree in Water Resource Civil Engineering from the University of Chile. He has worked on a wide of range of projects including multi-aspect environmental investigations, geo-environmental impact assessments, groundwater resource management, hydrological and hydrogeological conceptual and numerical modelling, strategic and site specific flood risk assessments, Due Diligence reporting, baselines studies, soils, surface water and groundwater monitoring and field sampling programmes on a variety of brownfield and greenfield sites throughout Ireland as well as overseas in Chile, Argentina, Peru and Panama. He also has detailed knowledge of environmental guidance, legislation, regulations & standards, and expertise in GIS (expert level) and MATTE studies at COMAH establishments. He is currently a member of the International Association of Hydrogeologists (IAH, Irish Group) and a member of Engineers Ireland (MIEI).

7.1.2 Description of the Subject Site

The proposed development will comprise the construction of studio/sound stages with ancillary support offices, workshop buildings a TV studio building outdoor stage areas, a TV studio and reception building, outdoor stages, a dining hall building, a standalone café, hardstanding areas including a backlot area and shooting lanes, production suite buildings, 3-storey car parking deck with ancillary offices, an electrical substation, gate houses, surface car parking and HGV parking area, a waste collection area, rooftop PV panels, green roofs and associated development works and landscaping.

7.2 Methodology

The assessment methodology has regards to the Environmental Protection Agency (EPA) 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports'

(EPA, 2022). In addition, the document entitled 'Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' by the Transport Infrastructure Ireland (TII, 2009, previously NRA) is referenced where the methodology for assessment of impact is appropriate.

The rating of potential environmental effects on the hydrological environment takes account of the quality, significance, duration and type of effect characteristic identified (in accordance with impact assessment criteria provided in the EPA Guidelines (2022) publication).

The TII criteria for rating the magnitude and significance of impacts and the importance of hydrological attributes at the site during the EIA stage are also relevant in assessing the impact and are presented Chapter 8.

The principal attributes (and effects) assessed include the following:

- Geological heritage sites within the vicinity of/ within the perimeter of the proposed development site;
- Landfills, industrial sites in the vicinity of the site and the potential risk of encountering contaminated ground;
- The quality, drainage characteristics and range of agricultural use(s) of subsoil around the site;
- Quarries or mines in the vicinity and the potential implications (if any) for existing activities and extractable reserves;
- The extent of topsoil and subsoil cover and the potential use of this material on site as well as any requirement to remove it off-site as waste for disposal (D) or recovery (R) options;
- High-yielding water supply wells/ springs in the vicinity of/ within the site boundary to within a 2km radius and the potential for increased risk presented by the proposed development;
- Classification (regionally important, locally important etc.) and extent of aquifers underlying the site boundary area;
- Increased risks presented to the groundwater bodies by the proposed development associated with aspects such as, for example, the removal of subsoil cover, removal of aquifer (in whole or part thereof), spatial drawdown in water levels, alteration in established flow regimes, and changes in local/ regional groundwater quality;
- Natural hydrogeological/ karst features in the area and potential for increased risk presented by the activities at the site; and
- Groundwater-fed ecosystems and the increased risk presented by operations both spatially and temporally.

Desk-based hydrological information in the vicinity of the site was obtained through accessing databases and other archives where available.

Site specific data was derived from the following sources:

- Ground Investigation Report - Ground Investigations Ireland (GII), Nov 2023.
- Flood Risk Assessment (BMCE), Oct 2023.

- Outline Construction Environmental Management Plan (BMCE), Dec 2023.
- Civil Engineering Infrastructure Report for Planning (BMCE), Oct 2023.
- Various design site plans and drawings; and
- Consultation with design engineers.

7.3 Assessment Criteria

The TII criteria for rating the magnitude and significance of impacts and the importance of hydrological attributes at the site during the EIA stage were referred to in the assessment and are presented Chapter 8.

7.4 Predicted Impacts of the Proposed Development

7.4.1 Construction Phase

Potential Impacts on Land, Soils, Geology and Hydrogeology

Due to the nature of the site, substantial fill will be required. Where possible excavated soil and rock will be re-used as fill material on site. Additional fill material required for the site shall be imported externally. There is potential for groundwater to become contaminated with pollutants associated with construction activity. Contaminated groundwater which arises from construction sites can pose a significant short-term risk to the underlying Dublin GWB quality for the duration of the construction if contaminated water is allowed percolate to the aquifer.

As mentioned above, the proposed development may require groundwater dewatering. This dewatering will be mainly associated with perched groundwater within the subsoils and some strikes from the upper weathered bedrock. In case of occurrence, this dewatering will be a short-lived event and will not impact on the groundwater regime of the Dublin GWB and on the quantitative aspects of waterbody status such as baseflow for hydrological waterbodies.

In the absence of mitigation measures the potential impacts during the construction phase on land, soils and geology, hydrogeology (groundwater) are ***negative***, ***not significant,*** and ***short term***.

Potential Impacts on Human Health and Populations

A reduction in groundwater quality via unmitigated pollutants entering the soil or Dublin Groundwater Body has the potential to lead to negative impacts on human health and populations.

There are a number wells in the wider vicinity of the proposed development site. The site is not located near any public groundwater supplies or group schemes. There are no groundwater source protection zones in the immediate vicinity of the site. The closest are c. 9.47 km south (Kilteel GWS) and c. 10.5 km north (Dunboyne PWS) which the proposed site is outside the zone of contribution of these supplies.

However, as yet unknown groundwater supplies or abstractions, and as yet unknown soil contamination may exist. Therefore, on this basis in the absence of mitigation measures the

potential impacts during the construction phase on human health and populations due to changes to the potential for contamination of soil and groundwater are ***negative, not significant,*** and ***short term.***

Potential Impacts on Water Framework Directive Status

There is a potential of accidental discharges during the construction phase, however these are temporary short-lived events that will not impact on any the water status of the underlying bedrock aquifer long-term and as such will not impact on trends in water quality and overall WFD status assessment.

7.4.2 Operational Phase

Potential Impacts on Land, Soils, Geology and Hydrogeology

There is no abstraction of groundwater proposed. There are no discharges to ground included in the design. There is a potential for leaks or spills of petroleum hydrocarbons on site during operation of the development which has the potential to impact on soil, and groundwater water quality if not adequately mitigated. Unmitigated leaks or spills may lead to contamination of soil or groundwater, soils that are contaminated by petroleum hydrocarbons can affect soil health. In the absence of mitigation measures (or design measures) the potential impacts during the operational phase on land, soils, geology, and hydrogeology are ***negative***, ***moderate,*** and ***long-term***.

Potential Impacts on Human Health and Populations

A reduction in groundwater quality via unmitigated pollutants entering the soil or Dublin GWB has the potential to lead to negative impacts on human health and populations. Furthermore, humans can also be exposed to petroleum hydrocarbons or other contaminants by inhaling the fumes / dust from contaminated soil. Depending on the type of contaminant and the level of exposure, soil contamination can have serious health implications.

However, as yet unknown groundwater supplies or abstractions, and as yet unknown soil contamination may exist. Therefore, on this basis in the absence of mitigation measures the potential impacts during the construction phase on human health and populations due to changes to the potential for contamination of soil and groundwater are ***negative***, ***not significant,*** and ***short term***.

Potential Impacts on Water Framework Directive Status

There is no long-term discharge planned which could have an impact on the status of the groundwater body. In the scenario of an accidental release (unmitigated leaks mentioned above) there is potential for a temporary impact only which would not be of a sufficient magnitude to effect a change in the current water body status.

There is no potential for adverse or minor temporary or localised effects on the Dublin GWB during the operational phase. Therefore, it has been assessed that it is unlikely that the proposed development will cause any significant deterioration or change in water body status or prevent attainment, or potential to achieve the WFD objectives.

7.5 Mitigation Measures

The design has taken account of the potential impacts of the development on the soils, geology, and hydrogeology environment local to the area where construction is taking place and containment of contaminant sources during operation. Measures have been incorporated in the design to mitigate the potential effects on the surrounding land, soils, geology, and hydrogeology.

7.5.1 Construction Phase

An *Outline Construction Environmental Management Plan (CEMP)* (2023) has been prepared for the development. This outline CEMP explains the construction techniques and methodologies which will be implemented during construction of the proposed development. All personnel working on the Site will be trained in the implementation of the procedures.

The CEMP sets out the proposed procedures and operations to be utilised on the proposed construction site to protect water quality. The mitigation and control measures outlined in the CEMP will be employed on site during the construction phase. All mitigation measures outlined here, and within the CEMP, will be implemented during the construction phase, as well as any additional measures required pursuant to planning conditions which may be imposed. Measures included in the CEMP include:

- measures to prevent sediment and sediment runoff;
- assessment of excavated materials for signs of contamination;
- a risk assessment for wet concreting to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil;
- measures to prevent any spillages to ground of fuels and other construction chemicals and prevent any resulting contamination to surface water and groundwater systems; and
- management and control of foul water discharge from site.

7.5.2 Operational Phase

The design has taken account of the potential impacts of the development on surface and groundwater quality, and soils and underlying bedrock; measures have been incorporated in the design to mitigate these potential impacts.

The proposed development stormwater drainage network design includes sustainable drainage systems (SuDS). These measures by design ensure the stormwater leaving the site is of a suitable quality prior to discharge. SuDS are drainage systems that are environmentally beneficial, causing minimal or no long-term detrimental damage. The proposed/existing SuDs for this development has been designed as a sustainable urban drainage system with grass swales, permeable paving and green roofs.

7.6 Residual Impacts

Construction Phase

The implementation of appropriate mitigation and monitoring measures will ensure that the potential impacts on land, soils, geology, hydrogeology during the construction phase are adequately mitigated. The residual effect on surface water quality during the construction phase is considered to be ***neutral, imperceptible,*** and ***short-term****.*

Following the TII criteria for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of impact is considered **negligible**.

The implementation of appropriate mitigation and monitoring measures will ensure that the potential impacts on human health and populations during the construction phase are adequately mitigated. The residual effect on surface water quality during the construction phase is considered to be ***neutral, imperceptible,*** and ***short-term.***

Even in the absence of the mitigation and monitoring measures, there will be no predicted degradation of the current groundwater body (chemically, ecological and quantity) or any impact on its potential to meet the requirements and/or objectives in the Water Framework Directive. There are appropriately designed mitigation measures which will be implemented during the construction phase to protect the hydrogeological environment. There is a potential of accidental discharges during the construction phase, however these are temporary short-lived events that will not impact on the water status of groundwater bodies long-term and as such will not impact on trends in water quality and over all status assessment. The residual effect on Water Framework Status during the construction phase is considered to be ***neutral, imperceptible,*** and ***short-term****.*

Operational Phase

The residual effect on land, soils, geology, and hydrogeology during the operational phase is considered to be ***neutral, imperceptible,*** and ***long-term****.* Following the TII criteria (refer to Appendix 7.1) for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of impact is considered **negligible**.

The residual effect on human health and populations during the operational phase is considered to be ***neutral, imperceptible,*** and ***long-term****.*

7.7 Cumulative Impacts

Construction Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place in the area. Multiple developments in the area could potentially be developed concurrently or overlap in the construction phase.

The implementation of mitigation and monitoring measures, as well as the compliance of permitted development with their respective planning conditions, will ensure there will be minimal cumulative potential for change to the land, soils, geology, hydrogeological environment during the construction phase of the proposed development. The residual cumulative impact of the proposed development in combination with other planned or permitted developments can therefore be considered to be ***neutral, imperceptible,*** and ***short-term***.

Operational Phase

In relation to the potential cumulative impact on land, soils, geology and hydrogeology during the operational phases, the operational activities which would have potential cumulative impacts are as follows:

Increased hard standing areas will reduce local recharge to ground and increase surface water run-off potential if not limited to the green field run-off rate from the Site. Cumulatively this development and others in the area will result in localised reduced recharge to ground and increase in surface run-off.

- Increased risk of accidental discharge of hydrocarbons from car parking areas, along roads, and in areas where the media activities require machinery or vehicles, is possible unless diverted to the surface water system with petrol interceptor.
- There will be a loss of greenfield area locally as part of the proposed Project.

The implementation of mitigation and monitoring measures, as well as the compliance of the above permitted development with their respective planning and zoning conditions, will ensure there will be minimal cumulative potential for change to the land, soils, geology, hydrogeological environment during the operational phase of the proposed development. The residual cumulative impact of the proposed development in combination with other planned or permitted developments can therefore be considered to be ***neutral, imperceptible,*** and ***long-term***.

8.0 HYDROLOGY

8.1 Introduction

The hydrology assessment was undertaken by AWN Consulting Ltd. This chapter assesses and evaluates the likely significant effects of the development on the hydrological aspects of the site and surrounding area. In assessing likely potential and predicted effects, account is taken of both the importance of the attributes and the predicted scale and duration of the likely effects.

8.1.1 Statement of Authority

This chapter of the EIAR has been prepared by Hana Blandford and Marcelo Allende.

Hana Blandford is an Environmental Consultant at AWN, working on a range of projects involving EIA Reports, EPA licence applications and site visits carrying out Soil, Water and Air sampling for analysis. She holds a BSc. Agri-Environmental Science with structured electives in Earth Sciences from University College Dublin.

Marcelo Allende (BSc, BEng) is a Senior Environmental Consultant (Hydrologist) at AWN with over 17 years of experience in Environmental Consulting as well as hydrological and hydrogeological technical studies. Marcelo holds a degree in Water Resource Civil Engineering from the University of Chile. He has worked on a wide of range of projects including multi-aspect environmental investigations, geo-environmental impact assessments, groundwater resource management, hydrological and hydrogeological conceptual and numerical modelling, strategic and site specific flood risk assessments, Due Diligence reporting, baselines studies, soils, surface water and groundwater monitoring and field sampling programmes on a variety of brownfield and greenfield sites throughout Ireland as well as overseas in Chile, Argentina, Peru and Panama. He also has detailed knowledge of environmental guidance, legislation, regulations & standards, and expertise in GIS (expert level) and MATTE studies at COMAH establishments. He is currently a member of the International Association of Hydrogeologists (IAH, Irish Group) and a member of Engineers Ireland (MIEI).

8.1.2 Description of the Subject Site

The proposed development will comprise the construction of studio/sound stages with ancillary support offices, workshop buildings a TV studio building outdoor stage areas, a TV studio and reception building, outdoor stages, a dining hall building, a standalone café, hardstanding areas including a backlot area and shooting lanes, production suite buildings, 3-storey car parking deck with ancillary offices, an electrical substation, gate houses, surface car parking and HGV parking area, a waste collection area, rooftop PV panels, green roofs and associated development works and landscaping.

8.2 Methodology

The assessment methodology has regards to the Environmental Protection Agency (EPA) 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports'

(EPA, 2022). In addition, the document entitled 'Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes' by the Transport Infrastructure Ireland (TII, 2009, previously NRA) is referenced where the methodology for assessment of impact is appropriate.

The rating of potential environmental effects on the hydrological environment takes account of the quality, significance, duration, and type of effect characteristic identified (in accordance with impact assessment criteria provided in the EPA Guidelines (2022) publication).

The TII criteria for rating the magnitude and significance of impacts and the importance of hydrological attributes at the site during the EIA stage are also relevant in assessing the impact and are presented Chapter 8.

The principal attributes (and effects) assessed include the following:

- River and stream water quality in the vicinity of the site (where available);
- Surface watercourses near the site and potential impact on surface water quality arising from proposed development related works including any discharge of surface water run-off;
- Localised flooding (potential increase or reduction) and floodplains including benefitting lands and drainage districts (if any); and
- Surface water features within the area of the site.

Desk-based hydrological information in the vicinity of the site was obtained through accessing databases and other archives where available.

Site specific data was derived from the following sources:

- Ground Investigation Report - Ground Investigations Ireland (GII), Nov 2023.
- Flood Risk Assessment (BMCE), Oct 2023.
- Outline Construction Environmental Management Plan (BMCE), Dec 2023.
- Civil Engineering Infrastructure Report for Planning (BMCE), Oct 2023.
- Various design site plans and drawings; and
- Consultation with design engineers.

8.3 Assessment Criteria

The TII criteria for rating the magnitude and significance of impacts and the importance of hydrological attributes at the site during the EIA stage were referred to in the assessment and are presented Chapter 8.

8.4 Predicted Impacts of the Proposed Development

8.4.1 Construction Phase

Potential Impacts on Surface Water Quality

There is potential for water (rainfall and/or groundwater) to become contaminated with pollutants released during construction activity. If not mitigated, contaminated water can pose a temporary risk.

Based on the potential for release, the nature of the discharge, and distance to Natura sites there is no likelihood of an impact on the surface water quality in the Liffey or Natura sites. In the absence of mitigation measures the potential impacts during the construction phase on surface water quality are following EIA guidance ***negative***, ***not significant,*** and ***temporary***.

Potential Impacts on Surface Water Flow and Quantity

Land clearing, earthworks and excavations will be required for construction phase operations to facilitate site clearance, construction of new plateaux levels for the units, construction of new buildings, foundations, and installation of services. There are no surface water abstractions proposed, therefore no potential impacts on the quantity of surface water. Based on the distance to Natura sites there is no likelihood of an impact on the surface water flow or water quality in the Liffey or Natura sites. As the canal is fully lined there is no potential for a source pathway linkage.

In the absence of mitigation measures the potential impacts during the construction phase on surface water flow and quantity following EPA guidance is ***negative***, ***not significant,*** and ***short term***.

Potential Impacts on Human Health and Populations

A reduction in water quality via unmitigated pollutants entering waterbodies has the potential to lead to negative impacts on human health and populations. However, there are no recorded Recreational Waters, Bathing Waterbodies, or Surface Water Drinking RPA, within immediate vicinity of the site. Therefore, in the absence of mitigation measures the potential impacts during the construction phase on human health and populations due to changes to the hydrological environment are ***negative***, ***not significant,*** and ***short term***.

Potential Impacts on Water Framework Directive Status

There is a potential of accidental discharges during the construction phase, however these are temporary short-lived events that will not impact on any surface water status long-term and as such will not impact on trends in water quality and overall WFD status assessment.

8.4.2 Operational Phase

Potential Impacts on Surface Water Quality

Surface water runoff from roads, car parking areas, and vehicles and machinery that may be used for the purpose of the intended media activities on site, can potentially contain elevated levels of contaminants such as hydrocarbons.

In the absence of mitigation measures (or design measures) the potential impacts during the operational phase on surface water quality are ***negative***, ***not significant,*** and ***long-term***.

Potential Impacts on Surface Water Flow and Quantity

The proposed increase in hardstanding area has the potential to resulting in increase in run-off from the site if not adequately mitigated. An increase in surface water run off can have an adverse effect on the hydrological regime of downstream environments via flooding and inundation to downstream properties. The buildings are within a zone that is at low flood risk. No localised pluvial flood risk for the site or vicinity was identified. The design incorporates drainage which will remove the potential for any pluvial flooding on site.

The proposed measures ensures that all development will not be impacted by the predicted flood events. In the absence of mitigation measures (or design measures) the potential impacts during the operational phase on surface water flow and quantity are ***negative***, **not *significant,*** and ***long-term***.

Potential Impacts on Human Health and Populations

A reduction in water quality via unmitigated pollutants entering local water streams has the potential to lead to negative impacts on human health and populations. The potential for unmitigated off-site flooding as a result of the increased hardstanding areas, and due to the flood risk at the site the proposed development has the potential to impact on human health, populations, and material assets, located downstream of the site.

In the absence of mitigation measures the potential impacts during the operation phase on human health and populations due to changes to the hydrological environment are ***negative***, ***not significant,*** and ***long term***.

Potential Impacts on Water Framework Directive Status

Although there are long-term discharges of surface water runoff planned which could have an impact on the status of the surface water body, they are not likely to impact surface water bodies. In the scenario of an accidental release, there is potential for a temporary impact only, which would not be of a sufficient magnitude to effect a change in the current water body status. There is no potential impact on water framework directive status.

8.5 Mitigation Measures

The design has taken account of the potential impacts of the development on the hydrological environment local to the area where construction is taking place and containment of contaminant sources during operation. Measures have been incorporated in the design to mitigate the potential effects on the surrounding water bodies.

8.5.1 Construction Phase

An *Outline Construction Environmental Management Plan (CEMP)* (2023) has been prepared for the development. This outline CEMP explains the construction techniques and methodologies which will be implemented during construction of the proposed development. All personnel working on the Site will be trained in the implementation of the procedures.

The CEMP sets out the proposed procedures and operations to be utilised on the proposed construction site to protect water quality. The mitigation and control measures outlined in the CEMP will be employed on site during the construction phase. All mitigation measures outlined here, and within the CEMP, will be implemented during the construction phase, as well as any additional measures required pursuant to planning conditions which may be imposed. Measures included in the CEMP include:

- measures to prevent sediment and sediment runoff;
- assessment of excavated materials for signs of contamination;
- a risk assessment for wet concreting to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil;
- measures to prevent any spillages to ground of fuels and other construction chemicals and prevent any resulting contamination to surface water and groundwater systems; and,
- management and control of foul water discharge from site.

8.5.2 Operational Phase

The design has taken account of the potential impacts of the development on surface water quality; measures have been incorporated in the design to mitigate these potential impacts.

The proposed development stormwater drainage network design includes sustainable drainage systems (SuDS). These measures by design ensure the stormwater leaving the site is of a suitable quality prior to discharge. SuDS are drainage systems that are environmentally beneficial, causing minimal or no long-term detrimental damage. The proposed/existing SuDs for this development has been designed as a sustainable urban drainage system with grass swales, permeable paving, and green roofs.

8.6 Residual Impacts

Construction Phase

The implementation of appropriate mitigation and monitoring measures will ensure that the potential impacts on land, soils, geology, hydrogeology during the construction phase are adequately mitigated. The residual effect on surface water quality during the construction phase is considered to be ***neutral, imperceptible,*** and ***short-term****.*

Following the TII criteria for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of impact is considered **negligible**.

The implementation of appropriate mitigation and monitoring measures will ensure that the potential impacts on human health and populations during the construction phase are adequately mitigated. The residual effect on surface water quality during the construction phase is considered to be ***neutral, imperceptible,*** and ***short-term.***

Even in the absence of the mitigation and monitoring measures, there will be no predicted degradation of the current groundwater body (chemically, ecological and quantity) or any impact on its potential to meet the requirements and/or objectives in the Water Framework Directive. There are appropriately designed mitigation measures which will be implemented during the construction phase to protect the hydrogeological environment. There is a potential of accidental discharges during the construction phase, however these are temporary short-lived events that will not impact on the water status of groundwater bodies long-term and as such will not impact on trends in water quality and over all status assessment. The residual effect on Water Framework Status during the construction phase is considered to be ***neutral, imperceptible,*** and ***short-term***.

Operational Phase

The residual effect on surface water quality during the operational phase is considered to be ***neutral, imperceptible,*** and ***long-term***.

Following the TII criteria (refer to Appendix 7.1) for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of impact is considered **negligible**.

The residual effect on human health and populations during the operational phase is considered to be ***neutral, imperceptible,*** and ***long-term***.

8.7 Cumulative Impacts

Construction Phase

In relation to the potential cumulative impact on hydrology during the construction phases, the construction works which would have potential cumulative impacts are as follows:

- Surface water run-off during the construction phase may contain increased silt levels or become polluted from construction activities. Run-off containing large amounts of silt can cause damage to surface water systems and receiving watercourses.
- Stockpiled material will be stored on hardstand away from surface water drains, and gullies will be protected during works to ensure there is no discharge of silt-laden water into the surrounding SuDs.
- Contamination of local water sources from accidental spillage and leakage from construction traffic and construction materials is possible unless project-specific measures are put in place for each development and complied with.

The implementation of mitigation and monitoring measures, as well as the compliance of permitted development with their respective planning conditions, will ensure there will be minimal cumulative potential for change to the hydrology environment during the construction phase of the proposed development. The residual cumulative impact of the proposed development in combination with other planned or permitted developments can therefore be considered to be ***neutral, imperceptible,*** and ***short-term***.

Operational Phase

In relation to the potential cumulative impact on hydrology during the operational phases, the operational activities which would have potential cumulative impacts are as follows:

- Increased hard standing areas will reduce local recharge to ground and increase surface water run-off potential if not limited to the green field run-off rate from the Site. Cumulatively this development and others in the area will result in localised reduced recharge to ground and increase in surface run-off.
- Increased risk of accidental discharge of hydrocarbons from car parking areas, the petrol station, and along roads is possible unless diverted to surface water system with petrol interceptor.
- There will be a small loss of greenfield area locally as part of the proposed Project.

The implementation of mitigation and monitoring measures; as well as the compliance of the above permitted development with their respective planning conditions, will ensure there will be minimal cumulative potential for change to hydrology environment during the operational phase of the proposed development. The residual cumulative impact of the proposed development in combination with other planned or permitted developments can therefore be considered to be ***neutral, imperceptible,*** and ***long-term***.

9.0 AIR QUALITY

9.1 Introduction

The air quality chapter has been prepared by AWN Consulting Limited and evaluates the impacts which the proposed development may have on air quality.

9.1.1 Statement of Authority

This chapter of the EIAR has been prepared by Ciara Nolan, a senior environmental consultant in the air quality and climate section of AWN Consulting Ltd. She holds an MSc. (First Class) in Environmental Science from University College Dublin and has also completed a BSc. Eng. in Energy Systems Engineering. She is a Member of both the Institute of Air Quality Management (MIAQM) and the Institution of Environmental Science (MIEnvSc). She has over 7 years' of experience in undertaking air quality and climate assessments. She has prepared air quality and climate impact assessments as part of EIARs for numerous developments including residential, industrial, commercial, pharmaceutical and data centre.

9.1.2 Description of the Subject Site

The site is located west of the Grange Castle Business Park approximately 10km west of Dublin City Centre. It is a greenfield site which is currently used for agriculture. The site is bound to the east and south by agricultural lands, to the west by Grange Castle Business Park, and to the north by the Grand Canal.

9.2 Methodology and Assessment Criteria

The air quality assessment has been carried out with regard to the following information, guidance, and standards:

- Air Quality Standards Regulations 2022
- European Commission Directive 2008/50/EC
- Clean Air Strategy for Ireland (Government of Ireland, 2023)
- WHO Air Quality Guidelines
- German TA-Luft standard for dust deposition (non-hazardous dust) (German VDI, 2002)
- Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2014)
- Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106 (TII, 2022a)
- Traffic Data, BMCE, 2023

9.3 Predicted Impacts of the Proposed Development

9.3.1 Construction Phase

An assessment of the potential dust impacts as a result of the construction phase of the proposed development was carried out based on the UK Institute of Air Quality Management (IAQM) guidance. This established the sensitivity of the area to impacts from construction dust in terms of dust soiling of property, human health effects and dust-related ecological effects. The surrounding area was assessed as being of low sensitivity to dust soiling and dust-related human health and ecological effects.

The sensitivity of the area was combined with the dust emission magnitude for the site under three distinct categories: earthworks, construction and trackout (movement of vehicles) in order to determine the mitigation measures necessary to avoid significant dust impacts. It was determined that there is at most a low risk of dust related impacts associated with the proposed development. In the absence of mitigation there is the potential for ***short-term***, ***negative***, ***imperceptible,*** and ***not significant*** impacts to air quality.

In addition, construction phase traffic emissions have the potential to impact air quality, particularly due to the increase in the number of HGVs accessing the site. Construction stage traffic emissions were calculated at representative worst-case receptors in the area and it was determined that concentrations of NO_2, PM_{10} and $PM_{2.5}$ will increase by an imperceptible amount as a result of the proposed development. Construction stage traffic emissions will have a ***short-term, neutral, imperceptible,*** and ***not significant*** impact on air quality.

9.3.2 Operational Phase

Operational phase traffic has the potential to impact air quality due to vehicle exhaust emissions as a result of the increased number of vehicles accessing the site. Operational stage traffic emissions were calculated at representative worst-case receptors in the area, and it was determined that concentrations of NO_2, PM_{10} and $PM_{2.5}$ will increase by an imperceptible amount as a result of the proposed development. Operational stage traffic emissions will have a ***short-term, neutral, imperceptible,*** and ***not significant*** impact on air quality.

9.4 Mitigation Measures

9.4.1 Construction Phase

Detailed dust mitigation measures, which are incorporated into the Construction Environmental Management Plan (CEMP) for the site will ensure that no significant nuisance as a result of construction dust emissions occurs at nearby sensitive receptors.

9.4.2 Operational Phase

As the predicted concentrations of pollutants will be imperceptible, no mitigation is required.

9.5 Residual Impacts

9.5.1 Construction Phase

Once the mitigation measures are implemented the residual impacts to air quality during the construction phase of the proposed development are considered to be ***short-term, direct, negative,*** and ***imperceptible***, posing no nuisance at nearby sensitive receptors (such as local residences).

9.5.2 Operational Phase

The residual impact to air quality has been assessed as ***long-term, neutral, imperceptible,*** and ***not significant***.

9.6 Cumulative Impacts

9.6.1 Construction Phase

There is the potential for cumulative impacts to air quality should the construction phase of the proposed development coincide with that of other developments within 350m of the site. A review of proposed/permitted developments in the vicinity of the site was undertaken and relevant developments with the potential for cumulative impacts were identified.

There is a low risk of dust impacts associated with the proposed development. The dust mitigation measures will be applied during the construction phase which will avoid significant cumulative impacts on air quality. With appropriate mitigation measures in place, the predicted cumulative impacts on air quality associated with the construction phase of the proposed development and the permitted cumulative developments are deemed ***short-term, direct, negative***, ***imperceptible,*** and ***not significant***.

9.6.2 Operational Phase

Operational phase direct impacts on air quality associated with the proposed development are predicted to be imperceptible. The traffic data provided for the operational stage air quality assessment included cumulative traffic associated with other developments in the area. Cumulative impacts are considered ***imperceptible, neutral***, ***long-term,*** and ***not significant***.

10.0 CLIMATE

10.1 Introduction

The climate chapter has been prepared by AWN Consulting Limited and evaluates the impacts which the proposed development may have on climate.

10.1.1 Statement of Authority

This chapter of the EIAR has been prepared by Ciara Nolan, a senior environmental consultant in the air quality and climate section of AWN Consulting Ltd. She holds an MSc. (First Class) in Environmental Science from University College Dublin and has also completed a BSc. Eng. in Energy Systems Engineering. She is a Member of both the Institute of Air Quality Management (MIAQM) and the Institution of Environmental Science (MIEnvSc). She has over 7 years' of experience in undertaking air quality and climate assessments. She has prepared air quality and climate impact assessments as part of EIARs for numerous developments including residential, industrial, commercial, pharmaceutical and data centre.

10.1.2 Description of the Subject Site

The site is located west of the Grange Castle Business Park approximately 10km west of Dublin City Centre. It is a greenfield site which is currently used for agriculture. The site is bound to the east and south by agricultural lands, to the west by Grange Castle Business Park, and to the north by the Grand Canal.

10.2 Methodology

The climate assessment comprises two main elements, these include:

- A greenhouse gas (GHG) assessment which assesses the impact of the proposed development on climate.
- A climate change vulnerability assessment which assesses the vulnerability of the proposed development to future climate change.

The GHG assessment involved quantifying the GHG emissions associated with the construction materials, construction activities and material replacement over the lifetime of the development using the Carbon Designer for Ireland tool developed by the Irish Green Building Council in partnership with One Click LCA Ltd. . The assessment was conducted using the Schedule of Areas provided by the project architects. These areas for the various building types were input into the OneClick tool. Detailed information on building materials was not available at this stage in the project and; therefore, the assessment has assumed generic default values within the OneClick tool to provide an initial high-level assessment of the potential embodied carbon impact of the project. The impact of the GHG emissions was assessed against the 2030 sectoral emission ceilings.

The climate change vulnerability screening assessment was carried out using the methodology of TII (2022) in their document *PE-ENV-01104 Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document*. The

assessment involved an analysis of the sensitivity and exposure of the development to various climate hazards including flooding, extreme temperatures, wildfire, drought, extreme wind, lightning, hail, and fog. The sensitivity of the development is combined with the exposure and together provide a measure of vulnerability. Vulnerabilities are scored on a high, medium and low scale. TII guidance (TII, 2022a) and the EU technical guidance (European Commission, 2021a) note that if all vulnerabilities are ranked as low in a justified manner, no detailed climate risk assessment may be needed. The impact from climate change on the proposed development is therefore considered to be not significant.

10.3 Predicted Impacts of the Proposed Development

10.3.1 Construction Phase

There is the potential for release of a number of greenhouse gas emissions to atmosphere during the full lifecycle of the proposed development including construction and operation. GHG emissions associated with the proposed development are predicted to be a small fraction of Ireland's Industrial sector or Commercial Buildings sector 2030 emissions ceilings.

10.3.2 Operational Phase

Traffic emissions associated with vehicles accessing the site during the operational phase have been assessed as part of the climate assessment. The proposed development will result in some increases in CO_2 emissions once operational. However, these increases are predicted to be minor and will be an imperceptible fraction of Ireland's national GHG targets and Transport sector emissions ceiling for future years.

The potential impact of climate change on the proposed development was assessed using the screening methodology recommended by TII in their 2022 guidelines. This assessed the sensitivity of the development to various climate hazards and, when combined with the potential exposure to these hazards, results in a vulnerability risk score. The proposed development is predicted to have at most low vulnerabilities to the various climate hazards and therefore climate change risk is not considered significant.

Overall, no significant impacts to climate are predicted during the construction or operational phases of the proposed development.

10.4 Mitigation Measures

A number of best practice mitigation measures are proposed for the construction phase of the proposed development to ensure that impacts to climate are minimised. Additionally, the proposed development has incorporated a number of design mitigation measures, primarily in relation to energy usage, into the design of the development which will reduce climate impacts once the development is operational. Design mitigation has been considered when assessing the vulnerability of the development to future climate change.

The impact to climate as a result of a proposed development must be assessed as a whole for all phases. The proposed development will result in some impacts to climate through the release of GHGs. TII state that the crux of assessing significance is "*not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to*

reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050". The proposed development has proposed some best practice mitigation measures in order to reduce impacts to climate and is committing to reducing climate impacts where feasible. The impact of the proposed development in relation to GHG emissions is considered ***long-term, moderate, negative,*** and ***not significant***.

In relation to climate change vulnerability, it has been assessed that there are no significant risks to the proposed development as a result of climate change.

10.5 Residual Impacts

The associated residual operational impacts are ***long-term, moderate, negative*** and ***not significant***.

10.6 Cumulative Impacts

With respect to the requirement for a cumulative assessment PE-ENV-01104 (TII, 2022a) states that "for GHG Assessment is the global climate and impacts on the receptor from a project are not geographically constrained, the normal approach for cumulative assessment in EIA is not considered applicable."

However, by presenting the GHG impact of a project in the context of its alignment to Ireland's trajectory of net zero and any sectoral carbon budgets, this assessment will demonstrate the potential for the project to affect Ireland's ability to meet its national carbon reduction target. Therefore, the assessment approach is considered to be inherently cumulative.

11.0 NOISE AND VIBRATION

11.1 Introduction

The noise and vibration section has been prepared by AWN Consulting Limited and assesses the noise and vibration impacts associated with the short-term construction phase and the long-term operational phase of the proposed development.

11.1.1 Statement of Authority

This chapter of the EIAR has been prepared by the following consultants:

Aoife Kelly (Senior Acoustic Consultant) holds a BSc(Hons) in Environmental Health and a PhD in Occupational Noise. She has completed the Institute of Acoustics Diploma in Acoustics and Noise Control and won the 2016 Association of Noise Consultants (ANC) best diploma project for speech intelligibility in schools. Working in the area of acoustics since 2013, she has extensive experience in occupational noise surveying and environmental acoustics.

Finnian Hurley (Acoustic Consultant) has a BA(Hons) in Music as well as an M.Phil in Music & Media Technology from Trinity College Dublin. He has a background in audio engineering, ambisonics, and VR related technology. He has experience in environmental noise surveying, modelling, and building acoustics.

11.1.2 Description of the Subject Site

The site is located west of the Grange Castle Business Park approximately 10km west of Dublin City Centre. It is a greenfield site which is currently used for agriculture. The site is bound to the east and south by agricultural lands, to the west by Grange Castle Business Park, and to the north by the Grand Canal. Prevailing noise levels at the receiving environment are primarily due to distant traffic noise and intermittent cars passing by on the local road network, with intermittent anthropological activity also contributing. Site noise from the Grangecastle Business Park was not audible.

11.2 Methodology

The following methodology has been prepared based on the requirements of the EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA 2022), EPA Advice Notes on current practise in the preparation of Environmental Impact Statements (EPA, 2003) and on AWN's experience of preparing the noise and vibration chapters for similar developments. The following approach has been used for this assessment:

- Baseline noise monitoring undertaken in the vicinity of the development site has been reviewed in order to characterise the receiving noise environment;
- A review of the most applicable standards and guidelines has been conducted in order to set a range of acceptable noise and vibration criteria for the construction and

operational phases of the proposed development, this is summarised in the following sections;

- Predictive calculations have been performed to estimate the likely noise emissions during the construction phases of the project at the nearest sensitive locations (NSLs) to the site;
- Predictive calculations have been performed to assess the potential impacts associated with the operation of the development at the most sensitive locations surrounding the development site;
- A schedule of mitigation measures has been proposed, where relevant, to control the noise and vibration emissions associated with both the construction and operational phases of the proposed development, and;
- Assessment of potential cumulative impacts that may arise as a result of the proposed development.

11.3 Assessment Criteria

The following sections review best practice guidance that is commonly adopted in relation to developments such as the one under consideration here.

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project. Local authorities normally control construction activities by imposing limits on the hours of operation and consider noise limits at their discretion.

In the absence of specific noise limits, appropriate criteria relating to permissible construction noise levels for a development of this scale may be found in the British Standard BS 5228 – 1: 2009+A1:2014: *Code of practice for noise and vibration control on construction and open sites – Noise.*

Guidance from Table 3.16 of *Design Manual for Roads and Bridges (DMRB), LA111 Noise and Vibration: Highways England, Transport Scotland, The Welsh Government and The Department of Infrastructure, May 2020* (DMRB 2020) has also been used, and adapted to include the relevant significance effects from the EPA Guidelines (EPA 2022) using professional expertise and judgment.

In the absence of specific Irish guidelines on noise associated with additional vehicular traffic on public roads it is considered common practice to utilise the UK Highways Agency (UKHA) DMRB Noise and Vibration, which offers guidance as to the likely impact in the short-term associated with any change in traffic noise level.

There is no published statutory Irish guidance relating to maximum permissible vibration levels. The following standards are the most widely accepted in this context and are referenced here in relation to cosmetic or structural damage to buildings:

- British Standard BS 7385-2:1993 *Evaluation and Measurement for Vibration In Buildings - Guide to Damage Levels from Ground Borne Vibration*, and;
- British Standard BS 5228-1:2009+A1:2014 *Code of Practice for Noise and Vibration Control on Construction and Open Sites - Vibration*.

For operational noise, British Standard BS 4142: 2014+A1:2019: *Methods for Rating and Assessing Industrial and Commercial Sound* has been used to guide the assessment of potential noise from plant. There are no specific guidelines or limits relating to traffic related sources along the local or surrounding roads. In this instance, to assist with the interpretation of the noise associated with vehicular traffic on public roads, DMRB Noise and Vibration (UKHA 2020) offers guidance as to the likely impact associated with any particular change in traffic noise level.

For other noise sources not related to traffic or building services, appropriate guidance on internal noise levels for dwellings is contained within BS 8233:2014: *Guidance on Sound Insulation and Noise Reduction for Buildings* (BS8233).

The *'Guidelines for Environmental Noise Impact Assessment'* produced by the Institute of Environmental Management and Assessment (IEMA) (2014) have been referenced in order to categorise the potential effect of changes in the ambient noise levels during the operational phases of the proposed development.

11.4 Predicted Impacts of the Proposed Development

11.4.1 Construction Phase

The closest construction works to nearby noise sensitive locations are at 125m distance. Construction activities can operate within the adopted construction noise thresholds at the closest noise sensitive locations to the building works. The associated construction noise impact is ***Negative, Not Significant to Slight*** and ***Short-Term.***

Construction traffic along the West Access Road Haul Route is 220m from the closest noise sensitive locations. The predicted noise levels are below the construction noise thresholds. The associated construction traffic impact is ***Negative, Not Significant*** and ***Short-Term.***

The construction vibration impact is well within the vibration threshold values and therefore has a ***Neutral to Negative, Imperceptible to Not Significant*** and ***Short-Term*** impact.

11.4.2 Operational Phase

During the operational phase, the main potential sources of noise are limited to set construction, external filming activities, building services/plant and traffic associated with the development. A noise prediction has been developed for the proposed development and it has been calculated that the noise emissions will be within the relevant operational noise criteria. The associated operational impacts are ***Negative, Not Significant*** and ***Long-Term*** with the exception of the external filming activities which are **Negative, Not Moderate** and **Brief** to **Temporary** where external filming activities are located in the Building 14 backlot.

11.5 Mitigation Measures

11.5.1 Construction Phase

Subject to good working practice as outlined in the Construction Environmental Management Plan (CEMP) and not exceeding any noise limits proposed within the EIAR, it is anticipated that noise and vibration during the construction phase will not require specific mitigation measures. The construction phase will not produce significant effects at the nearest noise sensitive locations.

11.5.2 Operational Phase

Due consideration shall be given at the detailed design stage to ensure that the proposed development will operate within acceptable noise criteria at the nearest noise sensitive locations.

Noise emissions from external filming from backlot at Building 14 will limit hours of set construction and production and require notification to surrounding noise sensitive locations if night productions or special effects are expected to generate noise levels in excess of 80 dB (A) at 1m distance.

11.6 Residual Impacts

11.6.1 Construction Phase

The predicted noise levels are below the construction noise thresholds. The associated construction traffic residual impact is ***Negative, Not Significant*** and ***Short-Term.***
The construction vibration impact is well within the vibration threshold values and therefore has a residual ***Neutral to Negative, Imperceptible to Not Significant*** and ***Short-Term*** impact.

11.6.2 Operational Phase

The associated residual operational impacts from external filming activities in the back lot are ***Negative, Not Significant*** to ***Moderate*** and ***Brief*** to ***Temporary.***

The associated residual operational impacts from set construction, plant operation and road traffic are ***Negative, Not Significant*** and ***Long-Term.***

11.7 Cumulative Impacts

11.7.1 Construction Phase

Cumulative noise levels associated with the construction phase of the proposed development and the adjacent proposed developments have been considered. Once cumulative construction impacts are considered and managed during the construction phase potential

cumulative impacts on nearby sensitive locations can operate within the construction noise thresholds adopted. The cumulative construction impact is determined to be ***Negative, Slight to Moderate*** and ***Short-Term.***

11.7.2 Operational Phase

During the operational phase, cumulative impacts associated with the proposed development combined with adjacent planned and existing sites within 500m of the closest noise sensitive location have been considered and assessed. The cumulative operational impact is determined to be ***Negative, Not Significant*** and ***Long-Term.***

11.8 References

Guidelines on the information to be contained in Environmental Impact Assessment Reports May 2022 (EPA, 2022).

EPA Advice Notes on current practise in the preparation of Environmental Impact Statements (2003).

British Standard BS 5228: 2009 +A1:2014: Code of Practice for Control of Noise and Vibration on Construction and Open Sites Part 1: Noise & Part 2: Vibration;

Design Manual for Roads and Bridges (DMRB), LA111 Noise and Vibration: Highways England, Transport Scotland, The Welsh Government and The Department of Infrastructure, May 2020

British Standard BS 7385: 1993: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration;

British Standard BS 4142: 2014+A1:2019: Methods for Rating and Assessing Industrial and Commercial Sound;

British Standard BS 8233: 2014: Guidance on sound insulation and noise reduction for buildings;

IEMA Guidelines for Environmental Noise Impact Assessment, 2014.

12.0 MATERIAL ASSETS – WASTE MANAGEMENT

12.1 Introduction

AWN Consulting undertook the waste management assessment. The receiving environment is largely defined by South Dublin County Council (SDCC) as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

12.1.1 Statement of Authority

This Chapter has been prepared by Chonaill Bradley (BSc ENV, PG Dip Circ Econ, AssocCIWM) of AWN Consulting. Chonaill is a Principal Environmental Consultant in the Environment Team at AWN. He holds a BSc in Environmental Science from Griffith University, Australia and a Postgraduate Diploma in Circular Economy Leadership for the Built Environment from the Atlantic Technological University, Galway. He is an Associate Member of the Institute of Waste Management (AssocCIWM). Chonaill has over nine years' experience in the environmental consultancy sector and specializes in waste management.

12.1.2 Description of the Subject Site

The proposed development will comprise the construction of studio/sound stages with ancillary support offices, workshop buildings a TV studio building outdoor stage areas, a TV studio and reception building, outdoor stages, a dining hall building, a standalone café, hardstanding areas including a backlot area and shooting lanes, production suite buildings, 3-storey car parking deck with ancillary offices, an electrical substation, gate houses, surface car parking and HGV parking area, a waste collection area, rooftop PV panels, green roofs and associated development works and landscaping.

12.2 Methodology

The assessment of the impacts of the proposed development, arising from the consumption of resources and the generation of waste materials, was carried out taking into account the methodology specified in relevant guidance documents, along with an extensive document review to assist in identifying current and future requirements for waste management; including national and regional waste policy, waste strategies, management plans, legislative requirements, and relevant reports.

Estimates of waste generation during the construction and operational phases of the proposed development have been calculated. The waste types and estimated quantities are based on published data by the EPA in the National Waste Reports and National Waste Statistics, data recorded from similar previous developments, Irish and US EPA waste generation research as well as other available research sources.

12.3 Assessment Criteria

In terms of waste management, the receiving environment is largely defined by South Dublin County Council (SDCC) as the local authority responsible for setting and administering waste management activities in the area. This is governed by the requirements set out in the *EMR Waste Management Plan 2015-2021* and the draft *National Waste Management Plan for a Circular Economy* (NWMPCE) (2023), which will supersede the three current regional waste management plans in Ireland. The waste management plans set out the following targets for waste management in the region:

- Achieve a recycling rate of 55% of managed municipal waste by 2025; and
- Reduce to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

The South Dublin County Development Plan sets out the policies and objectives for the SDCC area which reflect those sets out in the regional waste management plan.

12.4 Predicted Impacts of the Proposed Development

12.4.1 Construction Phase

During the construction phase the mismanagement of waste, including the inadequate storage of waste, inadequate handling of hazardous waste, the use of inappropriate or insufficient segregation techniques, and the use of non-permitted waste contractors, would likely lead to negative impacts such as waste unnecessarily being diverted to landfill, litter pollution which may lead to vermin, runoff pollution from waste, fly tipping and illegal dumping of waste. In the absence of mitigation, the effect on the local and regional environment is likely to be ***long-term, significant,*** and ***negative.***

12.4.2 Operational Phase

The potential impacts on the environment during the operational phase of the proposed development would be caused by improper, or lack of waste management. In the absence of mitigation, the effect on the local and regional environment is likely to be **long-term, significant,** and **negative**.

12.5 Mitigation Measures

12.5.1 Construction Phase

During the construction phase, typical construction waste materials will be generated which will be source segregated on-site into appropriate skips/containers, within designated waste storage areas and removed from site by suitably permitted waste contractors as required, to authorized waste facilities, by appropriately licensed waste contractors. While the accurate keeping of waste records will be undertaken. All waste leaving the site will be recorded and copies of relevant documentation maintained.

This will all be overseen by the main contractor, who will appoint a construction phase Resource Manager to ensure effective management of waste during the excavation and construction works. All construction staff will be provided with training regarding the waste management procedures on site.

12.5.2 Operational Phase

During the operational phase, waste will be generated by the development's tenants. Dedicated waste storage areas (WSAs) have been allocated throughout the development for the use of tenants. The WSAs have been appropriately sized to accommodate the estimated waste arisings from the development. The WSAs have been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the designated waste collection areas by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

An Operational Waste Management Plan (OWMP) has been prepared and included as part of this submission as Appendix 12.2, This OWMP provides a strategy for segregation (at source), storage and collection of wastes generated within the development during the operational phase including dry mixed recyclables, organic waste, glass, mixed non-recyclables, garden/green waste, batteries, waste electrical equipment, printer cartridges, chemicals, lightbulbs, textiles, cooking oil, furniture and abandoned bicycles. This Plan/Strategy will be supplemented, as required, by facilities management with any new information on waste segregation, storage, reuse, and recycling initiatives that are subsequently introduced.

12.6 Residual Impacts

Construction Phase

A carefully planned approach to waste management and adherence to the site-specific Resource and Waste Management Plan (Appendix 12.1) and Chapter 12 during the construction phase, this will ensure that the effect on the environment will be ***short-term, neutral,*** and ***imperceptible.***

Operational Phase

Provided the mitigation measures outlined in Chapter 12 and the OWMP are implemented, and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be ***long-term, neutral,*** and ***imperceptible***.

12.7 Cumulative Impacts

Construction Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place in the area. In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase. Due to the high number of waste contractors in the SDCC region, as provided from the National Waste Collection Permit Office and the EPA, there would be sufficient contractors available to handle

waste generated from a large number of these sites simultaneously, if required. Similar waste materials would be generated by all of the developments.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate against any potential cumulative effects associated with waste generation and waste management. As such the cumulative effect will be ***short-term, imperceptible,*** and ***neutral.***

Operational Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place. All of the current and potential developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely improve the efficiencies of waste collections in the area.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate any potential cumulative impacts associated with waste generation and waste management. As such the cumulative effect will be a ***long-term, imperceptible,*** and ***neutral***.

12.8 References

Guidelines on the information to be contained in Environmental Impact Assessment Reports May 2022.

13.0 MATERIAL ASSETS – TRAFFIC AND TRANSPORTATION

13.1 Introduction

Barrett Mahony Consulting Engineers (BMCE) have prepared this chapter of the EIAR. This chapter presents the operational and construction traffic impact assessment of the proposed infrastructure to enable development of the subject proposal on the existing traffic and transportation environment, and details of the traffic inputs required for other assessments contained within this EIAR.

This chapter has been prepared by Martin Rogers, BA, BE, M.EngSc, PhD, CEng, TPP MICE, MRTPI, MTPS, Transport Planning Professional, Chartered Civil Engineer, and Chartered Town Planner. Martin has over 40 years' experience across a range of similar type and scale developments including preparation of Traffic Impact Assessments and EIAR's for previous applications.

The proposed development will include the construction of 6 no. studio/sound stage buildings, 4 no. single storey workshop buildings, a 3-storey TV studio and welcome centre building, 2 no. outdoor stage areas associated with the TV Studio and Welcome Centre, a Dining Hall with an ancillary theatre, Standalone café, 3 no. single storey production suite buildings and a 3-storey car parking deck to include 472 no car parking spaces with ancillary offices, refuse recycling area and rooftop plant. A full description of the proposed development is provided in Chapter 3.

13.2 Study Methodology

The assessment of the potential impact of the Proposed Development on the material assets in the area was carried out according to the methodology specified by the EPA and the specific criteria set out in the Guidelines on Information to be contained in an Environmental Impact Assessment Report, 2022.

The methodology included a number of key inter-related stages;

- Background Review: This background review is broken down as follows:
    1. An examination of the local regulatory and development management documentation.
    2. An analysis of previous 'transport' related, strategic, and site-specific studies of development and transport infrastructure proposals.
- Traffic Counts: Classified junction traffic counts were undertaken and analysed with the objective of establishing local traffic characteristics in the immediate area of the proposed development. The surveys were completed at four critical junctions as agreed with SDCC.
- Trip Generation: A trip generation exercise has been carried out to establish the potential level of vehicle trips generated by the proposed development.
- Trip Distribution: Based upon both the existing and future (for the adopted assessment horizon years) network characteristics, a distribution exercise has been undertaken to assign site generated vehicle trips across the local road network.
- A spreadsheet model was created containing baseline year do-nothing traffic flow data.

- Future year traffic forecasts were derived from TII growth factors and development trip generation figures. These traffic flows were applied for the baseline year (2023), the proposed year of opening (2026), 5 and 15 years after opening (the Design Year Assessments).

13.3 Do Nothing Scenario

It should be noted that the Do Nothing scenario is equivalent to the baseline environment. The assessment of the existing environment/Do Nothing Scenario, without the Proposed Development, has been included for the Operational Phase assessment.

13.4 Construction Phase Impacts

13.4.1 Site Access and Vehicular Routes

The main construction access for the project will be from the Grange Castle West Access Road. However, access routes to and from the site, delivery times and off-loading proposals will be formally agreed with SDCC. In developing the construction and logistics plans, the Main Contractor will fully include representatives of SDCC, and other interested parties in a consultation process to ensure that our intentions are properly communicated, agreed, and do not unduly affect the surrounding residential, retail properties and public open space.

All deliveries of materials, plant and machinery to the site and removals of waste or other material, will take place within the permitted hours of work. Vehicle movements will be planned to ensure arrival and departure times are maintained inside the agreed working hours. No daytime or nighttime parking of vehicles will be permitted outside agreed areas.

13.4.2 Construction Traffic Trip Generation

The main construction items include earthworks, substructure, superstructure construction, and fit-out. It is expected that construction traffic to and from the site shall reach a peak during preliminary earthworks.

The programming and scheduling of fill material will be managed by the main Contractor. A worst-case projection is that 5 Heavy Goods Vehicles (HGV) arrival and 5 HGV departure every 60 minutes during earthworks, which equates to a total of 10 trips per hour.

In addition to HGV traffic, periodic deliveries of materials to site shall be made by Light Goods Vehicles.

Light Goods Vehicles (LGV) trips are unlikely to occur frequently during earthworks involving HGVs. However, these volumes are significantly lower than projected peak hour operational traffic.

13.4.3 Construction Traffic Distribution

As with the operational traffic distribution, it is assumed that travel patterns will follow existing patterns.

13.5 Operational - Traffic Impact

13.5.1 Trip Generation

The trip generation estimates for the site were derived from first principles based on the experience of the applicants and their knowledge of the required labor.

On the basis that the proposed development will house a maximum of 1265 No. workers, a figure in the region of 905 No. daily inbound vehicle trips is derived.

13.5.2 Operational Impact Assessment of proposal

The TII Traffic and Transport Assessment Guidelines (PE-PDV-02045) advise that Transport Assessments should generally be applied where traffic to and from a development is predicted to exceed 10% of the existing background traffic on the adjoining road (or 5% at sensitive locations).

This assessment indicated that these thresholds will be exceeded at two of the four key junctions surveyed - the 10% threshold is exceeded at the development entrance junction (Junction 2), due in the main to the very low network flows. The lower threshold is just exceeded at the Peamount Road priority junction (Junction 4).

A detailed analysis of these two junctions concluded the following:

1. The Development Entrance signalized junction (Junction No. 2) at present operates within capacity and will continue to do so with the proposed development in place. Queuing and delays are at low levels, with a minimum of 14% space capacity predicted to exist in 2026 with all predicted development in place. By 2041 with all predicted development in place this junction will be at capacity.
2. The Peamount Road priority junction (Junction No. 4) at present operates within capacity and will continue to do so with the proposed development in place. Queuing and delays are at low levels, with a minimum of 12% space capacity predicted to exist in 2026 with all predicted development in place. By 2031 with all predicted development in place this junction will be at capacity. By 2041, the junction would be over capacity, assuming the network flow increases utilized have actually materialized.

<u>Analysis of flows from adjacent permitted developments</u>

As part of a robust analysis, A search for developments that have been granted planning permission since 2021 within the area of influence of the proposed Grange Castle Medial Park (GCMP) was conducted to provide a comprehensive traffic assessment.

This analysis indicates that the adjacent permitted developments will have a very limited impact on the 4 No. junctions analyzed within this report.

13.6 Infrastructure Proposals - Future Baseline

Having reviewed the transport appraisal for the area, the following committed infrastructure proposals within proximity to the Proposed Development will have considerable positive impact on the proposed development.

13.6.1 Proposed Bus Infrastructure

The Bus Connects network is to be introduced on a phased basis over the coming years. This phase involves services in the West/South West of Dublin, serving areas including Grange Castle.

The C1 and D1 spines run close to the site. The C-spine runs from Adamstown to Sandymount every 8 minutes during the weekday morning peak hour and the D-spine from Clongriffin to Grange Castle every 15 minutes during the weekday morning peak hour.

13.6.2 Proposed Cycling Infrastructure

A secondary cycle route along the R120 is planned, running north-south before connected up to the Nangor Road and onto the existing route along the R136.

Also, The Camac River Greenway branch from the Grand Canal through Clondalkin Village to Corkagh Park and City West is also proposed.

13.7 Characteristics of the Proposed Development

13.7.1 Site Access Arrangements

The primary proposed vehicular, cyclist and pedestrian entrance will be located at the eastern boundary, at the junction of the R120 and the R134, with a secondary vehicular access at the southeastern corner of the site.

All connections between the development's internal road network and the existing external road network have been designed in accordance with the requirements of the *Design Manual for Urban Roads and Streets (DMURS)* and *Poolbeg SDZ Planning Scheme 2019*.

13.7.2 Car Parking

The Proposed Development shall include a total of 905 no. car parking spaces.

13.7.3 Bicycle Parking

A total of 201 no. bicycle parking spaces shall be provided within the development.

13.8 Mitigation Measures

13.8.1 Construction Phase

General Construction Traffic Strategy

Construction traffic will be limited to certain routes and times of day, with the aim of keeping disruption to existing local road network and residential areas to a minimum. To minimise disruption to the local areas, construction traffic volumes will be managed through the following measures:

- During peak hours, ancillary, maintenance, and other site vehicle movements will be discouraged.
- Daily construction programmes will be planned to minimise the number of disruptions to surrounding streets by staggering HGV movements to avoid site queues.
- Construction vehicle access routes will be restricted to/from the M50 via the R120 / R134, thus minimising impact to residential communities.
- All existing roads will remain open to general traffic through all stages of the construction.
- At pre-commencement stage, the Applicant shall provide a Community Liaison Plan (alongside a final Construction Management Plan).
- Construction vehicles shall not be permitted to park or wait on public roads outside the site boundary.
- All construction access roads shall be kept clean and a maintenance plan for same, shall be agreed with SDCC.
- Prior to commencement, an independent Environmental Monitoring Officer (EMO) shall be appointed to monitor any environmental impacts during construction. The EMO shall report to the Planning Authority and shall maintain communication with the Applicant, contractors, local community, and other relevant stakeholders.

Pedestrian Safety

Deliveries will be scheduled outside of peak traffic hours, to avoid disturbance to pedestrian traffic in the vicinity of the site.

Hours of Working

Working hours shall be agreed with SDCC prior to commencement of construction works.

Construction Traffic Management Plan

A detailed Construction Traffic Management Plan (CTMP) will be developed by the Contractor and presented to SDCC for approval prior to commencement of the construction works.

13.8.2 Operational Phase

The development shall incorporate several design and management elements intended to mitigate the impact of the development on the surrounding road network during its operational phase. These include:

- a high provision of secure bicycle parking, which shall serve to encourage bicycle journeys by both development occupants and visitors; and
- promotion of sustainable transport modes such as walking, cycling and public transport use.

As described in the Mobility Management Plan document prepared in support of this planning application, a Mobility Management Plan Coordinator shall be appointed for the proposed development, with the remit to implement and oversee an ongoing Mobility Management. This shall assist development occupants and visitors in making the most of sustainable transport opportunities and in avoiding single-occupant car journeys to and from the development site where possible.

13.9 Residual Impacts

13.9.1 Construction Phase

No notable residual traffic impacts arising from the construction activities have been identified and shall therefore remain the same – Imperceptible impact.

13.9.2 Operational Phase

No notable residual traffic impacts arising from the operational phase activities have been identified due to the low-level vehicle impact assessment and shall therefore remain the same – Imperceptible impact.

13.10 Interactions Arising

The traffic activity associated with the proposed scheme constitutes an input to the Air Quality and Noise chapters (Chapters 9 and 10 respectively) of this EIAR.

The moderate vehicular traffic flows that shall be generated by the Proposed Development may result in corresponding changes to air quality and noise levels in the vicinity of the surrounding road network. The nature and extent of these changes are examined in the relevant Chapters of this EIAR document.

13.11 Cumulative Construction Impacts

As construction related traffic is minor relative to the volumes at operational scale, the cumulative impacts of these are not seen as significant

13.12 Cumulative Operational Impacts

The cumulative impacts of the proposal during its operational phase has been fully analysed within the operational phase traffic analysis, taking into consideration the impact both of the traffic from the proposed development and the relevant adjacent permitted developments.

13.13 Difficulties Encountered

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

14.0 MATERIAL ASSETS – SITE SERVICES

14.1 Introduction

This chapter of the EIAR has been prepared by Barrett Mahony Consulting Engineers (BMCE) and assesses the likely impact arising during the construction and operational phases of the proposed development on the drainage and water supply material assets as well as identifying proposed mitigation measured to minimise any impacts.

This chapter was prepared by Christina Fox of Barrett Mahony Consulting Engineers (BMCE). Christina is a Chartered Engineer with Engineers Ireland and has been practicing as a consulting engineer for over eleven years. Christina holds and undergraduate degree in Civil Engineering and a master's degree in Structural and Geotechnical Engineering.

The potential impacts associated with the proposed development, if, any are assessed with regards to the following proposed built services:

1. Potable Water Supply Infrastructure
2. Wastewater Infrastructure
3. Surface Water Drainage Infrastructure

The flow impact from all of the above drainage infrastructure has been covered within Chapter 8 – Hydrology.

The site area of the proposed Media Park at Grange Castle, Co. Dublin is 22.6 ha. This is referred to as 'the site' and is located within the administrative jurisdiction of South Dublin County Council (SDCC).

The site is a greenfield site which is currently used for agriculture and is located west of the Grange Castle Business Park approximately 10km west of Dublin City Centre. The site is bound to the east and south by agricultural lands, to the west by Grange Castle Business Park, and to the north by the Grand Canal. See Chapter 3 for further details and description of the proposed development.

14.2 Methodology

The assessment of the potential impact of the activity on water and hydrology was carried out according to the methodology specified in relevant guidance documents.

A desktop study was carried out on the local and regional surface water and drainage network with information obtained from a number of relevant sources.

Background Information on the local drainage network and water supply was obtained from documents from local authorities and Uisce Éireann with regard to potable water and foul water infrastructure.

14.3 Consultation

In relation to wastewater and water supply, a pre-connection enquiry application has been submitted to Uisce Éireann (UÉ) and a confirmation of feasibility letter has been received from UÉ. SDCC have also been consulted with regard to the impact on surface water drainage.

14.4 Receiving Environment

14.4.1 Site Study Area

The subject site is a greenfield site located approximately 10km west of Dublin City Centre adjacent to Grange Castle Business Park. There are no existing water, surface water, or foul sewer connections from the proposed development site.

A new foul sewer network is proposed as part of the permitted Grange Castle West Access Road (planning application reference no. SD188/0009) to the East of the site.

A new watermain is proposed as part of the permitted Grange Castle West Access Road (planning application reference no. SD188/0009) to the East of the site.

The site is a greenfield site and does not contain a surface water network. The Grand Canal runs East-West along the northern boundary of the site. There is also an existing watercourse running South-North approx. 100m West of the site. This existing stream is culverted beneath the Grand Canal.

14.5 Characteristics of the Proposed Development

14.5.1 Foul Water

A new gravity network will serve the proposed development site. A permanent connection is proposed into the proposed foul pipeline permitted as part of the Grange Castle West Access Road (planning application reference no. SD188/0009) to the East of the site.

Due to the development size and the relationship between the levels on site and the invert level of the foul pipe in Grange Castle West Access Road, it will only be possible to discharge foul flows from some of the buildings located to the east of the site by gravity to the foul line on Grange Castle West Access Road. The remainder of the foul flows will be collected in a new internal foul sewer network and discharged by gravity to a pumping station at the western boundary of the site. Foul flows will then be pumped via a rising main to an outfall manhole at the eastern boundary of the site before discharging by gravity to the proposed foul sewer in Grange Castle West Access Road.

The foul effluent from the proposed buildings is calculated to have a Total Daily Flow of 165,044l/day.

14.5.2 Water Supply

The proposed watermain connection to the development will be from the permitted watermain as part of the Grange Castle West Access Road (planning application reference no.

SD188/0009) to the East of the site. All proposed water mains will be HDPE 150 SDR17 in accordance with Uisce Éireann Standards.

Hydrants will be provided on the watermain at a max distance of 46m from any part of a building in accordance with the Department of the Environment's Building Regulations "Technical Guidance Document Part B Fire Safety". Hydrants shall comply with the requirements of BS 750:2012 and shall be installed in accordance with UÉ Code of Practice and Standard Details. Sluice valves will be provided at appropriate locations to facilitate isolation and purging of the system. Air valves will be provided at high points for system venting.

Design of the watermain will be in accordance with the Uisce Éireann 'Code of Practice for Water Supply' and standard details.

The water demand from the proposed development is calculated as a Total Daily Demand of 146,531l/day.

14.5.3 Surface Water

The proposed surface water drainage system is designed to comply with the 'Greater Dublin Strategic Drainage Study (GDSDS) Regional Drainage Policies Technical Document – Volume 2, New Developments, 2005' and the 'Greater Dublin Regional Code of Practice for Drainage Works, V6.0 2005'. CIRIA Design Manuals C753, C697 and C609 have also been used to design the surface water drainage system within the site.

It is proposed to construct a new surface water drainage system for the development to collect runoff from roofs and paved areas and any additional runoff from landscaped areas which doesn't percolate to ground. It is proposed that the new surface water network within the site will convey surface water flows to two swales located within the 50m buffer zone between the proposed development and the Grand Canal to the North of the site.

Surface water flows from the site will outfall to the existing watercourse approx. 100m West of the site. This watercourse is culverted beneath the Grand Canal and flows north-west towards the River Liffey. The swales will be designed to accommodate flows for the 1 in 100-year storm event. A hydrobrake will be fitted at the outfall of each swale which will limit the flow exiting the site to the existing greenfield runoff rate QBAR (57.6 l/s).

SuDS measures including green roofs, permeable paving, bio-retention tree pits and rainwater harvesting have also been incorporated. All surface water runoff will pass through at least one SuDS measure prior to discharging from the site. Therefore, minimising the potential for harmful pollutants discharging from the proposed development. Given the SuDS measures included in the design and the low volume of runoff from the developed site, impact on exiting water courses is expected to be minimal.

14.6 Potential Impact of the Proposed Development

14.6.1 Construction Phase

The contractor's operations will result in the generation of effluent and sanitary waste from facilities provided for the work force on site. The volume potentially generated will vary as the number of construction workers on site will vary as the construction operations on site

fluctuate. However, the effluent generated during the construction phase is estimated to be substantially lower than the predicted effluent volume generated on site upon completion.

The effluent generated during the construction phase will have a slight negative impact on the

existing foul drainage network as the spare hydraulic capacity will be reduced in the public system. Notwithstanding this, the predicted foul effluent to be generated during the construction phase is low and would have a minimal impact on the existing infrastructure. Once the construction works are complete, this temporary effluent discharge will cease and will be replaced by the proposed developments effluent discharge.

The contractors shall require a separate water supply connection for the works. It is expected that the Contractor will require a 150mm temporary connection to the existing potable water network. The impact on the water supply network is likely to be slight negative and short term for the duration of the construction works, as the Contractor will be drawing potable water from the mains and thereby reducing, albeit temporarily the capacity in the public mains.

Any temporary discharge or temporary water supply shall be subject to license.

14.6.2 Operational Phase

Uisce Éireann (UÉ) have confirmed the feasibility of the proposed development in terms of water and wastewater capacity via a confirmation of feasibility letter.

SDCC have provided endorsement for the proposed surface water drainage proposal.

14.6.3 Do Nothing Scenario

If the proposed works were not implemented, there would be no change in the site's current use and the existing site would remain as a greenfield site with no services.

14.7 Mitigation Measures

14.7.1 Design Phase

All new-build service infrastructure is to be designed in accordance with the relevant service provider and asset owner's code of practice, which require due cognisance of the receiving environment.

Design depths of proposed infrastructure are to be optimised so that excessive excavations are avoided where possible, and by association a reduction in resultant waste and machinery operation time. It will be suggested that products and materials are supplied locally, where practicable and available, to reduce carbon footprint of travel and production.

14.7.2 Construction Phase

The following mitigation measures are recommended for the construction phase:

- The contractor is to conduct the works in accordance with all relevant local authority requirements, and health and safety legislation.

- Relevant services providers are to be consulted in advance of works to ensure works are carried out to relevant standards and specifications including procedures to ensure safe working practices are implemented for works in the vicinity of services, such as live gas mains, works in the vicinity of overhead electricity lines and live electricity lines and works to distribution watermains.
- Neighbouring sites are to be advised of construction methodologies in advance of works, in situations which may affect them.
- All retained underground services are to be protected.
- All decommissioned infrastructure will have to be sent to an accepting landfill for disposal.
- A construction methodology will be required by the contractor to be tailored to reduce, where possible, dust noise and air pollution; to minimise interference with the environment and the neighbouring areas.
- Any spoil or waste material generated from the construction process is to be temporarily stored at an approved location on site, before being removed to an accepting licensed waste disposal facility.
- All infrastructure is to be appropriately tested by an approved method during the construction phase, all in accordance with Uisce Éireann / SDCC Requirements.
- Connections to the service providers are to be carried out to the approval and / or under the supervision of the Local Authority or relevant utility service provider, prior to commissioning.
- All new sewers are to be inspected by CCTV survey post construction; to identify any possible physical defects for rectification prior to operational phase.
- Prior to the commencement of excavations in public areas, all utilities and public services are to be identified and checked; to ensure that adequate protection measures are implemented to minimise the risk of service disruption.
- All excavations within the public area are to be back-filled in a controlled manner and surface re-instated to the satisfaction of the Local Authority.

With the implementation of these mitigation measures, the severity of the impact of the proposed development on the built services will be minimised, with tie-ins to existing services and installation of new services completed in a satisfactory manner for the relevant service providers.

14.7.3 Operational Phase

The material assets areo be constructed in accordance with all relevant local authority and UÉ standards.

14.7.4 Do Nothing Scenario

If the proposed mitigation measures are not implemented, then the risks of impact of construction of the proposed development are not reduced.

14.8 Monitoring

The construction of works should be monitored to ensure compliance with relevant SDCC and UÉ requirements, and health and safety legislation.

The operational phase of public works should be monitored by those responsible for the respective asset.

The operational phase of private assets should be monitored by the management company for the development. By ensuring that these networks are adequately supervised the potential for water or effluent leaks are reduced to within acceptable limits.

14.9 Reinstatement

After construction, all assets are to be backfilled and reinstated in accordance with the design and relevant local authority/UÉ requirements.

14.10 Cumulative Impacts

Drainage and water supply material assets should be co-ordinated with communications, electrical and gas material assets to ensure that there are no physical conflicts and that all necessary clearances are provided.

An online planning search was undertaken by Tom Phillips & Associates for current and recently permitted development applications within a 2km radius of the proposed site within the past year. These projects were evaluated for cumulative effects and no cumulative effects are foreseen. It is concluded that these projects will not result in significant effects when combined with the proposed development.

The planning search also noted that there is no planning history for the proposed site and there are no developments with planning permission/submitted for planning permission withing the boundary of the subject site.

14.11 Interactions

In preparation of this Chapter interactions with the Hydrology Chapter occurred.

14.12 Difficulties

There were no difficulties encountered in preparing this chapter.

15.0 ARCHAEOLOGICAL, ARCHITECTURAL AND CULTURAL HERITAGE

15.1 Introduction

The following chapter has been prepared by IAC Archaeology and details an archaeological, architectural, and cultural heritage assessment undertaken in advance of a proposed development at Grangecastle Media Park. The assessment aims to ascertain any likely and significant impacts that the proposed development may have on the existing cultural heritage resource.

The assessment was undertaken by Faith Bailey and Jonny Small (PhD, MSci) of IAC Archaeology. Faith (MA, BA (Hons), MIAI, MCIfA) has over 20 years of experience in archaeological and cultural heritage consultancy and has been responsible for the production of multiple EIAR and assessments for all aspects of development nationwide.

15.2 Methodology

Research has been undertaken in three phases. The first phase comprised a paper survey of all available archaeological, architectural, historical, and cartographic sources. This included the following sources:

- Record of Monuments and Places for County Dublin;
- Sites and Monuments Record for County Dublin;
- National Monuments in State Care Database;
- Preservation Orders List;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- South Dublin County Development Plan 2022-2028;
- Aerial photographs;
- Place name analysis;
- Excavations Bulletin (1970–2023); and,
- National Inventory of Architectural Heritage.

The second phase involved a field inspection of the proposed development area. Field inspection is necessary to determine the extent and nature of archaeological, architectural, and historical remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information. The field inspection entailed:

- Walking the proposed development area and its immediate environs.
- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological, architectural, or cultural heritage significance.
- Verifying the extent and condition of any recorded sites.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

The third phase involved a programme of archaeological test-trenching. Archaeological Test Trenching can be defined as ‘a limited programme... of intrusive fieldwork which determines

the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land or underwater. If such archaeological remains are present test trenching defines their character and extent and relative quality' (CIfA 2020a, 4). Following a geophysical survey of the overall Grangecastle development lands in 2018, a programme of archaeological testing was carried out within the site in April 2021 by David Bayley of IAC under licence 20E0486 (Bayley 2022).

15.3 Baseline Environment

The proposed development area is located in the townlands of Brownstown, Coolscuddan and Milltown, County Dublin. There are no recorded monuments within the study area. There are five recorded monuments within the 500m study area, the closest of which consists of an enclosure (DU017-095), located c. 234m to the south.

There are no protected structures or buildings listed in the NIAH, located within the proposed development area. There is one protected structure, which is also listed on the NIAH Survey, within the 500m study area; Gollierstown Bridge (RPS 131, NIAH 11208014), located c. 400m to the east.

A review of Excavations Bulletin (1970–2023) and the available excavation reports has revealed that geophysical survey within the proposed development was carried out by Target Geophysics in 2018 (Nicholls and Murphy 2018; Licence No. 18R0222). The geophysical survey recorded potential archaeological remains within the proposed development area, which may indicate the remains of a possible *fulacht fia*, group of pit/linear remains or later vernacular building. The potential remains of a small enclosure and pits/postholes were also identified in the northeast of M1. A possible building was also identified within M2, in the southwest of the proposed development. The geophysical survey was followed by archaeological test trenching within (Licence No. 20E0486), and to the immediate east of (Licence No. 19E0370), the proposed development. These works led to the excavation of Brownstown 1 (Licence No. 19E0370 ext.), which recorded the remains of three brick kilns, probably of post-medieval date. Testing within the development area (Licence No. 20E0486) identified five separate areas of archaeological potential (AA1-AA5). This included an area of activity related to multiple burnt mound spreads with associated troughs and pits (AA1), a pit, filled with burnt mound material (AA2), isolated hearths or kilns (AA3 and AA4), and a ditch from which medieval pottery was recovered (AA5). Archaeological monitoring for a pipeline was carried out c. 375m to the east of the proposed development area in 2003 and this resulted in the identification of a number (approx. 13) of human burials (Kehoe 2003; Licence No. 02E1281). The site was recently added to the RMP as DU017-108.

No stray finds are recorded in the topographical files of the National Museum of Ireland from within the proposed development or its immediate environs.

Analysis of the available historic cartographic sources depicts the proposed development area as largely undisturbed agricultural greenfield throughout the post-medieval period. Analysis of aerial photography has indicated that this has remained the case throughout the 20th and early 21st centuries. Significant quarrying, initially associated with the construction of the Grand Canal, has taken place to the northeast of the proposed development, and structures associated with the quarries are depicted on historic OS maps immediately adjacent to the proposed development.

A field inspection has been carried out as part of this assessment and this confirmed the results of the desktop analysis. No additional area or sites of archaeological, architectural, or

cultural heritage significance were identified. The archaeological areas identified within the proposed development area during 2021 possess no upstanding remains.

15.4 Potential Impacts of the Proposed Project

15.4.1 Construction Phase

Archaeological Heritage

No recorded archaeological monuments will be impacted by the construction of the proposed development.

AA1-5 were identified within the proposed development area during archaeological test trenching (Licence No. 20E0486) in 2021. All five areas will be directly, permanently and negatively impacted upon by the construction of the proposed development, being located within the footprint of the proposed buildings and roadway. Impacts, prior to the application of mitigation, are significant.

It is possible that small or isolated archaeological remains have the potential to survive beneath the current ground level, outside of the footprint of the excavated test trenches. Ground disturbances associated with the construction of the development have the potential to directly and negatively impact on any such remains. Impacts have the potential to range from moderate to very significant, dependant on the nature, extent, and significance of any remain that may be present.

Cultural Heritage

The site of two townland boundaries crosses the proposed development area. Ground disturbances associated with the proposed development will directly and negative impact on the buried remains of these boundaries. The impact is moderate negative.

Architectural Heritage

No impacts upon the architectural heritage resource are predicted as a result of the construction of the proposed development.

15.4.2 Operational Phase

Archaeological Heritage

No impacts upon the archaeological resource are predicted as a result of the operation of the proposed development.

Cultural Heritage

The development is set back from the edge of the mature boundary that flanks the Grand Canal (between 58m and 80m), located to the north of the site. A green space will be established as part of the development in this area, including planting. The introduction of a media park will result in indirect negative impacts on the canal, as a heritage feature in what is currently a rural setting. The existing vegetation between the canal and the development will be retained but the impact on the setting of the heritage feature over the short-term will

be indirect negative slight reducing to imperceptible over the long-term (following the establishment of landscape planting.

Architectural Heritage

No impacts upon the architectural heritage resource are predicted as a result of the operation of the proposed development. The setting of Gollierstown Bridge (c. 400m to the east) will remain unaffected by the development.

15.5 Mitigation Measures

15.5.1 Construction Phase

Archaeological Heritage

It is acknowledged that that preservation in-situ is the preferred method for the conservation of archaeological remains. With regards to AA1-5, it is not possible to preserve the remains in-situ due to the ground disturbance required for the development, including the construction of buildings and infrastructure. Therefore, AA1-5 will be preserved by record prior to the commencement of construction. This will be carried out under licence to the National Monuments Service of the DoHLGH.

All topsoil stripping within the proposed development area will be subject to archaeological monitoring during construction. This will be carried out by a suitably qualified archaeologist. If any features of archaeological significance are identified, consultation with the National Monuments Service of the DoHLGH will be required in order to determine whether preservation by record or in-situ is the most appropriate manner in which to proceed.

Cultural Heritage

During the course of monitoring topsoil stripping, the site of the townland boundaries crossing the development area will be recorded as part of the overall monitoring exercise. Sections of these boundaries will survive beyond the extent of the development area, preserving evidence of their form and construction.

Architectural Heritage

No mitigation is required.

15.5.2 Operational Phase

No mitigation is required for the archaeological, architectural, or cultural heritage resource at operational phase.

15.6 Residual Impacts

Following the completion of mitigation measures, there will be no significant residual impacts upon the archaeological, cultural heritage or architectural resource.

15.7 Monitoring

The mitigation measures detailed above would also function as a monitoring system during construction to allow the further assessment of the scale of the predicted impacts and the effectiveness of the mitigation measures.

15.8 Reinstatement

Not applicable.

15.9 Interactions

No interactions have been identified during the course of this assessment.

15.10 Cumulative Impacts

All permitted and proposed developments within the study area have been reviewed. As any archaeological remains within the proposed development area will be preserved by record no cumulative impacts have been identified. Similarly, no cumulative impacts have been identified upon the cultural heritage or architectural heritage resource.

15.11 'Do-Nothing' Effect

If the proposed development was not to proceed, there would be no impacts upon the archaeological, architectural, or cultural heritage resource.

15.12 Difficulties Encountered in Compiling the Chapter

No difficulties were encountered during the compilation of this chapter.

16.0 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

16.1 Introduction

A landscape Visual and Impact assessment is carried out to analyze the extents of changes in the fabric, character, and quality of the landscape as a result of a development.

The assessment is carried out in the following steps:

1. **Methodology:** The methodology establishes and presents the parameters under which the assessment has taken place, referencing relevant sources, guidelines, and documents.
2. **Planning Context:** The planning context of the proposed development is assessed by evaluating the relative objectives and policies of the local authority in relation to the subject site. In this case as the local authority is South Dublin County Council (SDCC), the South Dublin County Development plan 2022-2028 was referenced extensively in order to gain an informed understanding of the site's planning context.
3. **Baseline Environment**: The objective of this section of the assessment is to define a baseline of landscape and visual quality against which the effects of the development can be measured. In this section, the baseline landscape is outlined and classified. The various elements of the landscape are considered and described such as adjacent structures, public spaces, the urban fabric, topography, cultural landscape elements and the scenic quality of the study area.
4. **Residual impact of the proposed development:** Following on from the description of the baseline environment residual impacts are identified. The residual impacts are the impacts that the development is most likely to have on the receiving landscape and environment. In the interest of clarity, these are considered under the following headings: Landscape Impacts and Visual Impacts. These impacts are measured under the following categories 'Construction Phase' and 'Operational Phase'.
5. **Assessing Scenarios**: Following the assessment of impacts, a "do nothing "scenario is considered where a brief analysis is given of what the likely outcome of taking no action on the site would be and a "Worst Case Scenario". The views selected for analysis are those from which the proposed development is most likely to be visible and so provide the basis for the "Worst Case Scenario".
6. **Monitoring:** Monitoring presents the steps that will be taken during both the Construction and operational phase to ensure that all works are carried out appropriately and in accordance with best practice.
7. **Interaction of Impacts:** Interaction of impacts outlines the interactions that the proposed development has with other parameters of the assessment. In this case these are the impacts of the proposal on *Population and Human Health* and *Biodiversity.* A brief synopsis is given for each subject.
8. **Cumulative Impacts**: Cumulative impacts identifies the likely impact of the development at both construction and operational phase with consideration to both the sites context and land zoning. Changes to the character of the character of the site in light of the proposed development are identified and their significance is quantified.
9. **Visual Impact Images**: In order for the visual impact of the site to be clearly assessed, a series of photographs are taken from a carefully selected collection of viewpoints surrounding the site. 3-D modelling software is then used to superimpose the

proposed development into these photographs giving a realistic representation of what the site will look like within its real-life context. With the photomontages collated, an assessment is made of each view informed by the tables set out in the methodology at the beginning of the report. This allows for an accurate assessment to be made of the visual impact of the development with the sensitivity of each view identified as well as the magnitude of change to the existing landscape. The viewpoints and photomontages for this project were provided by Macroworks.

In summary, the assessment found that the proposed development will result in a low to medium magnitude of change to the landscape, which will give rise to a limited number of landscape and visual effects. The primary landscape and visual changes to the site will occur due to its transition from a relatively low-lying Greenfield site with a rural character, to a functioning media park and the massing of buildings that will occur as a result of this change in land use. Furthermore, the assessment concluded that there will be no significant adverse effects as a result of the proposal.

17.0 INTERACTIONS AND CUMULATIVE EFFECTS

17.1 Introduction

This section of the EIAR has been prepared by Gavin Lawlor and Bernard Dwyer, Tom Philips + Associates and deals with likely interactions between effects predicted as a result of the proposed project.

In addition to the requirement under the Planning and Development Regulations 2001 (as amended) to describe the likely significant effects of the proposed development on particular aspects of the environment, it is also required to consider the interaction of those effects. These are assessed below.

This section addresses the intra project significant effects (i.e. those occurring between environmental topics within the project). Inter project effects (i.e. those which are likely to occur as a result of the likely impacts of the proposed project interacting with the impacts of other projects in the locality) have also been considered.

We have reviewed a number of planned and permitted projects that have the potential to interact with either the construction or operational phases of the proposed development. The projects considered most likely to interact with the proposed development are identified in Appendix 1.1.

Further detail relevant to the interaction of impacts may be found in the earlier chapters of the EIAR.

17.2 Methodology

The EIAR has considered and assessed the interactive effects and cumulative effects arising from the construction and operation of the proposed project based on best scientific knowledge. The relevant interactions and interdependencies between specific environmental aspects have been summarised in the matrix set out in Table 18.1.

Interactive effects (or interactions), specifically refer to any direct or indirect effects caused by the interaction of environmental factors as outlined in Article 3 (1) of the amended EIA Directive;

> *"The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:*

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive

92/43/EEC and Directive 2009/147/EC;

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage, and the landscape;

(e) the interaction between the factors referred to in points (a) to (d).”

Annex IV of the amended Directive states that a description of impacts should include:

> *“…the direct effects and any indirect, secondary, cumulative, short, medium, and long-term, permanent and temporary, positive, and negative effects of the project”*

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 (as amended) as well as the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

The EPA Guidance in turn references: *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, European Commission, 1999. I*n terms of interactions, the guidelines state the following:

> *“careful consideration of pathways – direct and indirect – that can magnify effects through the interaction or accumulation of effects – for instance the potential for cumulative significant effects to arise from multiple non-significant effects.”*

In terms of Cumulative effects, Annex Iv(5) of the EIA Directive requires:

> *"A description of the likely significant effects of the proposed project on the environment resulting from, inter alia…*

(e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;…"

We have reviewed a number of planned and permitted projects that have the potential to interact with either the construction or operational phases of the proposed development. The projects considered most likely to interact with the proposed development are identified in Chapter 1 with a more comprehensive list of planned or permitted projects outlined in Appendix 1.1.

17.3 Inter-Relationships/ Interactions

In practice many potential impacts from various sources have slight or subtle interactions via other sources of impact. However, the EIAR concludes that most inter-relationships are neutral in impact when the mitigation measures proposed in each chapter are incorporated into the operation of the proposed development.

	Matrix of Interactions																							
	Cultural Heritage		Population & Human Health		Biodiversity		Land, Soils, Geology & Hydrogeology		Hydrology		Air		Climate		Noise & Vibration		Landscape & Visual Impact		Traffic		Waste		Site Services		Major Accidents and Disasters	
	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op
Cultural Heritage																										
Population & Human Health											x				x	x		x	x	x	x	x			x	x
Biodiversity							x		x						x				x		x	x			x	x
Land, Soils, Geology & Hydrogeology															x				x		x	x			x	x
Hydrology																									x	x
Air																			x	x						
Climate																			x	x						
Noise & Vibration																			x	x					x	x
Landscape & Visual Impact																										
Traffic																					x					
Waste																										
Site Services																										
Major Accidents and Disasters																										

17.4 Cumulative Effects

Chapter 17 includes a compiled list of all cumulative effects as described in each of the preceding chapters.

18.0 INTERACTIONS AND CUMULATIVE EFFECTS

The chapters contained within this EIAR have been ordered in a grouped format by their relevant topic. This chapter summarizes all mitigation measures proposed in order to provide a comprehensive overview of the full range of mitigation measures discussed within each chapter.

Paragraph 2(d) of Schedule 6 to the Planning and Development Regulations 2001, as amended by S.I. No. 30/2018 - Planning and Development (Amendment) (No. 2) Regulations 2018, provides that the following information must be contained in an EIAR:

> *"a description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of an analysis after completion of the development), explaining the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset during both the construction and operational phases of the development."*

Chapter 18 includes a compilation of all mitigation and monitoring measures as outlined in the preceding chapters.