AtkinsRéalis

Environmental Impact Assessment Report – Volume 3 - Appendices

WuXi Biologics

April 2024

100085897DG001

EFFLUENT BALANCING AND RESOURCE RECOVERY SYSTEM

Notice

This document and its contents have been prepared and are intended solely as information for WuXi Biologics and use in relation to EIAR

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APPENDICES

Appendix 1. Scoping Report

ATKINS
Member of the SNC-Lavalin Group

Effluent Balancing and Resource Recovery System

Environmental Impact Assessment Scoping Report

WuXi Biologics

February 2024

Notice

This document and its contents have been prepared and are intended solely as information for WuXi Biologics and use in relation to the Effluent Balancing and Resource Recovery System- EIAR Scoping phase.

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1. Introduction

AtkinsRealis (Atkins) on behalf of WuXi Biologics are currently delivering environmental services in respect of the new Effluent Balancing and Resource Recovery System. The proposed project is ca. 8 hectares (ha) in size. The Site location and proposed red-line boundary is presented Figure 1.1.

The Wuxi Biologics facility is within the IDA Dundalk Science and Technology Park in Dundalk Co.Louth. The site is bounded to the north by residential dwellings along Bóthar Mhullaigh Chairlinn and the Haggardstown Garden Centre, to the west by residential dwellings and agricultural land along Bóthar Mhullaigh Chairlinn, to the north by residential dwellings and agricultural land along Marlbog Road and to the east by residential dwellings and agricultural land.

The site lies ca. 480m east of the M1 and the land in the vicinity of the site is for residential, commercial and agricultural purposes. Xerox Business Park is located to the northeast of the study area.

A review of the Louth County Development Plan 2021-2027 shows that the study area and much of the land surrounding the study area is land-use zoned as '*Business and Technology'*. The land to the south of the study area is zoned as '*Agriculture'* while the area north and south of Old Golf Links Road is zoned as '*Residential'.*

1.1. Planning Process

By reference to Section 3 of the Planning and Development Act, 2000, as amended, the proposed of an Effluent Balancing and Resource Recovery System constitutes development having regard to Section 32 of the Planning and Development Act, 2000, as amended, there is a general requirement to obtain planning permission in respect of any development of land, not being exempted development. There are no exemptions available for the nature and extent of the development proposed in this instance, therefore, planning permission will be required.

The planning route for the proposed development is an application to be made direct to Louth County Council under Section 34 of the Planning and Development Act, 2000, as amended.

An Environmental Impact Assessment Report (EIAR) will be completed for the proposed Effluent Balancing and Resource Recovery System. Accordingly, the application for planning permission for the proposed development is accompanied by an EIAR.

The proposed development will also consist of a variation to a previously permitted development for an activity for which a licence under Part IV of the Environmental Protection Agency Act, 1992 (as amended by the Protection of the Environment Act, 2003) is required.

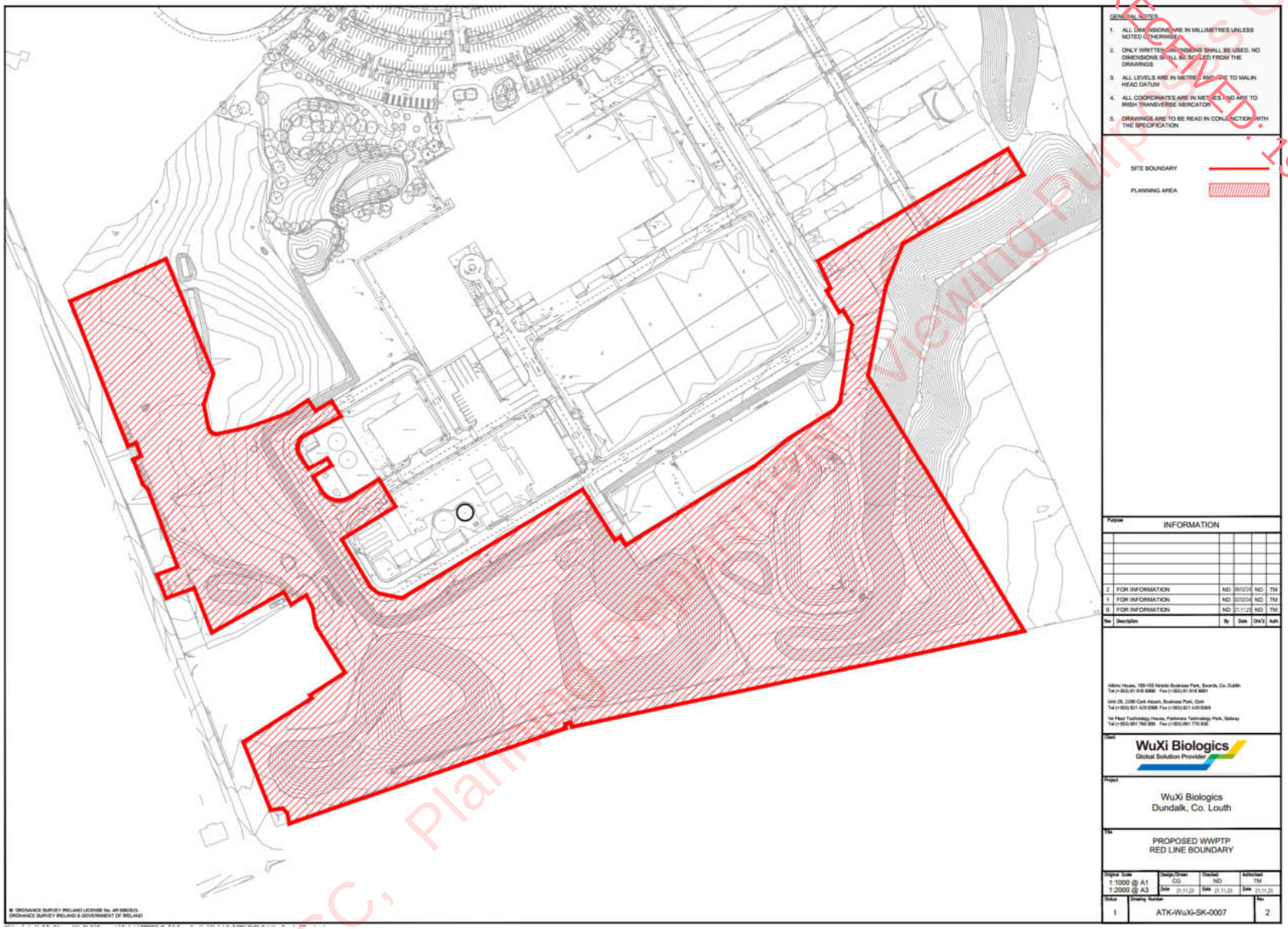


Figure 1-1 – Location of the Proposed Project

1.2. Environmental Constraints

There is a number of environmental constraints associated with the proposed development that will be taken into account as part of the EIAR process. These include (but are not limited to) the following at this preliminary juncture (and based on available information):

- Residential, commercial, and educational receptors in the vicinity of the proposed development;
- Within the study area there are 4no. archaeological sites listed in the Sites and Monuments Record (SMR), as follows:
    - Souterrain (LH012-055----);
    - Enclosure (LH012-102----)
    - Ring ditch (LH012-101----); and,
    - Habitation site (LH012-116----).

  The souterrain is also listed in the Record of Monuments and Places (RMP) and protected under the National Monuments Act (NMS, 2023).
- Terrestrial fauna and flora; and,
- The closest European sites are Dundalk Bay SAC (Site Code: 000455) and Dundalk Bay SPA (Site Code: 004026) which are 2no. European sites are ca. 2.5km east of the study area.

This concise report has therefore been prepared as part of the initial scoping stage of the EIAR in order to provide all consultees with a concise overview of the proposed development, and to clearly set out the proposed structure of the EIAR, the list of topics which will be assessed by experienced EIAR specialists / Subject Matter Experts (SMEs), and the assessment methodology to be applied. The overall objective of this scoping document is to elicit any relevant feedback which consultees may have regarding the proposed development, specifically in the context of the receiving environment. Any comments received from this consultation will be incorporated into the EIAR where relevant.

2. Description of the Proposed Development

2.1. Nature and Extent of the Proposed Development

The planned works will create a new Effluent Balancing and Resource Recovery Plant (EBRRP) at the existing WuXi Biologics facility in Dundalk. The proposed site area will allow amassing of materials excavated for the new works on site, in line with the existing spoil storage strategy.

The EBRRP will require:

- Construction of a rectangular concrete tank structure comprising two off specifications cells and four flow balancing cells which will receive inlet flows from the WuXi Biologics existing pH correction facility through step screens located on the roof of the tanks.
- Installation of two metal fabricated flocculation lamella tanks for primary treatment with a circular metal post primary tank and circular metal liquor return tank.
- Construction of a second rectangular concrete tank structure with three anoxic and aeration cells required for secondary treatment.
- Construction of a third concrete tank structure to hold three sludge processing cells.
- Installation of a bulk chemical storage tanks.

All the above process and storage tanks will be located within concrete bunds with metal stairwells and platforms for access. All process tanks will be connected to a dedicated odour treatment facility and all tanks will be fully covered.

A new sludge dewatering facility will be installed depositing sludge into sealed skips with capability for trucks to remove and replace the sealed skips once filled. The works will include all process ancillary equipment such as pumps, fabricated structures, screening equipment, pipework and lifting equipment.

The EBRRP will include a new single storey administration and process building to house electrical control panels, a membrane filtration facility, air blower equipment and chemical dosing facilities along with a laboratory, offices, and welfare facilities. Mounted on the roof of this building will be a solar photovoltaic system for renewable power generation. A rainwater harvesting tank for water reuse will be located adjacent to the building.

Construction of a fabricated metal access bridge and pipe & cable support structures will link the EBRRP to the to the existing WuXi pH neutralisation plant. A new road from the existing WuXi biological facility will be constructed with access control and security fencing.

Repurposing of the existing agricultural gate on the Mullagharlin road will facilitate temporary and permanent access to the construction site and final development for small vehicles (cars and vans). A new foul and surface water drainage facility for the proposed works connecting into the existing facility will be constructed as well as all necessary ancillary works including associated site developments such as permanent roads, landscaping, fencing, haul road and a temporary construction compound.

Refer to Figure 2.1 or the site layout .

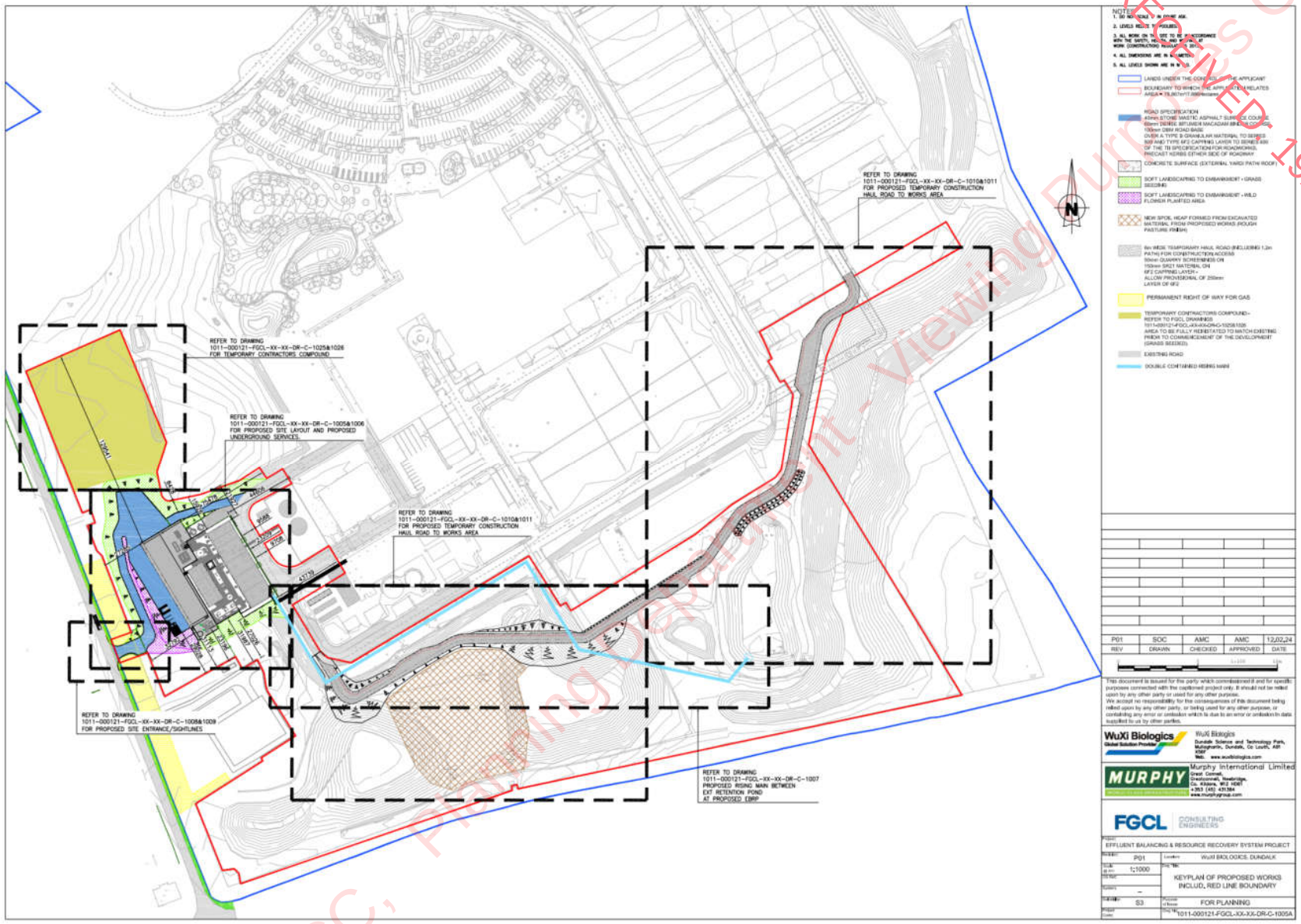


Figure 2-1 – Proposed Layout (1 of 2) (note: layout is indicative)

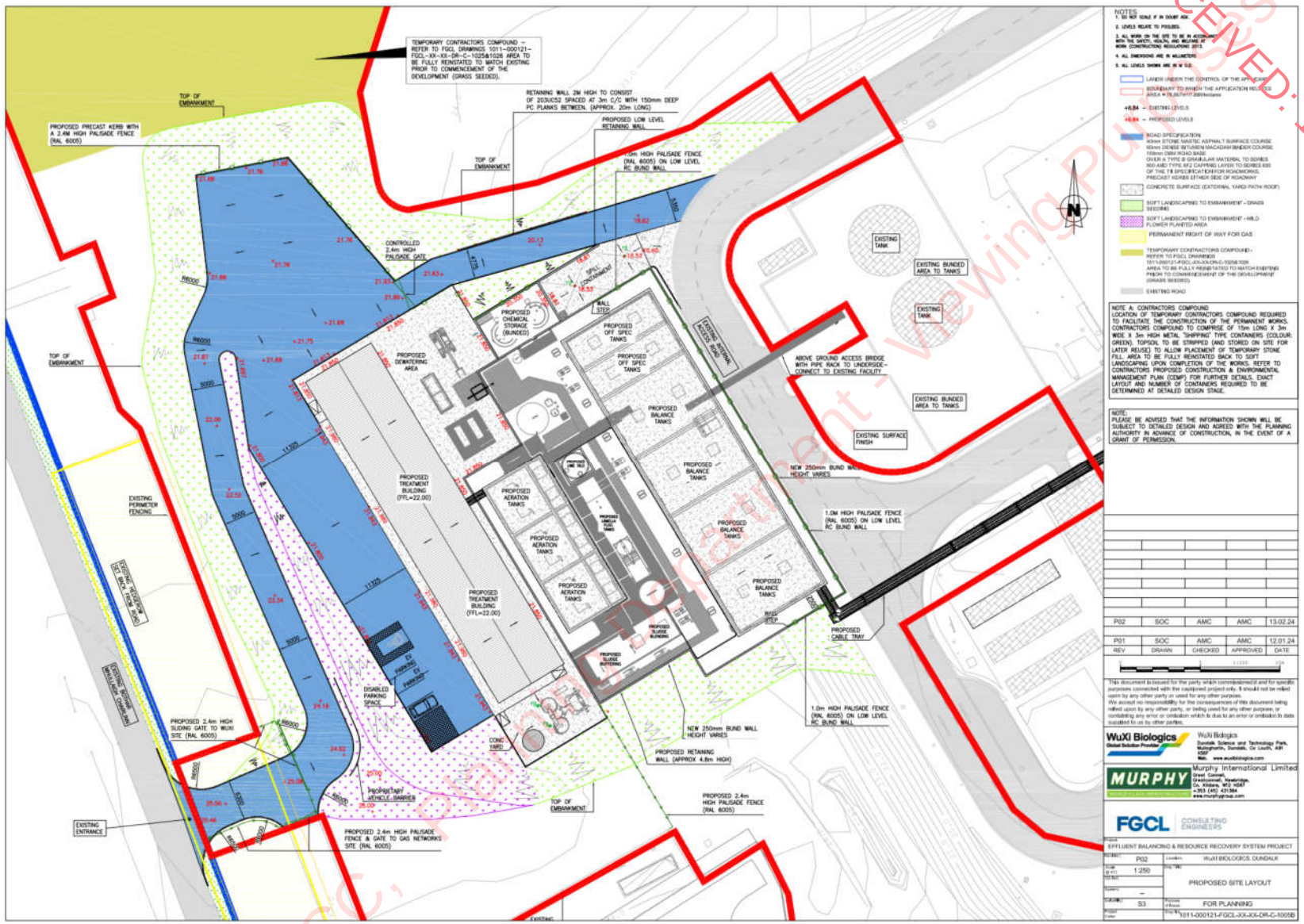


Figure 2.2: Proposed Layout (2 of 2) (note: layout is indicative)

3. EIA Process

'*The Environmental Impact Assessment Report (EIAR) is the principal document that the EIA process is based on'* (EPA, 2022). An EIAR is defined in the EPA (2022) Guidance as:

'A report or statement of the effects, if any, that the proposed project, if carried out, would have on the environment'.

The EIAR is prepared by the developer and is submitted to a competent authority (An Bord Pleanála in this instance) as part of a consent process. The competent authority uses the information provided to assess the environmental effects of the project and, in the context of other considerations, to help determine if consent should be granted. The information in the EIAR is also used by other parties to evaluate the acceptability of the project and its effects and to inform their submissions to the competent authority.

The main elements of the EIA process are as follows:

- Screening: Is an EIAR required?;
- Scoping: What should the EIAR cover?;
- Consideration of Alternatives: The presentation and consideration of the various reasonable alternatives investigated;
- Project Description: A description of the whole proposed project, comprising information on the site, design, size and other relevant features of the project, within the EIAR;
- Description of Receiving Environment: After the description of the proposed project, the description of the baseline scenario is the second of the two factual foundations of the EIAR. The baseline scenario refers to the current state of environmental characteristics. It involves the collection and analysis of information on the condition, sensitivity and significance of relevant environmental factors which are likely to be significantly affected by the project;
- Identification and Assessment of Impacts: The main purpose of an EIAR is to identify, describe and present an assessment of the likely significant impacts of a project on the environment;
- Monitoring and Mitigation Proposals: 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;
- Scrutiny and Consent: An Bord Pleanála or Carlow County Council (as the competent authority) will assess the EIAR to ensure that it is compliant with the requirements of the Regulations and determine whether the proposed development should be granted consent; and,
- Enforcement and Monitoring: If consent has been granted and the project proceeds, then the developer is obliged to adhere to the specific mitigation measures and monitoring commitments contained in the EIAR, as modified by any conditions attached to the consent.

3.1. EIAR Scoping Phase

The scoping study is a key element of the EIAR process and signifies commencement of the development of an EIAR. 'Scoping' is a process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess that information. It is defined in the European Commission Guidance as:

> *'determining the content and extent of the matters which should be covered in the environmental information to be submitted in the EIAR'.*

The EPA (2022) document '*Guidelines on the Information to be contained in Environmental Impact Assessment Reports'* states that '*All parties should be aware of the need to keep the EIAR as tightly focussed as possible. This focuses the effort and resources of all parties on the key significant issues. Scoping is usually guided by the following criteria:*

- *Use 'Likely' and 'Significant' as the principal criteria for determining what should be addressed. Any issues that do not pass this test should be omitted (scoped out) from further assessment. A section of the EIAR should describe the scoping process explaining why such issues have been scoped out and they are not being considered further. All the prescribed environmental factor needs to be listed in the scoping section of the EIAR. It is important to note that the environmental factors themselves cannot be scoped out and must feature in the EIAR. Only subtopics and headings related to each factor can be scoped in or out. Each environmental factor should be clearly covered by one or more specific section headings in the EIAR. If scoping determines that no likely significant issues arise under any heading, then an explanatory text should be included.*

- *Precedence - where EIARs for similar projects on similar sites or for other project proposals for the same site are available, these can be useful references.*
- *Interactions – 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 impacts.*

As part of the scoping process, a preliminary environmental scoping exercise has been carried out, to define the preliminary scope of the EIAR. It has been determined during this exercise that the following key topics will require assessment within the EIAR. An overview of the proposed scope of the EIAR is presented in Table 3.1:

- Population & Human Health;
- Biodiversity;
- Landscape and Visual;
- Air Quality, Odour & Climate;
- Noise & Vibration;
- Traffic;
- Land, Soils & Geology;
- Water;
- Cultural Heritage; and,
- Material Assets.

The EIAR will consider the demolition, construction and operational phases of the proposed development and will take into consideration the potential for cumulative impacts with other projects / developments, where relevant, which have been granted planning permission, within the surrounding area and within the town of Carlow.

Table 3-1 - Overview of Scoping Exercise

Environmental Aspect	Scoped in / out	Explanation
Population & Human Health	In	The construction and operational phases of the proposed development have the potential to impact on population and human health within the vicinity of the proposed development.
Biodiversity	In	The construction and operational phases of the proposed development may impact on existing terrestrial flora, fauna and habitats in the vicinity of the proposed development.
Landscape and Visual	In	The construction and operational phases of the proposed development may alter the nature of the existing views and landscape.
Air Quality, Odour & Climate	In	The construction and operational phases and, construction and operational traffic have the potential to give rise to air quality impacts. The operation of the proposed development may have the potential to generate odour.
Noise & Vibration	In	The construction and operational phases and, construction and operational traffic will generate noise and vibration.
Traffic	In	The construction work and operational phases will have an impact on the existing traffic within the vicinity of the proposed development.
Land, Soils & Geology	In	The intrusive nature of the construction activities may directly impact on existing soils and geology. An area of greenfield site will be used for the proposed construction of the proposed development, which may have an impact on land, soil and geology.
Water	In	The construction and operational phases of the proposed development may impact on existing hydrogeology conditions.
Cultural Heritage	In	The construction of the proposed development may impact on unknown and/or unrecorded subsurface features.
Material Assets	In	The proposed development may indirectly impact existing material assets during construction and operation. During the construction and operation of the proposed development waste will be generated.
Cumulative	In	The location and nature of the proposed development may have cumulative impacts with completed or granted applications within the vicinity of the proposed development.
Interactive	In	There is the potential for interactions between impacts on different factors for direct or indirect effects to result in an accumulation or magnified effects from the proposed development.
Transboundary	Out	The nature and scale of the proposed development would not result in any significant transboundary effects.
Radiation	Out	It is concluded that the construction and operation of the proposed development does not pose a risk with regard to potential radiation impacts, as no proposed or existing plant / equipment on site contains or emits radiation. Therefore, potential radiation impacts do not warrant consideration within the EIAR.

3.1.1. Consultations

As part of the EIAR assessment process, consultation will be undertaken with statutory organisations at various stages of the pre-planning process. All consultees will be consulted by letter or email regarding any environmental or planning interests that they may have in relation to the proposed development. This EIA Scoping report will be issued to the full list of consultees provided below;

- An Chomhairle Ealaíon (Arts Council)
- An Taisce - the National Trust for Ireland
- BirdWatch Ireland
- Louth County Council (LCC) - Planning
- LCC - Environment
- LCC - Traffic
- LCC - Water Services
- Commission for Energy Regulations
- Development Application Unit;
- Department of Culture, Heritage and the Gaeltacht
- Department of Environment, Climate and Communications
- Department of Housing, Local Government and Heritage
- Department of Transport
- Environmental Protection Agency
- Electricity Supply Board (ESB)
- Failte Ireland
- Geological Survey of Ireland
- Inland Fisheries Ireland (IFI)
- Irish Wildlife Trust
- National Monuments Service / Architecture
- National Parks and Wildlife Service (NPWS)
- National Transport Authority (NTA)
- Office Public Works (OPW)
- The Eastern & Midland Regional Assembly
- The Health and Safety Authority
- The Health Services Executive, Environmental Health
- The Heritage Council
- Transport Infrastructure Ireland (TII)
- Waterways Ireland

All relevant comments from the various consultees, along with comments from any pre-application meetings which may take place as part of the planning process, will be fully addressed as required within the EIAR.

4. Proposed EIAR Structure and Methodology

4.1. Structure of the EIAR

The EIAR will include all necessary technical studies to address the likely environmental impacts of the construction, demolition and operation of the proposed development. The disciplines identified for inclusion in the EIAR, along with the technical content, have been determined based on a review of all available baseline information, including the completion of the scoping exercise undertaken by Atkins within this EIA Scoping report.

The EIAR will be presented in three volumes as follows;

- Volume 1 - Non-Technical Summary;
- Volume 2 - EIAR; and,
- Volume 3 - EIAR Appendices.
- Within the main body of the EIAR (Volume 2), Chapter 1 will set out the introduction, identify the information required in an EIAR and methodology, while Chapter 2 will describe the project and characteristics of the proposed development, identify the reasonable alternative, cumulative effects with other projects and planning. The environmental topics where there is potential for significant impacts to arise will be addressed in Chapters 3 to 12 as follows;
- Chapter 3 Population and Human Health;
- Chapter 4 Biodiversity;
- Chapter 5 Landscape & Visual;
- Chapter 6 Air Quality, Odour & Climate;
- Chapter 7 Noise & Vibration
- Chapter 8 Traffic;
- Chapter 9 Land, Soils & Geology;
- Chapter 10 Water;
- Chapter 11 Cultural Heritage; and,
- Chapter 12 Material Assets.

Interactions between disciplines will be addressed in Chapter 13 and the Schedule of Environmental Commitments will be presented in Chapter 14.

Where appropriate, each of the main sections of this report will be structured in the same general format, as follows:

- An introduction describing the purpose of the section;
- A description of the methodology used in the section;
- A description of the aspects of the existing environment relevant to the environmental topic under consideration;
- Characteristics of the proposed development under consideration;
- An assessment of the impact of the proposed development on the environmental topic (including impacts during the construction and operational phases, cumulative impacts, and interactions etc.);
- Recommendations for mitigation measures to reduce or eliminate any significant negative impacts identified; and,
- An assessment of the residual impact that will remain, assuming that recommended mitigation measures are fully and successfully implemented.

Sources of information mentioned in the text will be either i) listed in full in the bibliography or ii) referenced in full in the text.

4.2. Information within the EIAR

As outlined in Annex IV of the EIA Directive identifies that the following information must be provided in an EIA Report. This information will be included with the EIAR.

1. Description of the project, including in particular:

a) a description of the location of the project;

b) a description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;

c) a description of the main characteristics of the operational phase of the project (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;

d) 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.

2. A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.

4. A description of the factors specified in Article 3(1) likely to be significantly affected by the project: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.

5. A description of the likely significant effects of the project on the environment resulting from, inter alia:

a) the construction and existence of the project, including, where relevant, demolition works;

b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;

c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;

d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);

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;

f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;

g) the technologies and the substances used.

The description of the likely significant effects on the factors specified in Article 3(1) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project.

6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

7. 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 a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.

8. A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned.

Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council (*) or Council Directive 2009/71/Euratom (**) or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

9. A non-technical summary of the information provided under points 1 to 8.

10. A reference list detailing the sources used for the descriptions and assessments included in the report.

The Environmental Protection Agency (2022) *'Guidelines on the Information to be contained in Environmental Impact Assessment Reports* states that EIAR content should include the following. Which will be included within the EIAR.

i) key alternatives considered

ii) proposed project

iii) receiving environment

iv) likely significant effects

v) mitigation and monitoring measures and

vi) residual effects.

A non-technical summary must also be provided.

The receiving environment and the effects of the project are explained by reference to its possible effects on a series of environmental factors:

- *Population and Human Health*
- *Biodiversity*
- *Land & Soils*
- *Water*
- *Air \ Climate*
- *Material Assets*
- *Cultural Heritage*
- *Landscape*
- *Interactions*

4.3. Methodology

The EIAR currently being undertaken by Atkins will be prepared in accordance with Planning and Development Regulations as amended 2001-2022, and with due regard to the following EIAR guidance;

- Environmental Protection Agency (EPA) (2022) *'Guidelines on the Information to be contained in Environmental Impact Assessment Reports'* published in 2022;
- EPA (2015) *'Advice Notes for Preparing Environmental Impact Statements Draft'* published in September 2015'.
- Department of Housing, Planning and Local Government (DoHPLG) '*Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment'* published in August 2018;
- European Commission '*Environmental Assessments of Plans, Programmes and Project – Rulings of the court of Justice of the European union'* published in October 2020;
- European Commission '*Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report'* published in 2017
- European Commission '*Environmental Impact Assessment of Projects – Guidance on Scoping'* published in 2017; and,
- European Commission '*Environmental Impact Assessment of Projects – Guidance on Screening'* published in 2017.

Additionally, discipline specific best practice guidance will be consulted by each specialist for each of the topics (Population & Human Health; Biodiversity; Landscape and Visual; Air Quality, Odour & Climate; Noise & Vibration; Traffic; Land, Soils & Geology; Water; Cultural Heritage; and, Material Assets) during the preparation of the EIAR. The receiving environment, surveys/site walkovers, methodology, potential impacts and mitigation measures will

be incorporated and included within each disciplines chapter within the EIAR. The methodology for each discipline is outlined below and will be included in detail within the EIAR report.

4.3.1. Planning

The proposed development will be considered in the context of national, regional and local planning policy, including:

- National Planning Framework 2018;
- National Development Plan 2021-2030;
- Climate Action Plan 2023;
- Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031; and,
- Louth County Council Development Plan 2021 – 2027
- Dundalk & Environs Development Plan 2009-2015, as extended.

The proposed development will also be assessed in the context of planning history for the site and for lands in the vicinity as well as precedent, where relevant.

4.3.2. Population and Human Health

The assessment of effects on population and human health will involve a desk study of the relevant policies and other demographic information relevant to the area from the Central Statistics Office (CSO). Population aspects of relevance to this assessment include social considerations, traffic and accessibility, land use and economic activity. Human health aspects are primarily considered through an assessment of the environmental pathways by which health may be affected (i.e. the determinants of health) such as air, noise, water or soil. The assessment on human health will therefore draw on the findings of other sections of the EIAR as necessary to ensure that the likely significant effects that have the potential for significant effects on human health are considered herein.

The assessment of the likely significant effects of the proposed development on population and human health will take account of the policy and legislative documents listed in section 4.3 of this EIAR Scoping Report, particularly Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

The term human health was introduced in the amended 2014 EIA Directive. However, no definition or advice on how this new factor should be considered is provided in the Directive. Subsequent Guidance from the European Commission in 2017 (EC, 2017a) stated the following:

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

This section of the EIAR will also have regard to the guidance provided in recent national publications on the EIA Directive by the European Commission (EC, 2017b[1]), the Department of Housing Planning and Local Government (DHPLG, 2018[2]) and the EPA (EPA, 2022[3]).

The identification of the sensitive receptors to the proposed development have been identified based upon the EPA Guidelines (EPA, 2017b and 2002) and Advice Notes (EPA, 2015 and 2003). These documents identify sensitive receptors as neighbouring landowners, local communities and other parties which are likely to be directly affected by the proposed development. In particular, homes, hospitals, hotels and holiday accommodation, schools and rehabilitation workshops and commercial premises are noted. Regard is also given to transient populations including drivers, tourists and walkers.

4.3.3. Biodiversity

The Biodiversity Chapter of the EIAR will be undertaken in accordance with relevant legislation, policies and plans, and the following guidance:

[1] EC, 2017b, Commission Implementing Decision (EU) on greenhouse gas emissions for the year 2015 covered by Decision No 406/2009/EC of the European Parliament and of the Council

[2] DHPLG (August 2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment

[3] EPA (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports

- All-Ireland Pollinator Plan 2021-2025. National Biodiversity Data Centre Series 25. National Biodiversity Data Centre, Waterford. March 2021.
- Birds Directive (2009/147/EC). Official Journal of the European Union L 20/7-25.
- Louth County Development Plan 2021-2027. Louth County Council.
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.2 – Updated April 2022. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). Bat Conservation Trust, London.
- EIA Directive (2011/92/EU, as amended by 2014/52/EU). Official Journal of the European Union L 26:1-21, 124:1-18.
- EPA (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports. May 2022. Environmental Protection Agency, Wexford.
- European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended). S.I. No. 477/2011, 499/2016, 355/2015, 293/2021.
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations, 2018 (as amended). S.I. No. 296/2018, 404/2018, 646/2018, 418/2019, 456/2021, 457/2021, 708/2022.
- Flora (Protection) Order, 2022. S.I. No. 235/2022.
- Fossitt, J.A. (2000) A Guide to Habitats in Ireland. 2007 Reprint. The Heritage Council, Kilkenny.
- Habitats Directive (92/43/EEC). Official Journal of the European Communities L 206/7-50.
- IAS Regulation (EU) No 1143/2014 (invasive alien species). Official Journal of the European Union L 317/35-55. [Consolidated text: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02014R1143-20191214>.]
- IFI (2016) Guidelines on Protection of Fisheries during Construction Works in and adjacent to Waters. Inland Fisheries Ireland, Dublin.
- IFI (2020) Planning for Watercourses in the Urban Environment. Inland Fisheries Ireland, Dublin.
- Ireland's 4th National Biodiversity Action Plan – Draft for Public Consultation. Department of Housing, Local Government and Heritage.
- National Biodiversity Action Plan 2017-2021. Department of Culture, Heritage and the Gaeltacht, Dublin.
- NRA (2006) Guidelines for the Treatment of Bats during the Construction of National Roads Schemes. National Roads Authority, Dublin.
- NRA (2008) Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes. National Roads Authority, Dublin.
- NRA (2009a) Guidelines for Assessment of Ecological Impacts of National Roads Schemes. Revision 2. National Roads Authority, Dublin.
- NRA (2009b) Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. National Roads Authority, Dublin.
- O'Flynn, C., Kelly, J. and Lysaght, L. (2014) Ireland's invasive and non-native species – trends in introductions. National Biodiversity Data Centre Series 2, National Biodiversity Data Centre, Waterford.
- Planning and Development Act, 2000. No. 30 of 2000. Unofficial consolidation: <http://revisedacts.lawreform.ie/eli/2000/act/30/revised/en/html>. Law Reform Commission, Dublin.
- Smith, G.F., O'Donoghue, P., O'Hora, K. and Delaney, E. (2011) Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council, Kilkenny.
- Wildlife Act, 1976. No. 39 of 1976. Unofficial consolidation: <https://revisedacts.lawreform.ie/eli/1976/act/39/revised/en/html>]. Law Reform Commission, Dublin.

Data sources will include online databases, online mapping systems, and published and unpublished reports. Habitat and species-specific surveys. The following ecology survey have been completed:

- Ecological walkover;
- Invasive alien species survey; and,
- Terrestrial mammal survey (badgers and otters).

The ecological walkover was completed. The detailed results of site survey, including all plates, figures and tables, will be provided within the Biodiversity Chapter of the EIAR.

An Appropriate Assessment Screening report will be included as part of the planning application.

4.3.4. Landscape and Visual

The Landscape and Visual Impact Assessment (LVIA) chapter will be based on recommendations within 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA 3rd Edition 2013), published by the UK Landscape Institute and the Institute of Environmental Management and Assessment and EPA 'The Guidelines on the information to be contained in Environmental Impact Assessment Reports' dated May 2022.

The Landscape and Visual Impact Assessment Chapter of the EIAR will consist of the following:

1. Desk based study

The desk-based study of the area will be carried out, identifying the following elements within the study area including:

- Review of the current Louth County Development Plan (2021 – 2027) and other statutory documents with particular attention to:
  - Landscape Policies for the area and policies on views and prospects;
  - Recreation and green infrastructure policy;
  - Landscape Character as set out in the Louth Landscape character Assessment.
- Review of Proposed Development layouts, drawings, mapping and associated data as available;
- Review of walking trails and other tourism and activity amenities in the area.

2. Site Survey
   - A site visit consisting of wind screen survey within the study area. The site visit will be used to:
     - Determine (and photograph) the main features of landscape character of the area where works are proposed;
     - Identify potentially affected landscape receptors and their sensitivity;
     - Identify potentially sensitive visual and landscape receptors and landscape ;
     - Identify and comment on any areas identified as valued in the County Development Plan/LAP;
     - Identify locations for photomontages.

3. LVIA Chapter of the EIAR

The report will include:

- A methodology for carrying out Landscape and Visual Impact Assessments as part of EIA;
- A description of the receiving environment within the study area;
- A summary of the landscape characteristics of the area where works are proposed;
- An identification of sensitive landscapes and sensitive visual receptors;
- A commentary on the proposed development and the likely effects on the key landscape characteristics;
- A commentary on the proposed development and the likely effects on the visual amenity of the study area;
- Review of photomontages (produced by others) and detailed description and assessment of potential visual effects associated with the proposed development as depicted in the photomontages;
- Likely significance of potential landscape and visual effects at Construction, Operational, Decommissioning phases of the proposed development;
- Cumulative Effects;
- Proposed Mitigation;
- Residual Effects;
- Non-Technical Summary;
- Landscape Figure(s) to illustrate the above.

4.3.4.1. Photomontage

The photomontage methodology is based on the Landscape Institute Technical Note, Visual Representation of Development Proposals, Technical Guidance Note 06/19 and over 20 years' experience in photomontage production. The method has the following steps:

- Photography;
- 3D Modelling and Camera Matching;

- Rendering and Finishing Photomontages; and,
- Presentations.

For each view a render of the development is generated. This is the process of creating a photo-realistic image of the 3D model, as seen from ach camera position, with sunlight and shadow applied to the model. The render of the development is then inserted into the photograph to create the photomontage. This process of masking (or cutting out) those parts of the render that are obscured by objects in the foreground of the photograph, and masking distant objects behind the render – so that the render fits seamlessly into the photograph.

4.3.5. Air Quality, Odour and Climate

The Air Quality, Odour and Climate Impact Assessment Chapter of the EIAR will consist of the following:

- Baseline Assessment

The environment in the vicinity of the site of the proposed development will be described in terms of existing Climatic conditions from information which will be obtained from Met Eireann. Ambient air quality will be described by referring to available information on ambient air quality in the vicinity of the site of the proposed development. The evaluation of existing air quality will be based largely on a comparison with relevant National and EU Air Quality Standards. The baseline survey will consist of a site visit and a subjective assessment of odour at the existing site. This will be a subjective assessment that follows the procedures outlined in the EPA Guidance AG5.

- The Characteristics of the development

The characteristics of the proposed development during construction and final operation phases will be described in terms of the potential effects which emissions from the development may have on ambient air quality in the vicinity of the site. Climate impacts will be considered for construction and operation phase.

- The potential impact of the development

A description of the potential impacts which the construction and operation of the proposed development could have on ambient air quality in the vicinity of the site will be provided. In particular, the cumulative impact of all existing and proposed activities will be carefully considered in this assessment.

Dispersion Modelling of the proposed development will occur. It is proposed to conduct an assessment of the impact of emissions to atmosphere from the facility and the Odour Control Unit on the surrounding environment by completing an Air Quality Dispersion Modelling study of emissions from the various sources. This involves predicting the maximum ground level impact resulting from emissions sources at the facility. Measurement and modelling uncertainties will be considered in the assessment. The results will be presented as isopleths showing the relevant distributions of ground level concentrations, and will be compared with appropriate Air Quality Standards and best practice guidance. The air quality dispersion model which will be used is the U.S. EPA recommended AERMOD Model. The dispersion model will be used to predict the maximum ground level concentrations of various substances in the vicinity of the site. In particular, those substances that might be present in the emissions will be modelled as follows:

- Hydrogen sulfide
- Odour

Five years of meteorological data will be used for the assessment. The available data from Dublin Airport will be used for this assessment. Local terrain data will also be required and will be acquired from Ordnance Survey Ireland or similar organisation. The Model will present results in the form of ground level concentrations (GLC) expressed as the 98 percentiles of one hour averages for odour, and hydrogen sulfide. The results will be compared with relevant air quality standards and best practice guidance. The assessment will demonstrate the conditions required to ensure that odour nuisance does not occur as a result of the proposed facility.

- Mitigation Measures

Mitigation measures to reduce the impact of the development on ambient air quality during the construction and operation phase will be described if required. This will include a recommendation on the appropriate stack height for the odour control system based on the current available design information.

- Predicted impact of the development

The predicted impact of the development on ambient air quality during the construction and operation phase will be described after taking full account of the existing baseline situation, the potential impacts of the development and the mitigation measures proposed.

- Climate Statement

A Climate Statement will be formulated to consider the potential impact of the development and which in particular will set out the specific factors considered in minimising the carbon impact of the proposal.

4.3.6. Noise and Vibration

The Noise and Vibration Impact Assessment Chapter of the EIAR will consist of the following:

- Baseline Noise Surveys

Baseline noise surveys will be undertaken in the vicinity of noise sensitive locations (NSL's) in proximity to the proposed site. The noise surveys will involve an attended survey conducted over a typical weekday daytime period and night-time period and will be done on a cyclic basis at up to four noise monitoring locations, representing nearby NSL's. An unattended sound level meter will be left on site for a minimum period of 7-days at the site boundary closest to the nearby dwellings in order to capture the typical range of noise levels over weekday and weekend day, evening, and night-time periods. Baseline noise measurements will be conducted in accordance with ISO 1996-2:2017 Acoustics -- Description, measurement, and assessment of environmental noise -- Part 2: Determination of sound pressure levels and with consideration of the guidance contained within the Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) EPA, January 2016. Survey engineers will measure all relevant acoustic parameters and frequency data. Detailed notes will be taken in relation to primary noise sources and meteorological conditions.

- Calculation of Noise Emissions

Outward noise emission levels associated with the construction and operational phases of the proposed facility will be predicted in accordance with standard guidance. We will use noise modelling software, where required, to predict impacts associated with both phases, taking into account a range of factors affecting the propagation of sound. Construction phase noise calculation predictions and assessments will be carried out in accordance with the guidance contained in the following document:

  - BS 5228: 2009 +A1 2014 – Code of practice for noise and vibration control on construction and open sites – Part 1: Noise.

An operational stage 3D computer noise model of the proposed Effluent Balancing and Resource Recovery System will be developed, and noise levels predicted to the nearest residential noise sensitive locations. The noise predictions and modelling will be completed and comply with the following standards:

  - ISO 9613-2:1996 Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation.
  - ISO/TR 17534-3:2015 -- Acoustics -- Software for the calculation of sound outdoors -- Part 3: Recommendations for quality assured implementation of ISO 9613-2 in software according to ISO 17534-1.

In order to meet the above project requirements, RSK will use iNoise® modelling software, DGMR Software B.V. Noise calculations will be performed in 1/1 Octave Band Frequencies between 31.5Hz and 8,000Hz.

- Assessment of Cumulative Noise Emissions

For all NSL's, calculations of Effluent Balancing and Resource Recovery System noise will be presented (in terms of LAeq,T) and compared against the relevant noise criteria. The cumulative noise impact of the operation of the new Effluent Balancing and Resource Recovery System Biologics facility + the proposed new Effluent Balancing and Resource Recovery System will need to be considered in the EIAR Noise & Vibration Chapter. Any available information in relation to the operational noise emissions from the operational WuXi facility will need to be reviewed for inclusion and assessment of cumulative noise impacts (i.e. annual compliance noise monitoring data).
Where calculated noise levels are in excess of the relevant noise criteria, derived as part of the overall acoustic assessment, appropriately detailed remedial measures will be identified and the expected noise attenuations offered clearly stated and technically justified. The predicted noise levels will be compared against the most relevant standards available and a comment in relation to the impact of this phase will be prepared. Where predicted levels are in exceedance of the recommended criteria, mitigation measures will be included within the report.

- Preparation of EIAR Chapter

The findings in the format required to be included as part of the overall EIAR. Consideration will be given to the EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports.

4.3.7. Traffic

This Traffic Chapter and associated assessment will be carried out in accordance with European Union and National level policy, and the following local level policy documents and best practice guidance documents:

- Louth County Council – Development Plan 2021 - 2027;
- Environmental Protection Agency – Guidelines on the information to be contained in Environmental Impact Assessment Reports - 2022;

- Transport Infrastructure Ireland - Traffic and Transport Assessment Guidelines 2014; and,
- Transport Infrastructure Ireland - PAG Unit 5.3 Travel Demand Projections 2016.

The following tasks will be considered during the preparation of the Traffic Chapter:

- Assess surrounding road and transport infrastructure;
- Identify plans for future road infrastructure and transport upgrades;
- Source historical traffic counts to quantify the base line traffic scenario;
- Determine anticipated trip generation associated with the proposed development during the construction phase
- Establish future years and associated traffic flows; and,
- Quantify the predicted traffic impact of the proposed development.

4.3.8. Land, Soil and Geology

The following scope of works will be undertaken to complete the land, soils and geology assessment presented in this chapter;

- Desk-based study including review of available historical information; and,
- Site Walkover Survey by an experienced Geo-environmental Scientist.

This assessment will be completed in accordance with relevant best practice guidance from the Institute of Geologists of Ireland, '*Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements*' (IGI, 2013). The IGI guidance document is an updated version of the 2002 guidelines, '*Geology in Environmental Impact Statements, A Guide'* (IGI, 2002), which was revised to take account of legislative changes, and the operational experience developed by geoscientists in the production of relevant environmental assessments.

The desk-based study will involve reviewing information from the following sources:

- GSI Datasets Public Viewer and Groundwater webmapping;
- EPA Public Viewer and webmapping;
- Review of any relevant Ground Investigation reports; and,
- Ordnance Survey webmapping to assess the surface topography and landforms.

4.3.9. Water

The following scope of works will be carried out in order to complete this assessment: -

- Desk-based study including review of available historical information;
- Site Walkover Survey; and
- Review of any relevant Ground Investigation data;

The purpose of the desk-based task is to characterise the current hydrological and hydrogeological setting of the Site. Relevant background information will be compiled, specifically from the following data sources (but not exclusively);

- Environmental Protection Agency (EPA) web mapping;
- Geological Survey of Ireland (GSI) Datasets Public Viewer and Groundwater web mapping;
- Office of Public Works National Flood Hazard mapping web Site ;
- Ordnance Survey of Ireland (OSI) web mapping to assess the surface topography and landforms;
- National Parks and Wildlife Service (NPWS) Map Viewer;
- Water Framework Directive (WFD) Ireland web mapping; and,
- Flood Risk Assessment Report.

The information obtained during the walkover survey and the geotechnical investigation will be supplemented by data gathered during the desk-based review of all available relevant Site-specific and regional data. This assessment will be completed in accordance with relevant best practice guidance from the Institute of Geologists of Ireland (IGI) *'Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements'* (IGI, 2013). This assessment will also be prepared with regard to the (2022) EPA guidelines.

Separately, a Flood Risk Assessment (FRA) will be prepared in accordance with the following guidance document; '*The Planning System and Flood Risk Management – Guidelines for Planning Authorities*' DOEHLG 2009.

4.3.10. Cultural Heritage

The EIAR chapter will comprise a baseline assessment (identifying all relevant cultural heritage constraints) and detailed impact assessment. The scope and methodology for the chapter has been devised in consideration of the following guidelines:

- Environmental Protection Agency (2022) 'Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)'
- Environmental Protection Agency (2003) 'Advice notes on current practice (in the preparation of Environmental Impact Statements)'
- Environmental Protection Agency (2017) 'Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)'
- Department of the Environment, Community and Local Government (2013) 'Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment'
- Department of Arts, Heritage, Gaeltacht and the Islands (DAHGI) (1999) 'Frameworks and Principles for the Protection of the Archaeological Heritage'
- Department of the Environment, Heritage and Local Government (2011) 'Architectural Heritage Protection Guidelines for Planning Authorities'
- TII (2022) Cultural Heritage Impact Assessment (CHIA) of TII Projects (Draft)
- National Roads Authority (2005) 'Guidelines for the testing and mitigation of the Wetland Archaeological Heritage for National Roads Schemes'

Legislative Procedures

Assessments are undertaken in accordance with the provisions of the following legislative procedures:

- EIA Directive 85/337/EEC as amended by 97/11/EC, 2003/35/EC and 2009/31/EC and informally consolidated by 2011/92/EU and further amended under 2014/52/EU.
- National Monuments Acts 1930-2004
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999
- Local Government (Planning and Development) Acts

Policy Framework

Assessments will be undertaken in accordance with relevant policies expressed in any current (or draft) Local Area, County or Regional Development Plans or Planning Policies.

Study Area

The study areas for the EIAR chapter will be defined in respect of two factors: 1.) the ability of sites/information sources to provide information pertaining to the archaeological potential of the proposed development site, and 2.) the potential physical impact, as well as impact on setting, that the proposed scheme may have on sites of cultural heritage significance.

Archaeological test trenching was carried out at the site. The testing was carried out to assess the archaeological potential of the site following a geophysical survey carried out in May 2021 under licence number 23R0044. The test trenching was completed between the 31st July to 8th August 2023 (licence no. 23E0452) issued by the Department of Housing, Local Government and Heritage in consultation with the National Museum of Ireland. A total of 14 test trenches were excavated across the site. Each trench measured 1.8 m in width, and in total, 997m of linear trenches were excavated, targeting anomalies identified during the geophysical survey (23R0044). The detailed results of site survey, including all plates, figures and tables, will be provided within the Cultural Chapter of the EIAR and as a separate report within the Appendence of the EIAR (Volume 3).

4.3.11. Material Assets

4.3.11.1. Built Services

The methodology used to prepare the built services section of the EIAR will be in accordance with the EPA '*Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EIAR)'* (2022), and *'Advice Notes for Preparing Environmental Impact Statements Draft September 2015'*. The following sources will be used to collate information on built services within the general area of the Site;

- ESB Network Utility Plans;

- eir Telecommunications Plans;
- Gas Network Plans;
- Wastewater Utilities; and,
- Water Utilities.
- Available utility information and maps received from Irish Water and Louth County Council.

This information will be supplemented by observations recorded during various Site walkover surveys. Surface water runoff, foul drainage discharge and water supply requirements will also be designed with due regard to the following guidelines:

- SuDS Manual (CIRIA (2007);
- Irish Waters Code of Practises and Technical Standards (IW-CDS-5030-01 to 04 & IW-TEC-800); and,
- Irish Water's Pre-Connection Enquiry Application (water demand and foul water loading).

4.3.11.2. Waste Management

This section of the EIAR will be prepared in accordance with the EPA '*Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EIAR)'* (2022), *'Advice Notes for Preparing Environmental Impact Statements Draft September 2015'*, and EPA (2021) '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition.'*

4.3.12. Interactions

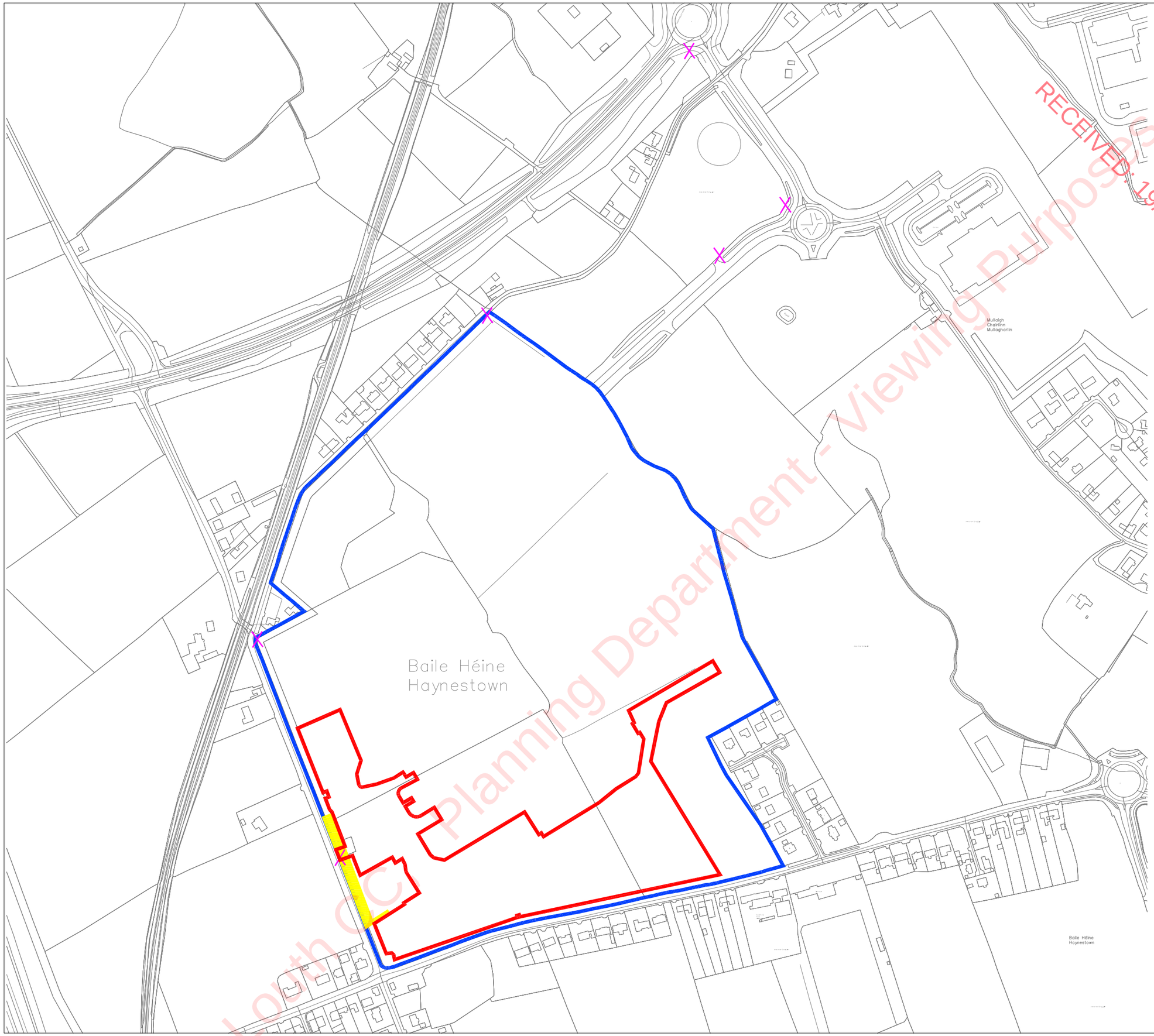
This chapter describes interactions between impacts on different environmental factors. All potential interactions will be addressed as required throughout the EIAR. During the scoping, baseline assessment and impact assessment stages of this report, contributors will liaise with each other where relevant to ensure that all such potential interactions have been robustly addressed. A detailed description of the residential development will be presented in Chapter 2 – Project Description.

5. Scoping Request

In accordance with best practice guidance and based on the information presented within this scoping report, we would welcome all feedback or opinions in relation to the proposed content and methodology of the EIAR. We are currently completing the baseline assessment phase and will very shortly commence the impact assessment phase. We would therefore appreciate a response if relevant by 29th of February 2024, or earlier if possible.

Appendices

Appendix A. Proposed Development Location



NOTES

1. DO NOT SCALE IF IN DOUBT ASK.
2. LEVELS RELATE TO POOLBEG.
3. ALL DIMENSION TO BE VERIFIED ON SITE BY CONTRACTOR.
4. ALL WORK ON THE SITE TO BE IN ACCORDANCE WITH THE SAFETY, HEALTH, AND WELFARE AT WORK (CONSTRUCTION) REGULATIONS 2013.
5. ALL DIMENSIONS ARE IN MILLIMETERS
6. ALL LEVELS SHOWN ARE IN M O.D.
7. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH OTHER CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND FABRICATORS DRAWINGS.

SCALE 1:2500

LANDS UNDER THE CONTROL OF THE APPLICANT
BOUNDARY TO WHICH THE APPLICATION RELATES
AREA = 78,867m²/7.886Hectares
X LOCATION OF SITE NOTICE
PERMANENT RIGHT OF WAY FOR GAS

1:2500 SITE LOCATION MAP

Scale:– 1:2,500
Scála:– 1:2,500
0 50 100 150 200 Metres
0 150 300 450 600 Feet

REV	DRAWN	CHECKED	APPROVED	DATE
P02	SQC	AMC	AMC	13.02.24
P01	SQC	AMC	AMC	12.01.24

0 5 1:100 10m

WuXi Biologics
Global Solution Provider
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Dundalk Science and Technology Park,
Mullagharlin, Dundalk, Co Louth, A91 X56F
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Greatconnell, Newbridge,
Co. Kildare, W12 HD61
+353 (45) 431384
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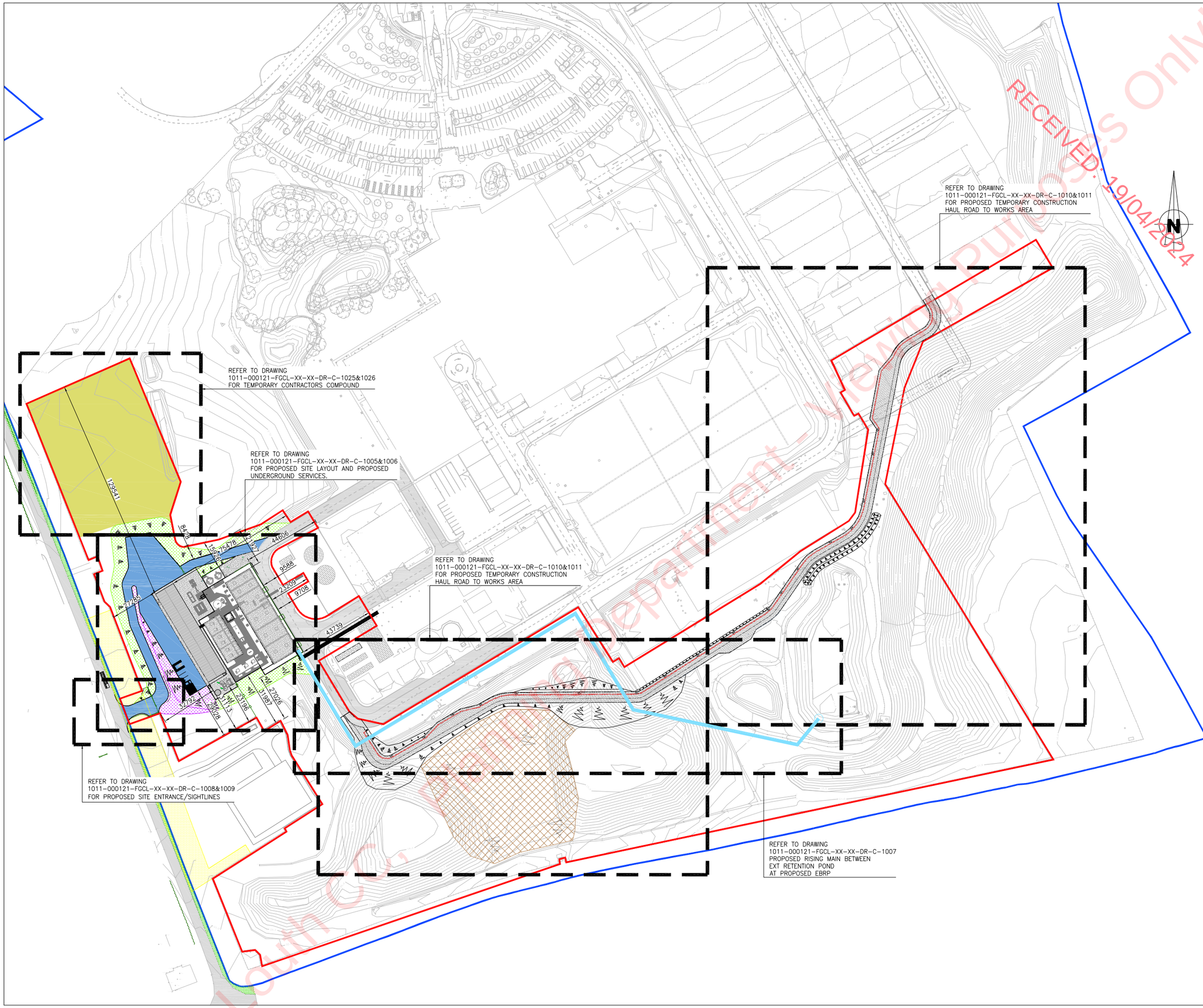
FGCL CONSULTING ENGINEERS

Project:
EFFLUENT BALANCING & RESOURCE RECOVERY SYSTEM PROJECT

Revision: P02	Location:	WuXI BIOLOGICS, DUNDALK	
Scale @ A1: 1:2500	Dwg Title:	SITE LOCATION MAP 1:2500	
OS Ref:			
System: –			
Suitability: S3	Purpose of Issue:	FOR PLANNING	
Project Code:	Dwg No:	1011-000121-FGCL-XX-XX-DR-C-1001A	

Appendix B. Proposed Development Layout (Indicative only)



NOTES
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4. ALL DIMENSIONS ARE IN MILLIMETERS
5. ALL LEVELS SHOWN ARE IN M O.D.

- LANDS UNDER THE CONTROL OF THE APPLICANT
- BOUNDARY TO WHICH THE APPLICATION RELATES AREA = 78,867m²/7.886Hectares
- ROAD SPECIFICATION
  40mm STONE MASTIC ASPHALT SURFACE COURSE
  60mm DENSE BITUMEN MACADAM BINDER COURSE
  100mm DBM ROAD BASE
  OVER A TYPE B GRANULAR MATERIAL TO SERIES 800 AND TYPE 6F2 CAPPING LAYER TO SERIES 600 OF THE TII SPECIFICATION FOR ROADWORKS.
  PRECAST KERBS EITHER SIDE OF ROADWAY
- CONCRETE SURFACE (EXTERNAL YARD/ PATH/ ROOF)
- SOFT LANDSCAPING TO EMBANKMENT - GRASS SEEDING
- SOFT LANDSCAPING TO EMBANKMENT - WILD FLOWER PLANTED AREA
- NEW SPOIL HEAP FORMED FROM EXCAVATED MATERIAL FROM PROPOSED WORKS (ROUGH PASTURE FINISH)
- 6m WIDE TEMPORARY HAUL ROAD (INCLUDING 1.2m PATH) FOR CONSTRUCTION ACCESS
  50mm QUARRY SCREENINGS ON
  150mm SR21 MATERIAL ON
  6F2 CAPPING LAYER -
  ALLOW PROVISIONAL OF 250mm LAYER OF 6F2
- PERMANENT RIGHT OF WAY FOR GAS
- TEMPORARY CONTRACTORS COMPOUND - REFER TO FGCL DRAWINGS 1011-000121-FGCL-XX-XX-DR-C-1025&1026 AREA TO BE FULLY REINSTATED TO MATCH EXISTING PRIOR TO COMMENCEMENT OF THE DEVELOPMENT (GRASS SEEDED).
- EXISTING ROAD
- DOUBLE CONTAINED RISING MAIN

P01	SOC	AMC	AMC	12.02.24
REV	DRAWN	CHECKED	APPROVED	DATE

0 5 1:100 10m

WuXi Biologics
Global Solution Provider
WuXi Biologics
Dundalk Science and Technology Park, Mullagharin, Dundalk, Co Louth, A91 X56F
Web. www.wuxibiologics.com

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+353 (45) 431384
www.murphygroup.com

FGCL CONSULTING ENGINEERS

Project: EFFLUENT BALANCING & RESOURCE RECOVERY SYSTEM PROJECT

Revision:	P01	Location:	WuXI BIOLOGICS, DUNDALK
Scale @ A1:	1:1000	Dwg Title:	KEYPLAN OF PROPOSED WORKS INCLUD. RED LINE BOUNDARY
OS Ref:			
System:	–		
Suitability:	S3	Purpose of Issue:	FOR PLANNING
Project Code:		Dwg No:	1011-000121-FGCL-XX-XX-DR-C-1005A

TEMPORARY CONTRACTORS COMPOUND – REFER TO FGCL DRAWINGS 1011-000121-FGCL-XX-XX-DR-C-1025&1026 AREA TO BE FULLY REINSTATED TO MATCH EXISTING PRIOR TO COMMENCEMENT OF THE DEVELOPMENT (GRASS SEEDED).

TOP OF EMBANKMENT

PROPOSED PRECAST KERB WITH A 2.4M HIGH PALISADE FENCE (RAL 6005)

RETAINING WALL 2M HIGH TO CONSIST OF 203UC52 SPACED AT 3m C/C WITH 150mm DEEP PC PLANKS BETWEEN. (APPROX. 20m LONG)

PROPOSED LOW LEVEL RETAINING WALL

1.0m HIGH PALISADE FENCE (RAL 6005) ON LOW LEVEL RC BUND WALL

CONTROLLED 2.4m HIGH PALISADE GATE

SPILL CONTAINMENT

WALL STEP

PROPOSED CHEMICAL STORAGE (BUNDED)

PROPOSED OFF SPEC TANKS

PROPOSED DEWATERING AREA

PROPOSED BALANCE TANKS

PROPOSED LIME SILO

PROPOSED LAMELLA FLOC. TANKS

PROPOSED AERATION TANKS

PROPOSED TREATMENT BUILDING (FFL=22.00)

PROPOSED SLUDGE BLENDING

PROPOSED SLUDGE BUFFERING

EXISTING INTERNAL ACCESS ROAD

ABOVE GROUND ACCESS BRIDGE WITH PIPE RACK TO UNDERSIDE– CONNECT TO EXISTING FACILITY

EXISTING TANK

EXISTING BUNDED AREA TO TANKS

EXISTING SURFACE FINISH

NEW 250mm BUND WALL HEIGHT VARIES

PROPOSED CABLE TRAY

EXISTING PERIMETER FENCING

EXISTING HEDGEROW SET BACK FROM ROAD

EXISTING BOTHAR MHUILLAGH CHARLINN

PROPOSED 2.4m HIGH SLIDING GATE TO WUXI SITE (RAL 6005)

DISABLED PARKING SPACE

EV PARKING

CONC YARD

PROPOSED RETAINING WALL (APPROX 4.8m HIGH)

PROPRIETARY VEHICLE BARRIER

TOP OF EMBANKMENT

PROPOSED 2.4m HIGH PALISADE FENCE (RAL 6005)

EXISTING ENTRANCE

PROPOSED 2.4m HIGH PALISADE FENCE & GATE TO GAS NETWORKS SITE (RAL 6005)

EXISTING

RECEIVED: 19/04/2024

For Planning Purposes Only

Louth County Planning Department

NOTES

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- +6.84 – PROPOSED LEVELS
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  60mm DENSE BITUMEN MACADAM BINDER COURSE
  100mm DBM ROAD BASE
  OVER A TYPE B GRANULAR MATERIAL TO SERIES 800 AND TYPE 6F2 CAPPING LAYER TO SERIES 600 OF THE TII SPECIFICATION FOR ROADWORKS.
  PRECAST KERBS EITHER SIDE OF ROADWAY
- CONCRETE SURFACE (EXTERNAL YARD/ PATH/ ROOF)
- SOFT LANDSCAPING TO EMBANKMENT - GRASS SEEDING
- SOFT LANDSCAPING TO EMBANKMENT - WILD FLOWER PLANTED AREA
- PERMANENT RIGHT OF WAY FOR GAS
- TEMPORARY CONTRACTORS COMPOUND - REFER TO FGCL DRAWINGS 1011-000121-FGCL-XX-XX-DR-C-1025&1026 AREA TO BE FULLY REINSTATED TO MATCH EXISTING PRIOR TO COMMENCEMENT OF THE DEVELOPMENT (GRASS SEEDED).
- EXISTING ROAD

NOTE A: CONTRACTORS COMPOUND
LOCATION OF TEMPORARY CONTRACTORS COMPOUND REQUIRED TO FACILITATE THE CONSTRUCTION OF THE PERMANENT WORKS. CONTRACTORS COMPOUND TO COMPRISE OF 15m LONG X 3m WIDE X 3m HIGH METAL 'SHIPPING' TYPE CONTAINERS (COLOUR: GREEN). TOPSOIL TO BE STRIPPED (AND STORED ON SITE FOR LATER REUSE) TO ALLOW PLACEMENT OF TEMPORARY STONE FILL. AREA TO BE FULLY REINSTATED BACK TO SOFT LANDSCAPING UPON COMPLETION OF THE WORKS. REFER TO CONTRACTORS PROPOSED CONSTRUCTION & ENVIRONMENTAL MANAGEMENT PLAN (CEMP) FOR FURTHER DETAILS. EXACT LAYOUT AND NUMBER OF CONTAINERS REQUIRED TO BE DETERMINED AT DETAILED DESIGN STAGE.

NOTE:
PLEASE BE ADVISED THAT THE INFORMATION SHOWN WILL BE SUBJECT TO DETAILED DESIGN AND AGREED WITH THE PLANNING AUTHORITY IN ADVANCE OF CONSTRUCTION, IN THE EVENT OF A GRANT OF PERMISSION.

REV	DRAWN	CHECKED	APPROVED	DATE
P02	SOC	AMC	AMC	13.02.24
P01	SOC	AMC	AMC	12.01.24

0 5 1:100 10m

WuXi Biologics
Global Solution Provider
WuXi Biologics
Dundalk Science and Technology Park, Mullaghatin, Dundalk, Co Louth, A91 X56F
Web. www.wuxibiologics.com

MURPHY
WORLD-CLASS INFRASTRUCTURE
Murphy International Limited
Great Connell, Greatconnell, Newbridge, Co. Kildare, W12 HD61
+353 (45) 431384
www.murphygroup.com

FGCL CONSULTING ENGINEERS

Project: EFFLUENT BALANCING & RESOURCE RECOVERY SYSTEM PROJECT

Revision:	P02	Location:	WuXI BIOLOGICS, DUNDALK
Scale @ A1:	1:250	Dwg Title:	PROPOSED SITE LAYOUT
OS Ref:			
System:	–		
Suitability:	S3	Purpose of Issue:	FOR PLANNING
Project Code:		Dwg No:	1011-000121-FGCL-XX-XX-DR-C-1005B

WS Atkins Ireland Limited

Atkins House
150 Airside Business Park
Swords
Co. Dublin
K67 K5W4

Tel: +353 1 810 8000

Appendix 2. Consultation Correspondence

From:
Sent: 2024-02-15 10:13
To:
Subject: FW: EIA Scoping Report - Effluent Balancing and Resource Recovery System

Follow Up Flag: Follow up
Flag Status: Flagged

Thanks for sending this on. Could you provide a location map which shows the proposed development within the context of the closest Natura sites please? Also will any effluent be piped into Dundalk bay or receptors which could lead to Dundalk Bay?
Thank you.
Kind regards

From: info@birdwatchireland.ie <info@birdwatchireland.ie>
Sent: Thursday, February 15, 2024 8:29 AM
To:
Subject: FW: EIA Scoping Report - Effluent Balancing and Resource Recovery System

---

From: _____>
Sent: Wednesday 14 February 2024 17:46
To: _____>; _____
Subject: EIA Scoping Report - Effluent Balancing and Resource Recovery System

Good afternoon,

We are currently preparing an Environmental Impact Assessment for the Effluent Balancing and Resource Recovery System. Please find attached a scoping letter for the Effluent Balancing and Resource Recovery System.

As part of the consultation phase, we would like to inform you of the proposed planning application for the WuXi Biologics project and seek any feedback, opinions, or background information you may have in relation to the proposal. This information will be used to inform the environmental element of our assessment.

We have commenced our assessments and so would appreciate any comments you may have by 29th of February 2024 please in order to facilitate our current programme. We appreciate your time on this.

Kind regards,

(she/her) BSc, MSc, MCIWEM C.WEM
Senior Environmental Consultant
Environmental / Infrastructure, Ireland
AtkinsRéalis
T: 01 810 8000
150 Airside Business Park
Sword, Dublin, K67 K5W4, Ireland

Time to pause and press play

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Podcasts Beyond Engineering Careers

At AtkinsRéalis, we work flexible hours around the world. Although I have sent this email at a time convenient for me, I don't expect you to respond until it works for you.

From:
Sent: 2024-02-15 11:21
To:
Subject: WuXi Biologics Environmental Impact Assessment for the Effluent Balancing and Resource Recovery System

Follow Up Flag: Follow up
Flag Status: Flagged

Date: 15/02/2024
Our Ref: LH-CON-A240215-0024
Your Ref: G Pre00063/2024
Re: WuXi Biologics
Environmental Impact Assessment for the Effluent Balancing and Resource Recovery System
Dundalk, County Louth

Dear
We note your referral of the Environmental Impact Assessment Scoping Report and the inclusion of Chapter 11 Cultural Heritage; and Archaeology.

Please note that this proposed development is located within an area of known archaeological significance and is located directly also side the following recorded monuments:

• Souterrain (LH012-055----); • Enclosure (LH012-102----) • Ring ditch (LH012-101----); and, • Habitation site (LH012-116----), all of which are subject to statutory protection in the Record of Monuments and Places, established under section 12 of the National Monuments (Amendment) Act 1994. Given the scale, extent and location of the proposed development it could impact on subsurface archaeological remains.

Please also note that the National Monuments Service has reservations regarding the construction of the temporary construction compound within an area of known archaeological significant (Please see the below summary of the archaeological test trenching conducted by Donald Murphy of Archaeological Consultancy Services Unit Ltd. (ACSU) between the 31st July to 8th August 2023 (licence no. 23E0452).

The construction of the temporary construction compound will result in the disturbance of know archaeological features and deposits and the encroachment on recorded monuments for the construction of a temporary construction compound.

Please be aware of the following:

Mullagharlin Road, Haynestown, Co. Louth. 23E0452 ITM. 704120, 802977 Testing 30 August 2023 Test Trenching: Mullagharlin Road, Haynestown, Co. Louth
This summary details the results of archaeological test trenching carried out Mullagharlin Road, Haynestown, Co. Louth (ITM 704120, 802977). The testing was carried out at the request of the client to assess the archaeological potential of the site following a geophysical survey carried out by Donald Murphy in May 2021 under licence number 23R0044. The test trenching was conducted by Donald Murphy of Archaeological Consultancy Services Unit Ltd. (ACSU) between the 31st July to 8th August 2023 (licence no. 23E0452) issued by the Department of Housing, Local Government and Heritage in consultation with the National Museum of Ireland. Test Trenching: Haynestown, Co. Louth Page | 19 A total of 14 test trenches were excavated across the site. Each trench measured 1.8 m in width, and in total, 997m of linear trenches were excavated, targeting anomalies identified during the geophysical survey (23R0044). Archaeological test trenching succeeded in identifying the remains of at least 31 individual features. These were dominated by pits and linear ditches. A total of 15 pits were found (C8, C10, C13, C15, C16, C17, C19, C21, C25, C27, C28, C38, C42, C45 and C55). While some of these pits were isolated, there were areas where some

irregular clustering could be found such as the northeast end of Trenches 2-3 & 12-14. Ten linear ditches were identified throughout the site (C24, C29, C30, C31, C33, C34, C36, C47 and C50/51). Half of these were orientated east-west and most likely represent linear field systems. At least four of the ditches are continuations of features identified in previous excavations in the surrounding area. Other features include two possible postholes (C23 & C39), a spread (C40), a hearth (C4), agricultural furrows (C36) and a metaled surface (C32). Portions of the site were unavailable for testing and some trenches were moved or realigned to compensate. This was mainly done in the southern area of the site where underground services and two spoil mounds were identified and avoided. At the far north end, a modern manhole was found which reduced the length of Trench 11. Additionally, Trenches 4-6 were split into north and south sections due to a tree lined field boundary. The complete length of Trench 5 had evidence of modern ground disturbance. This disturbance would have removed all traces of any archaeological features.
Donald Murphy, Archaeological Consultancy Services Unit, Unit 21, Boyne Business Park, Greenhills, Drogheda, Co Louth.

Kinds Regards

Seandálaí - *Archaeologist*
Seirbhís Séadchomharthaí Náisiúnta - *National Monuments Service*

An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreachta
Department of Housing, Local Government and Heritage
Teach an Chustaim, Baile Átha Cliath 1, D01 W6X0
Custom House, Dublin 1, D01 W6X0

Email: _____

From: planning applications <planning.applications@failteireland.ie>
Sent: 2024-02-21 16:06
To:
Subject: EIA Scoping Report - Effluent Balancing and Resource Recovery System

Follow Up Flag: Follow up
Flag Status: Completed

Hello

Thank you for your email regarding the preparation of an Environmental Impact Assessment for the Effluent Balancing and Resource Recovery System, it was sent to me by a member of our Customer Supports Team. We will review the details and revert with comments by 29th of February 2024 if necessary.

Just for your information, Fáilte Ireland has a dedicated mailbox for all planning notifications/applications and consultations planning.applications@failteireland.ie
By using this email address it will ensure the information/notifications will go direct to the Manager of Environment & Planning (Mr Shane Dineen) and the Planning Team, and will be reviewed and responded to in a timely manner by the Manager and the Environment & Planning Team. Please use this email address for all future planning notifications/applications and consultations.

Regards & thanks,

Product Development-Environment & Planning Support | Fáilte Ireland

88-95 Amiens Street, Dublin 1, D01 WR86
M

Fáilte Ireland

LinkedIn | Twitter | YouTube | Facebook

---------- Original Message ----------
From: _____;
Received: Wed Feb 14 2024 17:51:51 GMT+0000 (Greenwich Mean Time)
To: Customer Support;
Subject: EIA Scoping Report - Effluent Balancing and Resource Recovery System

Good afternoon,

We are currently preparing an Environmental Impact Assessment for the Effluent Balancing and Resource Recovery System. Please find attached a scoping letter for the Effluent Balancing and Resource Recovery System.

As part of the consultation phase, we would like to inform you of the proposed planning application for the WuXi Biologics project and seek any feedback, opinions, or background information you may have in relation to the proposal. This information will be used to inform the environmental element of our assessment.

We have commenced our assessments and so would appreciate any comments you may have by 29th of February 2024 please in order to facilitate our current programme. We appreciate your time on this.

Kind regards,

(she/her) BSc, MSc, MCIWEM C.WEM

Senior Environmental Consultant

Environmental / Infrastructure, Ireland

AtkinsRéalis

T: 01 810 8000

150 Airside Business Park

Sword, Dublin, K67 K5W4, Ireland

At AtkinsRéalis, we work flexible hours around the world. Although I have sent this email at a time convenient for me, I don't expect you to respond until it works for you.

From:
Sent: 2024-03-01 12:40
To:
Subject: EIA Scoping Report - Effluent Balancing and Resource Recovery System

Follow Up Flag: Follow up
Flag Status: Flagged

Dear,

I refer to you email dated 14th February last regarding EIA Scoping Report - Effluent Balancing and Resource Recovery System at WuXi Biologics, Dundalk, Co. Louth.

We understand that treated wastewaters on site will be discharged to sewer and surface water will be discharged to the storm water network.

As we are not aware of any watercourses on site our observations are limited to a recommendation that suitable mitigation measures are put in place at commencement of site works to ensure no poor quality discharges to the storm water network.

Yours faithfully,

Senior Fisheries Environmental Officer

• +353 (0)1 8842 600 • www.fisheriesireland.ie • D24 CK66

From: DECC GSI Planning <GSIPlanning@GSI.ie>
Sent: 2024-02-28 08:47
To:
Cc: DECC GSI Planning; DECC Planning Advisory
Subject: RE: EIS 24/47 - EIA Scoping Report - Effluent Balancing and Resource Recovery System
Attachments: 24_47 WuXi Biologics Project Co Louth.pdf; GSI datasets relevant to EIA & SEA_20210421.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear ,
With reference to your email received on the 14 February 2024, concerning the EIA Scoping Report - Effluent Balancing and Resource Recovery System, WuXi Biologics, Co Louth, please find attached response and dataset sheet from Geological Survey Ireland.

Yours sincerely,

Geoheritage & Planning.
Geological Survey Ireland, Booterstown Hall, Booterstown Ave., Co. Dublin A94 N2R6.
Email: _____ **www.gsi.ie**
A division of the Department of the Environment, Climate and Communications.

From: DECC GSI Planning <GSIPlanning@GSI.ie>
Sent: Thursday 15 February 2024 14:53
To:
Cc: DECC GSI Planning <GSIPlanning@GSI.ie>; DECC Planning Advisory <PlanningAdvisory@decc.gov.ie>
Subject: EIS 24/47 - EIA Scoping Report - Effluent Balancing and Resource Recovery System

EIS 24/47

EIA Scoping Report - Effluent Balancing and Resource Recovery System, Haynestown, Co Louth. Request for observations by Atkins by 29 February 2024. Report is enclosed.

Regards,

From: _____>
Sent: Wednesday 14 February 2024 18:02
To: DECC GSI Planning <GSIPlanning@GSI.ie>; DECC Planning Advisory <PlanningAdvisory@decc.gov.ie>
Subject: EIA Scoping Report - Effluent Balancing and Resource Recovery System

Good afternoon,

We are currently preparing an Environmental Impact Assessment for the Effluent Balancing and Resource Recovery System. Please find attached a scoping letter for the Effluent Balancing and Resource Recovery System.

As part of the consultation phase, we would like to inform you of the proposed planning application for the WuXi Biologics project and seek any feedback, opinions, or background information you may have in relation to the proposal. This information will be used to inform the environmental element of our assessment.

We have commenced our assessments and so would appreciate any comments you may have by 29th of February 2024 please in order to facilitate our current programme. We appreciate your time on this.

Kind regards,

(she/her) BSc, MSc, MCIWEM C.WEM

Senior Environmental Consultant
Environmental / Infrastructure, Ireland
AtkinsRéalis
T: 01 810 8000
150 Airside Business Park
Sword, Dublin, K67 K5W4, Ireland

An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

Geological Survey
Suirbhéireacht Gheolaíochta
Ireland | Éireann

AtkinsRéalis
150 Airside Business Park
Swords
Dublin, K67 K5W4

28 February 2024

Re: EIA Scoping Report - Effluent Balancing and Resource Recovery System, WuXi Biologics, Co Louth

Your Ref: 100085897
Our Ref: 24/47

Dear ,

Geological Survey Ireland is the national earth science agency and is a division of the Department of the Environment, Climate and Communications. We provide independent geological information and gather various data for that purpose. Please see our website for data availability. We recommend using these various data sets, when conducting the EIAR, SEA, planning and scoping processes. Use of our data or maps should be attributed correctly to 'Geological Survey Ireland'.

The publicly available data referenced/presented here, should in no way be construed as Geological Survey Ireland support for or objection to the proposed development or plan. The data is made freely available to all and can be used as independent scientific data in assessments, plans or policies. It should be noted that in many cases this data is a baseline or starting point for further site specific assessments.

With reference to your email received on the 14 February 2024, concerning the EIA Scoping Report - Effluent Balancing and Resource Recovery System, WuXi Biologics, Co Louth, Geological Survey Ireland would encourage use of and reference to our datasets. This data can add to the content and robustness of the SEA process. With this in mind, please find attached a list of our publicly available datasets that may be useful to the environmental assessment and planning process. We recommend that you review this list and refer to any datasets you consider relevant to your assessment. The remainder of this letter and following sections provide more detail on some of these datasets.

Geoheritage

A national inventory of geoheritage sites known as County Geological Sites (CGSs) is managed by the Geoheritage Programme of Geological Survey Ireland. CGSs, as adopted under the National Heritage Plan, include sites that are of national importance which have been selected as the very best examples for NHA (Natural Heritage Areas) designation. NHA designation will be completed in partnership with the National Parks and Wildlife Service (NPWS). CGSs are now routinely included in County Development Plans and in the GIS of planning departments, to ensure the recognition and appropriate protection of geological heritage within the planning system. CGSs can be viewed online under the Geological Heritage tab on the online Map Viewer.

The audit for Co. Louth was completed in 2013. The full report details can be found here. Our records show that there are no CGSs within the project boundary of the proposed Effluent Balancing and Resource Recovery System.

Groundwater

Geological Survey Ireland's Groundwater and Geothermal Unit, provides advice, data and maps relating to groundwater distribution, quality and use, which is especially relevant for safe and secure drinking water supplies and healthy ecosystems. Proposed developments need to consider any potential impact on specific groundwater abstractions and on groundwater resources in general. We recommend using the groundwater maps on our Map viewer which should include: wells; drinking water source protection areas; the national map suite - aquifer, groundwater vulnerability, groundwater recharge and subsoil permeability maps. For areas underlain by limestone, please refer to the karst specific data layers (karst features, tracer test database; turlough water levels (gwlevel.ie). Background information is also provided in the Groundwater Body Descriptions. Please read all disclaimers carefully when using Geological Survey Ireland data.

The Groundwater Data Viewer indicates an aquifer classed as a 'Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones' underlies the proposed development.

The Groundwater Vulnerability map indicates the range of groundwater vulnerabilities within the area covered is variable. We would therefore recommend use of the Groundwater Viewer to identify areas of High to Extreme Vulnerability and 'Rock at or near surface' in your assessments, as any groundwater-surface water interactions that might occur would be greatest in these areas.

GWClimate is a groundwater monitoring and modelling project that aims to investigate the impact of climate change on groundwater in Ireland. This is a follow on from a previous project (GWFlood) and the data may be useful in relation to Flood Risk Assessment (FRA) and management plans. Maps and data are available on the Map viewer.

Geological Survey Ireland has completed Groundwater Protection Schemes (GWPSs) in partnership with Local Authorities, and there is now national coverage of GWPS mapping. A Groundwater Protection Scheme provides guidelines for the planning and licensing authorities in carrying out their functions, and a framework to assist in decision-making on the location, nature and control of developments and activities in order to protect groundwater. **The Groundwater Protection Response overview and link to the main reports is here: https://www.gsi.ie/en-ie/programmes-and-projects/groundwater/projects/protecting-drinking-water/what-is-drinking-water-protection/county-groundwater-protection-schemes/Pages/default.aspx**

Geological Mapping

Geological Survey Ireland maintains online datasets of bedrock and subsoils geological mapping that are reliable and accessible. We would encourage you to use these data which can be found here, in your future assessments.

Please note we have recently launched QGIS compatible bedrock (100K) and Quaternary geology map data, with instructional manuals and videos. This makes our data more accessible to general public and external stakeholders. QGIS compatible data can be found in our downloadable bedrock 100k .zip file on the Data & Maps section of our website.

Geotechnical Database Resources

Geological Survey Ireland continues to populate and develop our national geotechnical database and viewer with site investigation data submitted voluntarily by industry. The current database holding is over 7500 reports with 134,000 boreholes; 31,000 of which are digitised which can be accessed through downloads from our Geotechnical Map Viewer. We would encourage the use of this database as part of any baseline geological assessment of the proposed development as it can provide invaluable baseline data for the region or vicinity of proposed development areas. This information may be beneficial and cost saving for any site-specific investigations that may be designed as part of the project.

Geohazards

Geohazards can cause widespread damage to landscapes, wildlife, human property and human life. In Ireland, landslides, flooding and coastal erosion are the most prevalent of these hazards. We recommend that geohazards be taken into consideration, especially when developing areas where these risks are prevalent, and we encourage the use of our data when doing so.

Geological Survey Ireland has information available on landslides in Ireland via the National Landslide Database and Landslide Susceptibility Map both of which are available for viewing on our dedicated Map Viewer. Associated guidance documentation relating to the National Landslide Susceptibility Map is also available.

Geological Survey Ireland also engaged in a national project on Groundwater Flooding. The data from this project may be useful in relation to Flood Risk Assessment (FRA) and management plans, and is described in more detail under 'Groundwater' above.

Coastal Vulnerability while seen as a potential geohazard, is discussed in more detail under our marine and coastal unit information below.

Natural Resources (Minerals/Aggregates)

Geological Survey Ireland provides data, maps, interpretations and advice on matters related to minerals, their use and their development in our Minerals section of the website. The Active Quarries, Mineral Localities and the Aggregate Potential maps are available on our Map Viewer.

We would recommend use of the Aggregate Potential Mapping viewer to identify areas of High to Very High source aggregate potential within the area. In keeping with a sustainable approach we would recommend use of our data and mapping viewers to identify and ensure that natural resources used in the proposed development are sustainably sourced from properly recognised and licensed facilities, and that consideration of future resource sterilization is considered.

Geochemistry of soils, surface waters and sediments

Geological Survey Ireland provides baseline geochemistry data for Ireland as part of the Tellus programme. Baseline geochemistry data can be used to assess the chemical status of soil and water at a regional scale and to support the assessment of existing or potential impacts of human activity on environmental chemical quality. Tellus is a national-scale mapping programme which provides multi-element data for shallow soil, stream sediment and stream water in Ireland. At present, mapping consists of the border, western and midland regions. Data is available at https://www.gsi.ie/en-ie/data-and-maps/Pages/Geochemistry.aspx.

Marine and Coastal Unit

Our marine environment is hugely important to our bio-economy, transport, tourism and recreational sectors. It is also an important indicator of the health of our planet. Geological Survey Ireland's Marine and Coastal Unit in partnership with the Marine Institute, jointly manages INFOMAR, Ireland's national marine mapping programme; providing key baseline data for Ireland's marine sector. The programme delivers a wide range of benefits to multi-sectoral end-users across the national blue economy with an emphasis on enabling our stakeholders. Demonstrated applications for the use of INFOMAR's suite of mapping products include Shipping & Navigation, Fisheries Management, Aquaculture, Off-shore Renewable Energies, Marine Leisure & Tourism and Coastal Behaviour.

INFOMAR data such as bathymetry, backscatter, sediment classification, shipwrecks and survey metadata can be downloaded free of charge in a variety of formats at the INFOMAR Marine Data Download Portal: https://experience.arcgis.com/experience/9213db3d963d4f3cab3a220323d7cd4e/page/Page-1/?views=Download-Vector-Datasets

INFOMAR also produces a wide variety of seabed mapping products that enable public and stakeholders to visualize Ireland's seafloor environment https://www.infomar.ie/maps/downloadable-maps/maps. Story maps have also been developed providing a different perspective of some of the bays and harbors of the Irish coastline. We would therefore recommend use of our Marine and Coastal Unit datasets available on our website and Map Viewer.

The Marine and Coastal Unit also participate in coastal change projects and are undertaking mapping in areas such as coastal vulnerability and coastal erosion. Further information on these projects can be found here.

National Coastal Change Assessment

Geological Survey Ireland is undertaking a National Coastal Change Assessment. As part of this initiative two mapping products will be delivered for the entire Irish coastline: **coastal vulnerability mapping and shoreline change.**

Coastal vulnerability maps will provide an insight into the relative susceptibility of the Irish coast to adverse impacts of sea-level rise through the use of a **Coastal Vulnerability Index** (CVI). Currently the project is being carried out on the east coast and will be rolled out nationally over the next couple of years, detailed information and maps are available here. **Shoreline change rates** for the period 2000 to 2023 are being prioritised and will be released by county on a rolling basis over the next 12 months. Shoreline change rates database and reports will be accessible from GSI web mapping viewers. These suite of coastal mapping products are aimed at coastal managers to prioritise or concentrate efforts on adaptation.

Guidelines

The following guidelines may also be of assistance:

- Institute of Geologists of Ireland, 2013. Guidelines for the Preparation of the Soils, Geology and Hydrogeology Chapters of Geology in Environmental Impact Statements.
- EPA, 2022. Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)

Other Comments

Should development go ahead, all other factors considered, Geological Survey Ireland would much appreciate a copy of reports detailing any site investigations carried out. The data would be added to Geological Survey Ireland's national database of site investigation boreholes, implemented to provide a better service to the civil engineering sector. Data can be sent to the Geological Mapping Unit, at mailto:GeologicalMappingInfo@gsi.ie, 01-678 2795.

I hope that these comments are of assistance, and if we can be of any further help, please do not hesitate to the Geological Survey Ireland Planning Team at GSIPlanning@gsi.ie.

Yours sincerely,

Geoheritage and Planning Programme

Enc: Table - Geological Survey Ireland's Publicly Available Datasets Relevant to Planning, EIA and SEA processes.

Geological Survey Ireland's Publicly Available Datasets Relevant to Planning, EIA and SEA processes

following European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018
(S.I. No. 296 of 2018)

Geological Survey Ireland Programme	Dataset	Relevant EIA Topic	Coverage	Description / Notes / Limitations	Link to Geological Survey Ireland map viewer
Geohazards	Landslide: National landslide database and landslide susceptibility map	Land & Soil/Climate/Landscape	National	Associated guidance documentation relating to the National Landslide Susceptibility Map is also available.	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=b68cf1e4a9044a5981f950e9b9c5625c
Geohazards	Groundwater Flooding (Historic)	Water	Regional	Provide information of historic flooding, both surface water and groundwater. [A lack of flooding presented in any specific location of the map only indicates that a flood has not been detected. It does not indicate that a flood cannot occur in that location at present or in the future]	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc
Geohazards	Groundwater Flooding (Predictive)	Water	Regional	Provides information on the probability of future karst groundwater flooding (where available). [The maps do not, and are not intended to, constitute advice. Professional or specialist advice should be sought before taking, or refraining from, any action on the basis of the flood maps]	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=848f83c85799436b808652f9c735b1cc
Geohazards	Radon Map	Land & Soils/Air	National		http://www.epa.ie/radiation/radonmap/
Geoheritage	County Geological Sites as adopted by National Heritage Plan and listed in County Development Pla	Land & Soils/Landscape	Regional	All geological heritage sites identified by Geological Survey Ireland are categorised as CGS pending any further NHA designation by NPWS.	https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228
Geological Mapping	Bedrock geology:	Land & Soils	National	1:100,000 scale and associated memoirs.	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=de7012a99d2748ea9106e7ee1b6ab8d5&scale=0
Geological Mapping	Bedrock geology:	Land & Soils	Regional	1:50,000 scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=de7012a99d2748ea9106e7ee1b6ab8d5&scale=0
Geological Mapping	Quaternary geology: Sediments	Land & Soils	National	1:50,000 scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=de7012a99d2748ea9106e7ee1b6ab8d5&scale=0
Geological Mapping	Quaternary geology: Geomorphology	Land & Soils	National	1:50,000 scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=de7012a99d2748ea9106e7ee1b6ab8d5&scale=0
Geological Mapping	Physiographic units:	Land & Soils	National	Broad-scale physical landscape units mapped at 1:100,000 scale in order to be represented as a cartographic digital map at 1:250,000 scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=afa76a420fc54877843aca1bc075c62b
Geological Mapping	GeoUrban: Spatial geological data for the greater Dublin and Cork areas	Land & Soils	Regional	includes 3D models	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=9768f4818b79416093b6b2212a850ce6&scale=0
Geological Mapping	Geotechnical database	Land & Soils	National	Digitised geotechnical and Site Investigation Reports and boreholes which can be accessed through online downloads	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=a2718be1873d47a585a3f0415b4a724c
Goldmine	Historical data sets including geological memoirs and 6" to 1 mile geological mapping records	land & Soils/Water	National	available online	https://secure.dccae.gov.ie/goldmine/index.html
Groundwater & Geothermal	Groundwater resources (aquifers)	Water	National	Data limited to 1:100,000 scale; sites should be investigated at local scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Groundwater recharge.	Water	National	Data limited to 1:40,000 scale; sites should be investigated at local scale; long term annual average recharge	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Groundwater vulnerability.	Water	National	Data limited to 1:40,000 scale; sites should be investigated at local scale	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Group scheme and public supply source protection areas.	Water	National	Not all PWS / GWS have SPZ / ZOC. Check with IW / coco / NFGWS for private supplies.	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Groundwater Protection Schemes	Water	National	Data is limited to scale of 1:40,000. Data does not include all of the source protections areas	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Catchment and WFD management units.	Water	National		https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	karst specific data layers	water	National	For areas underlain by limestone, includes karst features, tracer test database; turlough water levels (gwlevel.ie).	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Wells and Springs	Water	National	Not comprehensive, there may be unrecorded wells and springs	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef
Groundwater & Geothermal	Groundwater body Descriptions	Water	National	Not exhaustive; only those in designated SACs; could be other GWDTEs; for more information contact NPWS / EPA / site investigations	https://www.gsi.ie/en-ie/programmes-and-projects/groundwater-and-geothermal-unit/activities/understanding-ireland-groundwater/Pages/Groundwater-bodies.aspx
Groundwater & Geothermal	Geothermal Suitability maps	land & Soils/Water	National	Also, Roadmap for a Policy and Regulatory Framework for Geothermal Energy, November 2020	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=9ee46bee08de41278b90a991d60c0b9e
Marine & Coastal Unit	INFOMAR - Ireland's national marine mapping programme; providing key baseline data for Ireland's	Water	National		https://secure.dccae.gov.ie/GSI/INFOMAR_VIEWER/
Marine & Coastal Unit	CHERISH - Coastal change project (Climate, Heritage and Environments of Reefs, Islands, and Headla	Water	Regional		http://www.cherishproject.eu/en/
Marine & Coastal Unit	Coastal Vulnerability Index (CVI).	water /Land & Soils	Regional	Currently the project is being carried out on the east coast and will be rolled out nationally	https://www.gsi.ie/en-ie/programmes-and-projects/marine-and-coastal-unit/projects/Pages/Coastal-Vulnerability-Index.aspx
Minerals	Aggregate potential	Land & Soils/Material Assets	National	Consideration of mineral resources and potential resources as a material asset which should be explicitly recognised within the environmental assessment process	https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=ee8c4c285a49413aa6f1344416dc9956
Minerals	Active quarries	Land & Soils	National		https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=ee8c4c285a49413aa6f1344416dc9956
Minerals	Historic mines	Land & Soils/Cultural Heritage	National	Inventory and Risk Classification 2009. Environmental Protection Agency, Economic Minerals Division and Geological Survey Ireland (DECC).	https://gis.epa.ie/EPAMaps/default?easting=?&northing=?&lid=EPA:LEMA_Facilties_Extractive_Facilities https://www.epa.ie/enforcement/mines/
Tellus	Geochemical data: multi-element data for shallow soil, stream sediment and stream water	Land & Soils	Regional	A national mapping programme	https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=6304e122b733498b99642707ff72f754
Tellus	Airborne geophysical data including radiometrics, electromagnetics and magnetics	Land & Soils	Regional	A national mapping programme	https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=6304e122b733498b99642707ff72f754
Tellus	urban geochemistry mapping (Dublin SURGE project),	Land & Soils	Regional		https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=6304e122b733498b99642707ff72f754

Notes:

1. The maps and data listed above are available on the Geological Survey Ireland map viewer https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx

2. Please read all disclaimers carefully when using Geological Survey Ireland data

3. Geological Survey Ireland and Irish Concrete Federation published guidelines for the treatment of geological heritage in the extractive industry in 2008.

From:
Sent: 2024-02-20 11:45
To:
Subject: RE: EIA Scoping Report - Effluent Balancing and Resource Recovery System
Attachments: EIA Scoping Report - Effluent Balancing and Resource Recovery System HSA Ref 4346.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear ,

Please see attached in relation to the above.

Regards,

Inspector | CCPS Unit | Health & Safety Authority

Email: _____
Web: www.hsa.ie

Health and Safety Authority,
Metropolitan Building,
James Joyce Street,
Dublin 1,
D01 KOY8

An tÚdarás Sláinte agus Sábháilteachta,
An Foirgneamh Uirbeach,
Sráid James Joyce,
Baile Átha Cliath 1
D01 KOY8

An tÚdarás Sláinte agus Sábháilteachta
Health and Safety Authority

Ár bhFís: Saolta agus fiontair shláintiúla, shábháilte agus tháirgiúla
Our Vision: Healthy, safe and productive lives and enterprises

HSA Twitter
HSA Facebook
HSA YouTube

****

The Health and Safety Authority, its servants or agents, accept no liability for any errors or omissions in the information provided in this correspondence or for any loss or damage occasioned to any person as a result of using the information provided.

This footnote also confirms that this email message has been swept for the presence of computer viruses.

****

An tÚdarás Sláinte agus Sábháilteachta
Health and Safety Authority
0818 289 389 landuseplanning@hsa.ie www.hsa.ie

150 Airside Business Park
Sword,
Dublin,
K67 K5W4

Our Ref: 4346

20/02/2024

Re: EIA Scoping Report - Effluent Balancing and Resource Recovery System for development by WuXi Biologics at IDA Dundalk Science and Technology Park in Dundalk Co. Louth., & your letter of 14th Feb 2024.

Dear

The Health and Safety Authority (the Authority), acting as the Central Competent Authority under the Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 (S.I. 209 of 2015) gives technical advice to the Planning Authority when requested, under regulation 24(2) in relation to:

(a) the siting and development of new establishments;

(b) modifications to establishments of the type described in Regulation 12(1);

(c) new developments including transport routes, locations of public use and residential areas in the vicinity of establishments, where the siting, modifications or developments may be the source of, or increase the risk or consequences of, a major accident.

Since the above-referenced application appears to be outside the scope of the Regulations, the Authority has no observations to forward at this time.

If you have any queries please contact the undersigned.

Yours sincerely

_____

Inspector,
COMAH, Chemical Production & Storage (CCPS)

From: IWT Info <info@iwt.ie>
Sent: 2024-02-21 10:16
To:
Subject: Re: EIA Scoping Report - Effluent Balancing and Resource Recovery System

Follow Up Flag: Follow up
Flag Status: Completed

Dear ,

Thank you for contacting us. We do not have the staff capacity to respond to this consultation at the moment but we will endeavour to respond if possible.

Kind regards,

On Wed, 14 Feb 2024 at 17:53, < > wrote:

> Good afternoon,
>
> We are currently preparing an Environmental Impact Assessment for the Effluent Balancing and Resource Recovery System. Please find attached a scoping letter for the Effluent Balancing and Resource Recovery System.
>
> As part of the consultation phase, we would like to inform you of the proposed planning application for the WuXi Biologics project and seek any feedback, opinions, or background information you may have in relation to the proposal. This information will be used to inform the environmental element of our assessment.
>
> We have commenced our assessments and so would appreciate any comments you may have by 29th of February 2024 please in order to facilitate our current programme. We appreciate your time on this.
>
> Kind regards,
>
> (she/her) BSc, MSc, MCIWEM C.WEM
>
> Senior Environmental Consultant
>
> Environmental / Infrastructure, Ireland
>
> **AtkinsRéalis**

T: 01 810 8000

150 Airside Business Park

Sword, Dublin, K67 K5W4, Ireland

Podcasts Beyond Engineering Careers

At AtkinsRéalis, we work flexible hours around the world. Although I have sent this email at a time convenient for me, I don't expect you to respond until it works for you.

--
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Thank you for your email. Please note that this email inbox is not monitored outside normal working hours.

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HELP SUPPORT OUR WORK - Join the IWT Today - https://iwt.ie/support-us/become-a-member/
Irish Wildlife Trust, 8 Cabra Road, Dublin 7, D07T1W2
Registered Charity (CRA) Number: 20010966
Facebook: IrishWildlifeTrust
Twitter: @irishwildlife
Phone: 01 445 7259 (landline available Wednesday-Thursday 9:30 to 5pm)

From:
Sent: 2024-02-15 09:58
To:
Subject: WuXi Biologics

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning

I acknowledge receipt of your recent consultation.

Please note that the Development Applications Unit (DAU) is the co-ordinating unit for the Department of Housing, Local Government and Heritage, co-ordinating responses/submission from National Parks and Wildlife Service, National Monuments Service, the Underwater Archaeology Unit and Architectural Heritage.

All Correspondence in relation to preplanning consultations is to be issued to Development Applications Unit.

In the event of observations, you will receive a co-ordinated heritage-related response by email from the Development Applications Unit (DAU).

The normal target turnaround for pre-planning and other general consultations is six weeks from date of receipt. In relation to general consultations from public bodies under the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 to 2011, the Department endeavours to meet deadline dates, where requested.

If you have not heard from DAU and wish to receive an update, please email manager.dau@npws.gov.ie.

Executive Officer

An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreachta
Department of Housing, Local Government and Heritage
Aonad na nIarratas ar Fhorbairt
Development Applications Unit
Oifigí an Rialtais
Government Offices
Bóthar an Bhaile Nua, Loch Garman, Contae Loch Garman, Y35 AP90
Newtown Road, Wexford, County Wexford, Y35 AP90
—

Manager.DAU@npws.gov.ie

From: INFO <Information@tii.ie>
Sent: 2024-03-01 10:30
To:
Subject: TII24-126257 - EIA Scoping Report - Effluent Balancing and Resource Recovery System

Follow Up Flag: Follow up
Flag Status: Flagged

Dear ,

Thank you for your correspondence of 14 February 2024 in relation to the above EIAR Scoping exercise. The position in relation to your enquiry is as follows.

Transport Infrastructure Ireland (TII) will endeavour to consider and respond to planning applications referred to it given its status and duties as a statutory consultee under the Planning Acts. The approach to be adopted by TII in making such submissions or comments will seek to uphold official policy and guidelines as outlined in the Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012). Regard should also be had to other relevant guidance available at www.TII.ie.

The issuing of this correspondence is provided as best practice guidance only and does not prejudice TII's statutory right to make any observations, requests for further information, objections or appeals following the examination of any valid planning application referred.

National Strategic Outcome 2 of the National Planning Framework includes the objective of maintaining the strategic capacity and safety of the national road network. In addition, Chapter 7 'Enhanced Regional Accessibility' of the National Development Plan, 2021 – 2030, sets out the key sectoral priority of maintaining Ireland's existing national road network to a robust and safe standard for users. This requirement is further reflected in the publication of the National Investment Framework for Transport in Ireland and also the existing Statutory Section 28 Spatial Planning and National Roads Guidelines for Planning Authorities.

With respect to EIAR scoping issues, the recommendations indicated below provide only general guidance for the preparation of an EIAR, which may affect the national road network.

The developer/scheme promoter should have regard, *inter alia*, to the following:

- Consultations should be had with the relevant Local Authority/National Roads Design Office with regard to locations of existing and future national road schemes.

- TII would be specifically concerned with potential significant impacts the development would have on the national road network (and junctions with national roads) in the proximity of the proposed development, including the potential delivery route of components.

- With respect to a turbine and associated delivery haul route(s) which utilise national roads.

  In relation to any proposed haul route, where abnormal 'weight' loads are proposed, separate structure approvals/permits, and other licences may be required. All national road structures on the haul route through all the relevant County Council administrative areas should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal 'weight' load proposed.

  In addition, the haul route should be assessed to confirm capacity to accommodate abnormal 'length' loads and any temporary works required are identified.

The national road network is managed by a combination of PPP Concessions, Motorway Maintenance and Renewal Contracts (MMaRC) and local road authorities in association with TII.
The applicant/developer should also consult with all PPP Companies, MMaRC Contractors and road authorities over which the haul route traverses to ascertain any operational requirements, including delivery timetabling, etc. to ensure that the strategic function of the national road network is safeguarded.

Where temporary works within any MMaRC Contract Boundary are required to facilitate the transport of turbine components to the site, the applicant/developer shall contact thirdpartyworks@tii.ie in advance, as a works-specific Deed of Indemnity will be needed by TII before the works can take place.

Additionally, any damage caused to the pavement on the existing national road arising from any temporary works due to the turning movement of abnormal loads (e.g. tearing of the surface course, etc.) shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority before the commencement of any development on site.

- It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment (TTA) be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site with reference to impacts on the national road network and junctions of lower category roads with national roads.

  In relation to national roads, TII's Traffic and Transport Assessment Guidelines (2014) should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of the NRA/TII TTA Guidelines which addresses requirements for sub-threshold TTA.

  Any improvements required to facilitate development should be identified. It will be the responsibility of the developer to pay for the costs of any improvements to national roads to facilitate the private development proposed as TII will not be responsible for such costs.

- EIAR shall include provision for travel planning/mobility management planning in the interests of protecting national road capacity and in the interests of sustainable travel policy during and after construction. Transport analysis should also consider:

  a) A mobility management plan should accompany the transport assessment,

  b) Modal share targets should be outlined and how any PT modal share is accommodated,

  c) Measures proposed to reduce car dependency should be outlined including during construction,

  d) Detailed phasing proposals of development with associated transport infrastructure provision are required,

  e) Consider and address cumulative impacts of other development and impacts on limited national road capacity,

  f) The traffic and transport assessment should consider all road users,

  g) Mitigation measures should be aligned with the phasing of road infrastructure improvements and required public transport interventions; all clearly outlined.

- Assessments, design and construction and maintenance standards and guidance are available at TII Publications. In particular, the developer is advised to address the requirements for a Road Safety Audit (RSA).

- The developer, in conducting an Environmental Impact Assessment, should have regard to TII Environment Guidelines that deal with assessment and mitigation measures for varied environmental factors and occurrences, in particular:

i. TII's Environmental Assessment and Construction Guidelines, including the Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes (National Roads Authority, 2006),

ii. The EIAR should consider the Environmental Noise Regulations 2006 (SI 140 of 2006) and how the development will affect future action plans by the relevant competent authority as well as the Guidelines for the Treatment of Noise and Vibration in National Road Schemes (1st Rev., National Roads Authority, 2004)).

The developer is advised that any additional works/structures required because of the Assessment should be funded by the developer. TII will entertain no future claims in respect of impacts (e.g. noise, dust, visual and air), due to the presence of the existing road or any road scheme.

- Any proposals related to future public transport provision are a matter for the NTA.
- Any Greenway and National Cycle Network Plan (NCN) proposals in the vicinity of the proposal or haul route, consultation with the local authority internal project and/or design staff is recommended.

Notwithstanding any of the above, the developer should be aware that this list is non-exhaustive, thus site and development-specific issues should be addressed in accordance with best practice.

I trust that the above comments are of use in your EIAR preparation.

Yours sincerely,

Senior Regulatory and Administration Executive

Transport Infrastructure Ireland

Uisce Éireann
Bosca OP 6000
Baile Átha Cliath 1
D01 WA07
Éire

Uisce Éireann
PO Box 6000
Dublin 1
D01 WA07
Ireland

T: +353 1 89 25000
F: +353 1 89 25001
www.water.ie

For the attention of
Planning Department
Louth County Council
County Hall,
Millenium Centre,
Dundalk
Co. Louth,
A91 KFW6

13th March 2024

By Email:

Re: EIA Scoping Request – Regarding the proposed Effluent Balancing and Resource Recovery System at The Wuxi Biologics facility, IDA Dundalk Science and Technology Park, Dundalk, Co. Louth

Dear Ms ,

Uisce Éireann has received notification of your Environmental Impact Assessment (EIA) scoping request relating to WuXi Biologics forthcoming planning application, in respect of the proposed Effluent Balancing and Resource Recovery System at The Wuxi Biologics facility, IDA Dundalk Science and Technology Park, Dundalk, Co. Louth.

Please see attached, Uisce Éireann's scoping opinion in relation to Water Services. On receipt of the planning referral, Uisce Éireann will review the finalised Environmental Impact Assessment Report (EIAR) as part of the planning process.

Queries relating to the terms and the EIA scoping opinions below should be directed to planning@water.ie

PP.

Connections and Developer Services

Uisce Éireann's Response to EIA Scoping Requests

At present, Uisce Éireann does not have the capacity to advise on the scoping of individual projects. However, in general the following aspects of Water Services should be considered in the scope of an EIA where relevant;

a) Where the development proposal has the potential to impact an Uisce Éireann Drinking Water Source(s), the applicant shall provide details of measures to be taken to ensure that there will be no negative impact to Uisce Éireann's Drinking Water Source(s) during the construction and operational phases of the development. Hydrological / hydrogeological pathways between the applicant's site and receiving waters should be identified as part of the report.

b) Where the development proposes the backfilling of materials, the applicant is required to include a waste sampling strategy to ensure the material is inert.

c) Mitigations should be proposed for any potential negative impacts on any water source(s) which may be in proximity and included in the environmental management plan and incident response.

d) Any and all potential impacts on the nearby reservoir as public water supply water source(s) are assessed, including any impact on hydrogeology and any groundwater/ surface water interactions.

e) Impacts of the development on the capacity of water services (*i.e. do existing water services have the capacity to cater for the new development*). This is confirmed by Uisce Éireann in the form of a Confirmation of Feasibility (COF). If a development requires a connection to either a public water supply or sewage collection system, the developer is advised to submit a Pre-Connection Enquiry (PCE) enquiry to Uisce Éireann to determine the feasibility of connection to the Uisce Éireann network.

f) The applicant shall identify any upgrading of water services infrastructure that would be required to accommodate the proposed development.

g) In relation to a development that would discharge trade effluent – any upstream treatment or attenuation of discharges required prior to discharging to an Uisce Éireann collection network.

h) In relation to the management of surface water; the potential impact of surface water discharges to combined sewer networks and potential measures to minimise and or / stop surface waters from combined sewers.

i) Any physical impact on Uisce Éireann assets – reservoir, drinking water source, treatment works, pipes, pumping stations, discharges outfalls etc. including any relocation of assets.

j) When considering a development proposal, the applicant is advised to determine the location of public water services assets, possible connection points from the applicant's site / lands to the public network and any drinking water abstraction catchments to ensure these are included and fully assessed in any pre-planning proposals. Details, where known, can be obtained by emailing an Ordnance Survey map identifying the proposed location of the applicant's intended development to datarequests@water.ie

k) Other indicators or methodologies for identifying infrastructure located within the applicant's lands are the presence of registered wayleave agreements, visible manholes, vent stacks, valve chambers, marker posts etc. within the proposed site.

l) Any potential impacts on the assimilative capacity of receiving waters in relation to Uisce Éireann discharge outfalls including changes in dispersion / circulation characterises. Hydrological / hydrogeological pathways between the applicant's site and receiving waters should be identified within the report.

m) Any potential impact on the contributing catchment of water sources either in terms of water abstraction for the development (*and resultant potential impact on the capacity of the source*) or the potential of the development to influence / present a risk to the quality of the water abstracted by Uisce Éireann for public supply should be identified within the report.

n) Where a development proposes to connect to an Uisce Éireann network and that network either abstracts water from or discharges wastewater to a "protected"/ sensitive area, consideration as to whether the integrity of the site / conservation objectives of the site would be compromised should be identified within the report.

o) Uisce Éireann does not permit building over of its assets. As an applicant you are required to;

- survey the site to determine the exact location of the assets. Any trial investigations should be carried out with the agreement and in the presence of Uisce Éireann.
- Provide evidence of separation distances between the existing Uisce Éireann assets and proposed structures, other services, trees, etc. have to be in accordance with the Irish Water Codes of Practice and Standard Details.

p) Where a diversion of Public Infrastructure may be required subject to layout proposal of the development and separation distances, the applicant is required to submit a Diversions Enquiry to diversions@water.ie

q) Mitigation measures in relation to any of the above ensuring a zero risk to any Uisce Éireann drinking water sources (Surface and Ground water).

This is not an exhaustive list.

Please note;

- Where connection(s) to the public network is required as part of the development proposal, applicants are advised to complete the Pre-Connection Enquiry process and have received a Confirmation of Feasibility letter from Uisce Éireann ahead of any planning application.

- Uisce Éireann will not accept new surface water discharges to combined sewer networks.

Appendix 5. Appropriate Assessment Screening (AtkinsRéalis, 2024)

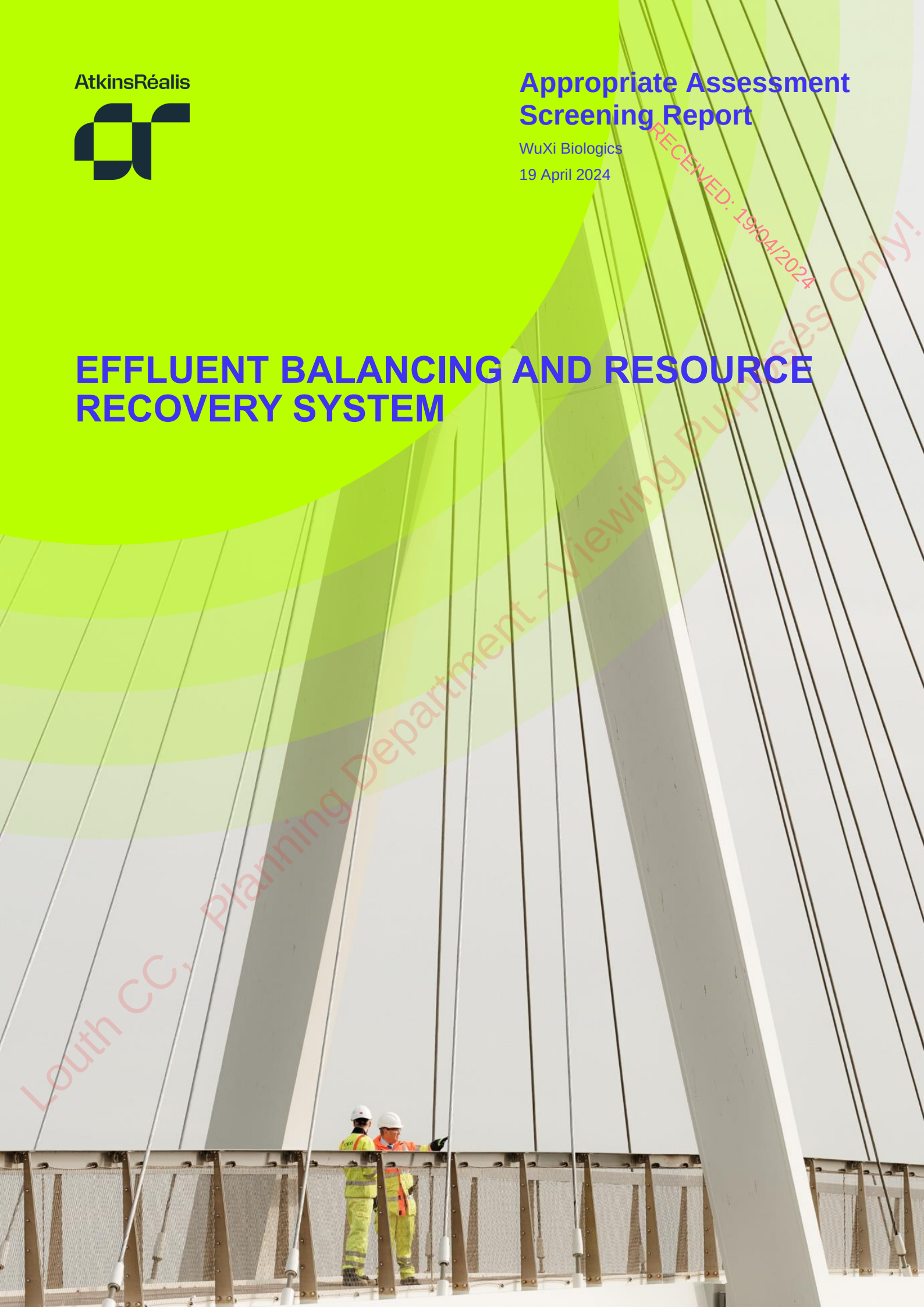
AtkinsRéalis

Appropriate Assessment Screening Report

WuXi Biologics

19 April 2024

EFFLUENT BALANCING AND RESOURCE RECOVERY SYSTEM



Notice

This document and its contents have been prepared and are intended solely as information for WuXi Biologics and use in relation to Effluent Balancing and Resource Recovery System.

WS Atkins Ireland Limited assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

Document history

Document title: Appropriate Assessment Screening Report

Document reference: 100085897DG0002

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	Final	DB/CW	CW	OO'K	JL	19/04/2024

Client signoff

Client	WuXi Biologics
Project	EFFLUENT BALANCING AND RESOURCE RECOVERY SYSTEM
Job number	100085897
Client signature/date	

Contents

Tables

Figures

1. Introduction

This Appropriate Assessment Screening Report has been prepared by AtkinsRéalis ('Atkins') on behalf of WuXi Biologics Ireland Limited (hereafter referred to as 'WuXi Biologics'). This report will accompany the planning application for the development of the Effluent Balancing and Resource Recovery System and associated works (the 'Proposed Development') at the Dundalk Science and Technology Park in Haynestown, Dundalk, County Louth ('the Site'). The location of the Site is shown in Figure 1-1.

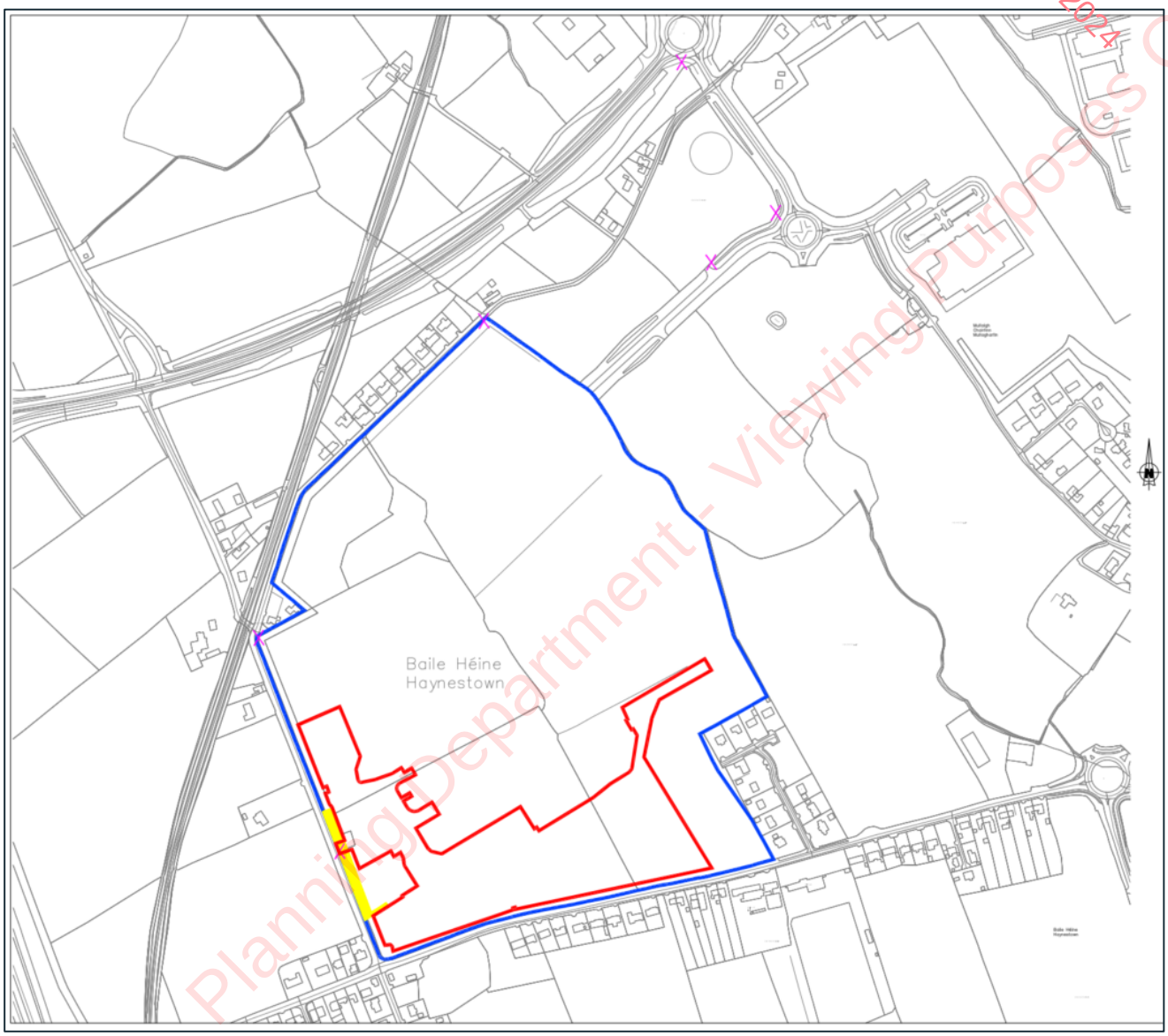


Figure 1-1 - Site Location

The site is located within Louth County Council (LCC) on land owned by WuXi Biologics. The proposed site is located within a greenfield site adjacent to the existing WuXi Biologics Facility. This company is licenced by the Environmental Protection Agency (IE Licence Ref. No. P1122-01). The Proposed Development will tie into the existing WuXi Biologics Facility to pre-treat the increased effluent loading resulting from increased production at the Plant. Refer to Figure 1.2 for the site location of the Proposed Development. The site is bounded to the north and east by the existing WuXi Biologics Facility (P1122-01), to the west by Mullagharlin road, residential dwellings and agricultural land and to the south by Marlbog Road, residential dwellings and agricultural land. The site lies

ca. 480m east of the M1 and the land in the vicinity of the site is for residential, commercial and agricultural purposes.

A review of the Louth County Development Plan 2021-2027 shows that the proposed development and much of the land surrounding the proposed development is land-use zoned as 'Business and Technology'. The land to the south of the proposed development is zoned as 'Existing Residential', 'Open Space', 'Agriculture' and 'Strategic Reserve' while the area north of the proposed development is zoned as 'Existing Residential'.

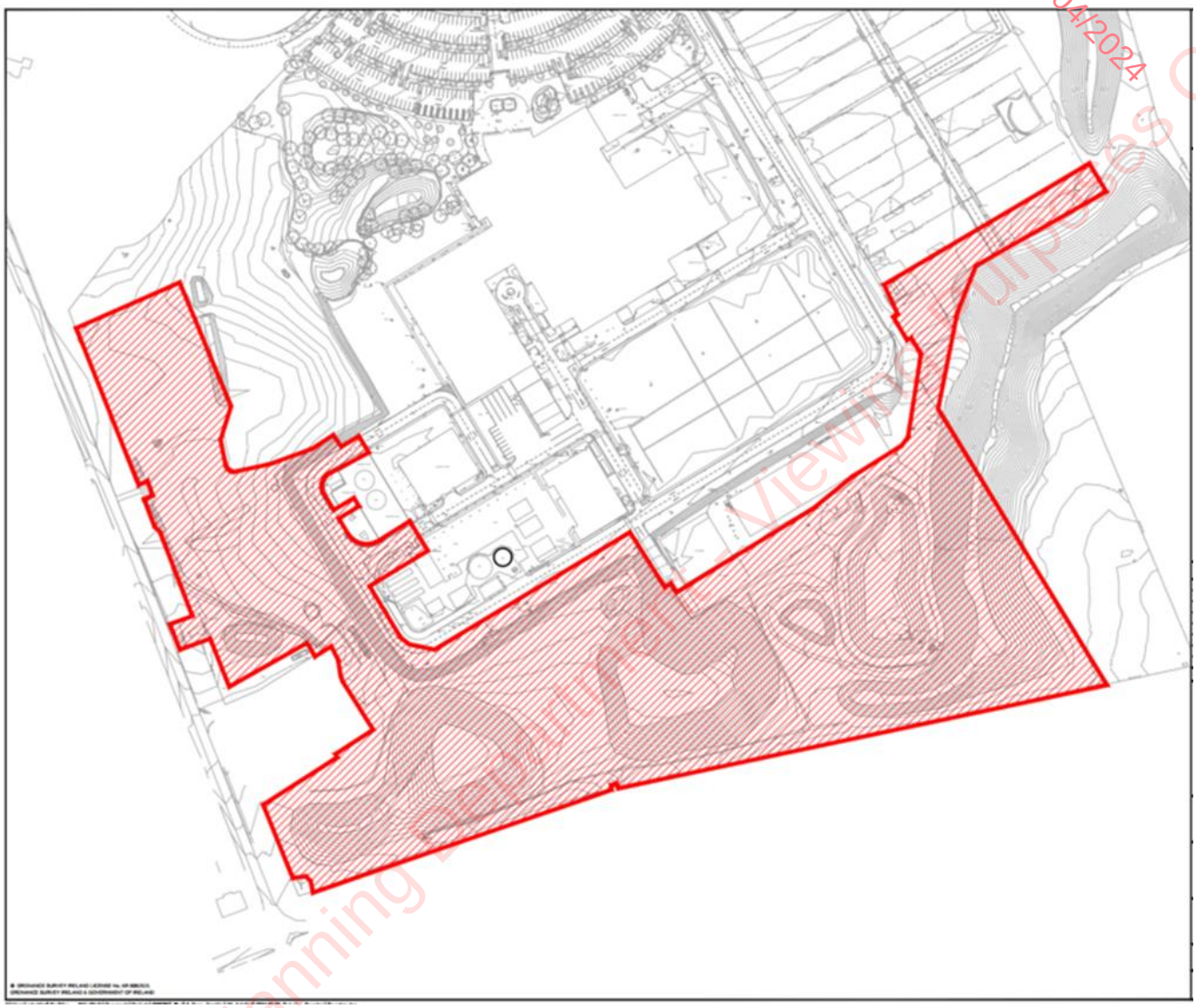


Figure 1-2 – Proposed Development Site.

1.1 Background

WuXi Biologics is a global Contract Research, Development and Manufacturing Organization (CRDMO). Currently, WuXi Biologics are in the process of increasing production and expanding its workforce to meet an increase in activity following its successful transition from construction project to operational facility. WuXi Biologics is subject to an Environmental Protection Agency (EPA) Industrial Emissions (IE) Licence (Ref. No. P1122-01[1]). This licence is for the operation of a multiproduct biopharmaceutical, contract manufacturing facility. The WuXi Biologics facility imports mammal cells which are multiplied and then biopharmaceutical intermediates (proteins / enzymes) are extracted. The intermediates are shipped to another facility for formulation into administrable drugs. This activity falls under the following category of Annex I of the Industrial Emissions Directive:*4.5: Production of pharmaceutical products including intermediates.*

The Licence requires that WuXi Biologics concludes an end user agreement with Uisce Éireann (UÉ). During the development of the end user agreement with UE, it became apparent that the effluent emission limits proposed by UÉ would be more onerous than those initially provided in the IED Licence - refer to Table 1.1. Furthermore, UÉ indicated that it did not have sufficient headroom in the Dundalk Wastewater Treatment Plant (WwTP) (in accordance with the wastewater discharge licence D0053-01 for the WwTP) to treat the expected loads arising from the facility due to both capacity issues and an inability to accommodate fluctuations in loading. In order to maintain production capacity at the WuXi plant, the current pre-treatment capacity will need to be increased, and effluent balancing/storage capacity increased to ensure that the site maintains compliance with proposed end user agreement effluent limits. The Proposed Development will, therefore, provide pre-treatment to manage the biologics waste stream from the site prior to discharging to the Dundalk WwTP. This will improve overall wastewater handling capacity at the site while providing a better-quality wastewater discharge. As the production activity in the site has increased, the water usage has also increased and to mitigate any adverse effects caused by this increase on the Dundalk WwTP, an upgrade to the on-site treatment system is necessary. In order to achieve this a planning application for the construction of an effluent balancing and water recovery system is being prepared. The system is designed to balance the flow of effluent from the site and to recover water for reuse within the site.

The Effluent Balancing and Resource Recovery System Project is subject of this Appropriate Assessment Report application to Louth County Council (LCC) and are hereafter also referred to as the 'Proposed Development'.

Table 1-1 - Effluent limits proposed by UÉ for WuXi (P1122-01)

Parameters	Concentration (24hour composite sample)	Max Kg/d
Biochemical Oxygen Demand mg/L (BOD)	840	295
Chemical Oxygen Demand (COD) mg/L	2,640	392
Total Suspended Solids (TSS) mg/L	500	175
Total Nitrogen mg/L (As N)	130	30
Total Phosphorus mg/L (as P)	50	17
Chloride mg/L	2,000	1,500
Sulphate mg/L	1,000	1,500
Fats, Oils and Grease mg/L	100	150
Anionic Surfactants / Detergents mg/L	100	150

[1] https://epawebapp.epa.ie/terminalfour/ippc/ippc-view.jsp?regno=P1122-01

The existing WuXi Biologics Facility is subject to a Greenhouse Gas (GHG) Emission permit (Permit number: IE-GHG199-10526-1) in accordance with the European Communities (Greenhouse Gas Emission Trading) Regulations 2004, (S.I No. 437 of 2004 and amendments). The GHG permit is for the Annex 1 activity - Combustion of fuels in installations with a total rated thermal input exceeding 20 MW (except in installations for the incineration of hazardous or municipal waste). The GHG permit states that carbon dioxide from Schedule 1 activities shall be emitted to atmosphere only from the following emission sources:

- S1 – Boiler 1 (Capacity 7.5MW);
- S2 – Boiler 2 (Capacity 7.5MW);
- S3 – Boiler 3 (Capacity 7.5MW);
- S4 – Backup Generator 1 (Capacity 5.08 MW);
- S5 – Backup Generator 2 (Capacity 5.08 MW);
- S6 – Backup Generator 3 (Capacity 5.08 MW);
- S7 – Fire Pump 1 (Capacity 0.4 MW);
- S8 – Fire Pump 2 (Capacity 0.4 MW); and,
- S9 – Kitchen Equipment (Gas Cooker) (Capacity 0.05 MW).

The facility is subject to a Genetically Modified Organism (GMO) (Genetically modified microorganisms (GMM) Class 1 Permit (Permit number: G0731-01) in accordance with GMO (contained use) Regulation 2001 (S.I. No. 73 of 2001), as amended. The permit is for the first time use of a premises for the contained use of Class 1 GMMs in accordance with Part II of the Regulations.

1.2 Project Description

The proposed Effluent Balancing and Resource Recovery System is located at the Dundalk Science and Technology Park in Haynestown, Dundalk in County Louth and is hereafter referred to as ‘the proposed development’ or ‘the site’.

1.2.1 Nature and Extent of the Proposed Development

The development will consist of the following:

The construction and operation of a new Effluent Balancing and Resource Recovery Plant (EBRRP) on a site of 7.888hectares, which will consist of:

(1) Excavation of the site to facilitate the proposed development, and reuse of excavated material as a landscaped spoil heap within the site;

(2) Construction of 3no. covered structures containing 12no. process tanks, located within concrete bunds with metal stairwells and platforms for access, and connected to an odour treatment facility.

(3) Installation of 5no. covered storage tanks located within concrete bunds with metal stairwells and platforms for access.

(4) Installation of a sludge dewatering facility.

(5) Construction of a single-storey administration and process building with roof-mounted solar panels and rainwater harvesting tank.

(6) Widening of an existing access on the Mullagharlin Road, and associated setback of the existing hedgerow, to facilitate a temporary construction access and a permanent operational access for small vehicles.

(7) Construction of a fabricated metal access bridge and pipe and cable support structures to link the proposed development with the existing biopharmaceuticals plant.

(8) A temporary construction compound, to include double-stacked metal containers/cabins with access stairs, laydown areas, and 50no. parking spaces; temporary internal road; and temporary internal construction haul road (including footpath).

(9) All site development works, drainage, ancillary equipment, lighting, retaining walls, fencing, and landscaping works.

The application relates to a development which comprises of an activity which holds an Industrial Emissions Discharge (IED) Licence (Licence No. P1122-01).

Refer to Figure 1.3 to Figure 1.6 for the layout for the proposed development.

Surface Water Drainage

The proposed design includes a separate stormwater network which will discharge to the existing WuXi stormwater network which includes silt traps, interceptors and attenuation to green field rates. The flows from the Proposed Development will be attenuated to the calculated QBar value. Outfall, from the Wuxi Biologics facility drainage network, is via SW-1 which connects to a local sewer and then Dundalk WwTP. No surface water is discharged to a watercourse, it is all contained within the existing drainage system. The proposed design includes a rainwater harvesting system which will feed the proposed WC's as well as washdown facilities for use of cleaning down the tanks etc.

The existing attenuation pond capacity is 2,403m3. The attenuation pond has existing hydrocarbon interceptors, flow control and emergency storage for the existing site infrastructure surface water run-off. The existing attenuation pond serves the entire campus for the purpose of SuDS. It captures the existing stormwater runoff from the site and stores it. The stored water is then slowly released back to the external environment at the calculated greenfield runoff rate i.e. the rate of discharge if there was no development there. There is currently no treatment to the captured water prior to release.

The storm water pump system being installed in the existing attenuation pond is intended to be used to direct waters from the attenuation pond back to the treatment plant. It is not intended that the system will be used other than in emergencies or to supplement water reuse system within the site as required. This water will enter the start of the treatment process and will be treated the same as effluent from the manufacturing process.

Foul Drainage

The proposed design includes a dedicated foul sewer which will discharge to the existing WuXi foul sewer network. The system has been designed as a gravity system. The discharge point will be located downstream of the outfall of the existing treatment plant onsite and will not discharge any effluent (manufacturing process) to the existing WWTP for treatment. All washdown facilities on the proposed project will discharge to the proposed foul sewer. All foul drainage related works will be carried out in consultation with Uisce Éireann and in accordance with all relevant Uisce Éireann guidelines and any Site-specific additional requirements.

In addition, in order to control the discharge of potentially contaminated runoff in the case of a fire, it is proposed to put a pump station in the existing attenuation pond. In the event of a fire, contaminated water will be detected by sensors shutting closed the penstock valve at the outfall of the existing attenuation pond. The contaminated water will be stored in the pond and then pumped to the proposed treatment facility to be treated before final discharge to the foul sewer. A sensor will be placed on the rising main from the pump station to the proposed WWTP to detect the water quality. Once the water has reached suitable quality levels the penstock will be reopened on the attenuation pond and normal operations will resume.

Processed Wastewater Detail

The proposed project involves the balancing and treatment of effluent from the WuXi Biologics facility (P1122-01). During the operational phase of the Proposed Development (following the proposed treatment) treated waters will be discharged to the local IDA pumping station, via SE-1 (as per the EPA Licence) which connects to Dundalk Wastewater Treatment Plant (WwTP) (Licence No: D0053-01). Any surface water from the bunded treatment plant process area is captured and re-circulated into the treatment process with eventual discharge (after treatment) to the local foul sewer which connects to Dundalk WwTP.

Sludge

Sludge will be produced at a rate of ca. 5 tonnes per day. Sludge will be removed in sealed tankers by licenced hauliers and will be treated at a licenced waste facility. The sealed tankers will prevent release of odour emissions at any significant rate. The operation and disposal of the sludge will be in accordance with Urban

Wastewater Treatment Directive 91/271/EEC and Waste Management Act 1996 as amended. The sludge cake will meet the Class A Bio Solids standards.

Nutrients

As part of the Proposed Development recovery of nutrients from the proposed development will occur during the operational phase. These recovered nutrients will most likely be phosphates and nitrogen and will potentially be utilised for non-food crops such as bio-fuel feed stock. Further assessment of the recovery of nutrients is required. Any nutrient applications will not be entered into the food chain.

Lighting

The lighting design for the Proposed Development has been developed with cognisance of the neighbouring properties. The lighting scheme for the Proposed Development site has been developed with the following principals to the fore; only illuminating what needs to be illuminated (e.g. light directed to the plant, walkways & access roads only), reducing night time light levels where possible (also being cognisant of H&S requirement for any operations during the night), reducing the height of the luminaires, shielding of luminaires and correct choice of light (e.g. in line with the current light levels on the existing site).

Project specific lighting designs include for:

- LED luminaires shall be used due to the fact that they are highly directional, have lower intensity, have good colour rendition and dimming capability;
- The proposed development site column heights shall be carefully considered to minimise light spill;
- All luminaires shall lack UV/IR elements to reduce impact;
- Only illuminating what needs to be illuminated (e.g. light directed to the plant, walkways & access roads only); and,
- Reducing night time light levels.

The lighting factors considered which will minimise the effect on neighbouring properties are as follows:

- Lighting schemes have been designed with luminaires that provide no uplight, or have narrow downward beams of light, and will have optics or shields that prevent back spill etc;
- Reflectance's downward lighting can be reflected from bright surfaces, so use of Black Tarmac is proposed for all road surfaces in line with the existing service roads. The same applies to other materials such as the colour finish on the lights, poles, walls, street furniture etc;
- Type of Light Proposed – principally LED lighting which has no UV with exact cut-off optics will be used; and,
- Lighting Controls – Lighting controls have also to be taken into consideration to reduce light and/or switch off luminaires.

Landscape

The resulting excavated spoil will be retained on site and used to create new berms which will be located alongside existing berms found near the southern boundary. These earthworks will be sown with a mix of grasses along with some wildflower meadow areas with additional biodiversity benefits.

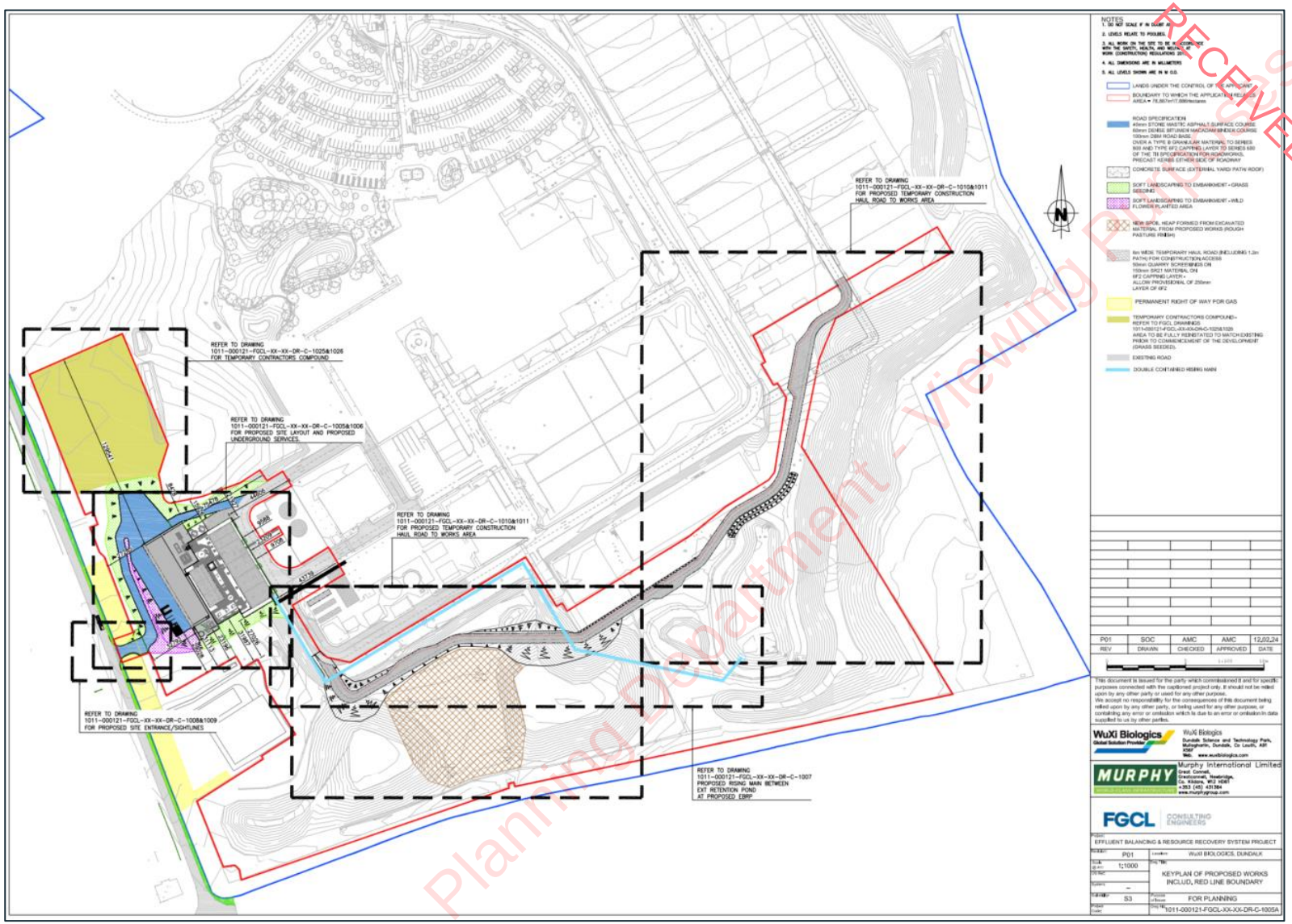


Figure 1.3 - Layout of the proposed development (1 of 6)

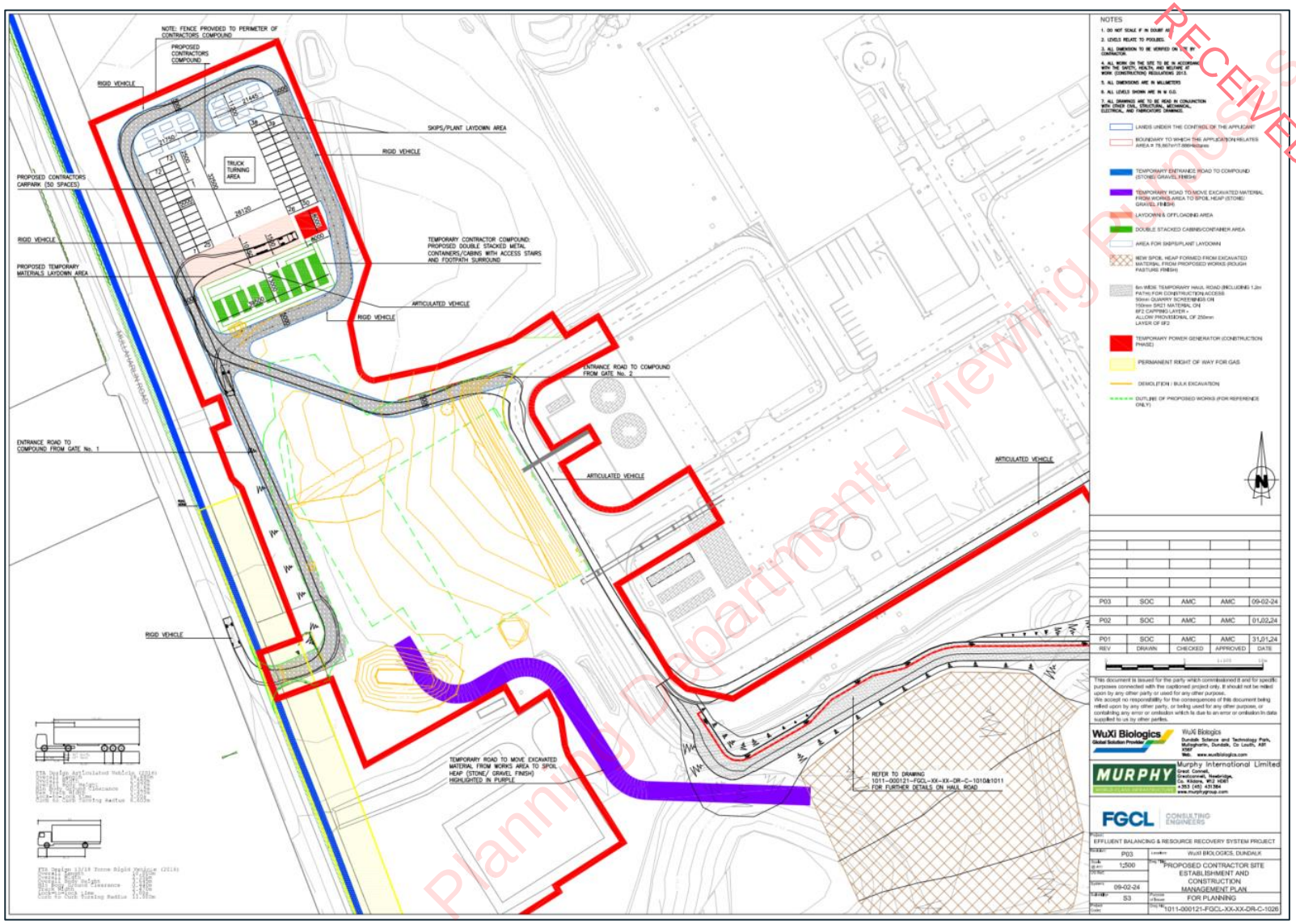


Figure 1.4 - Layout of the proposed development (2 of 6)

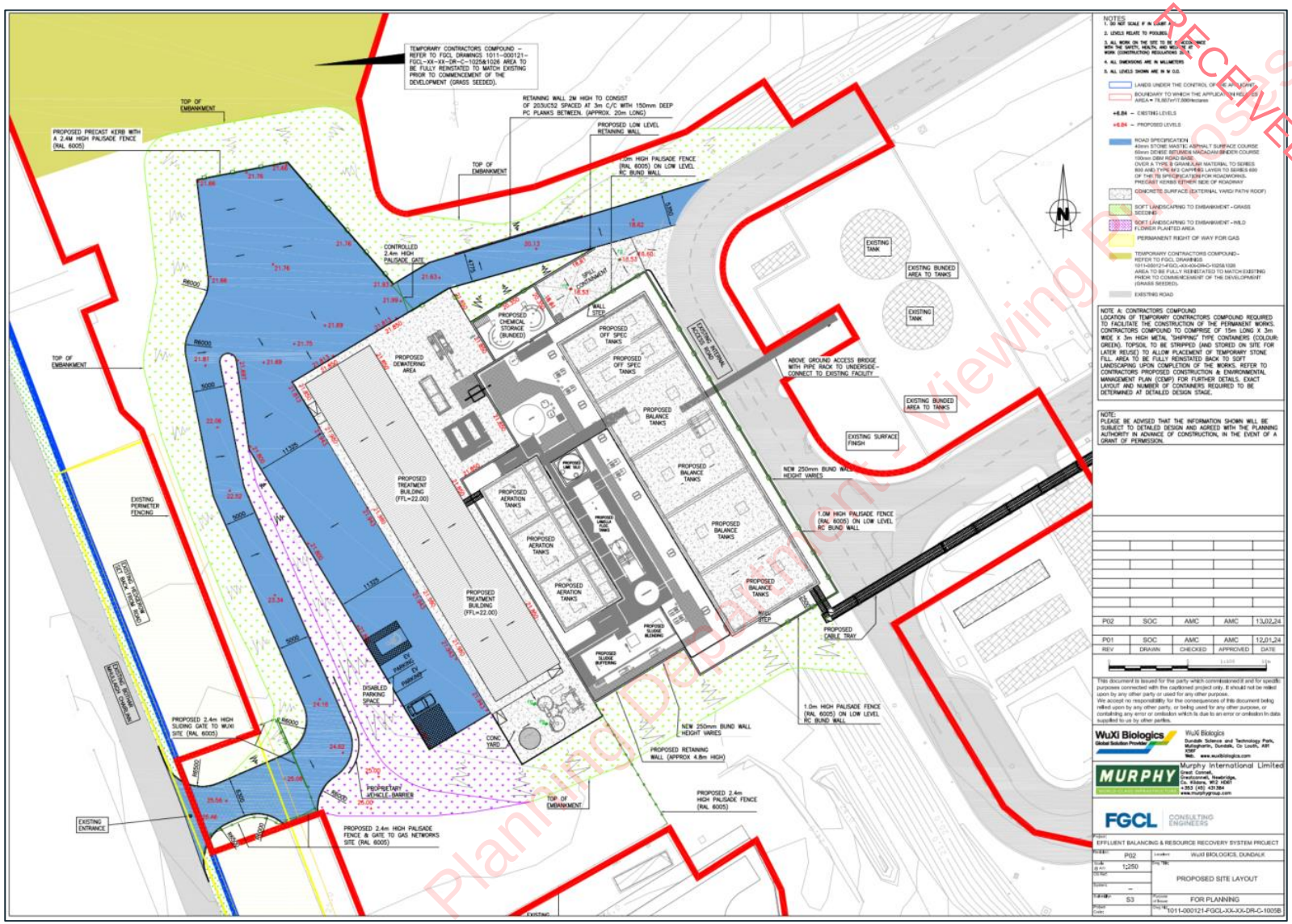


Figure 1.5 - Layout of the proposed development (3 of 6)

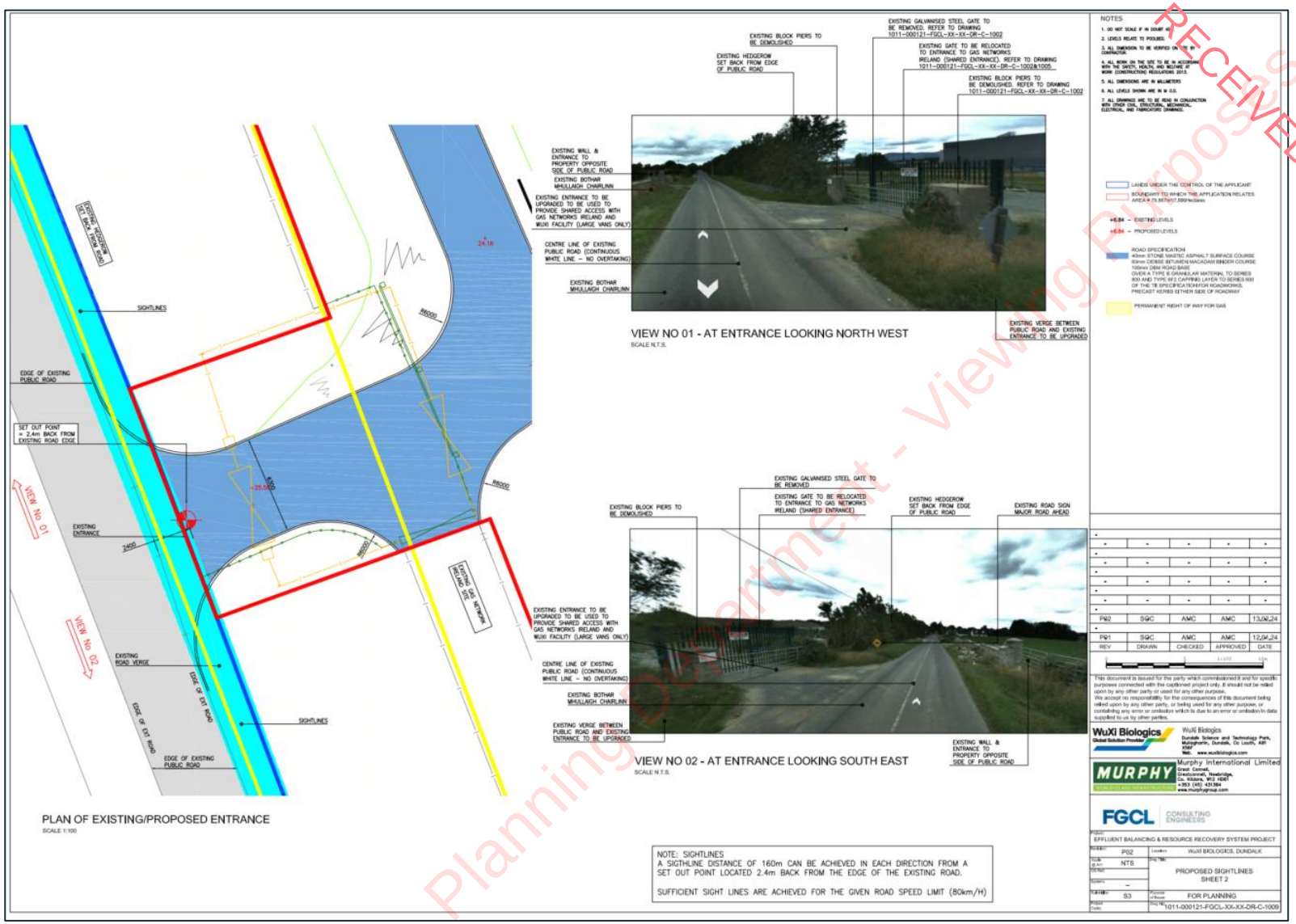


Figure 1.6 - Layout of the proposed development (4 of 6)

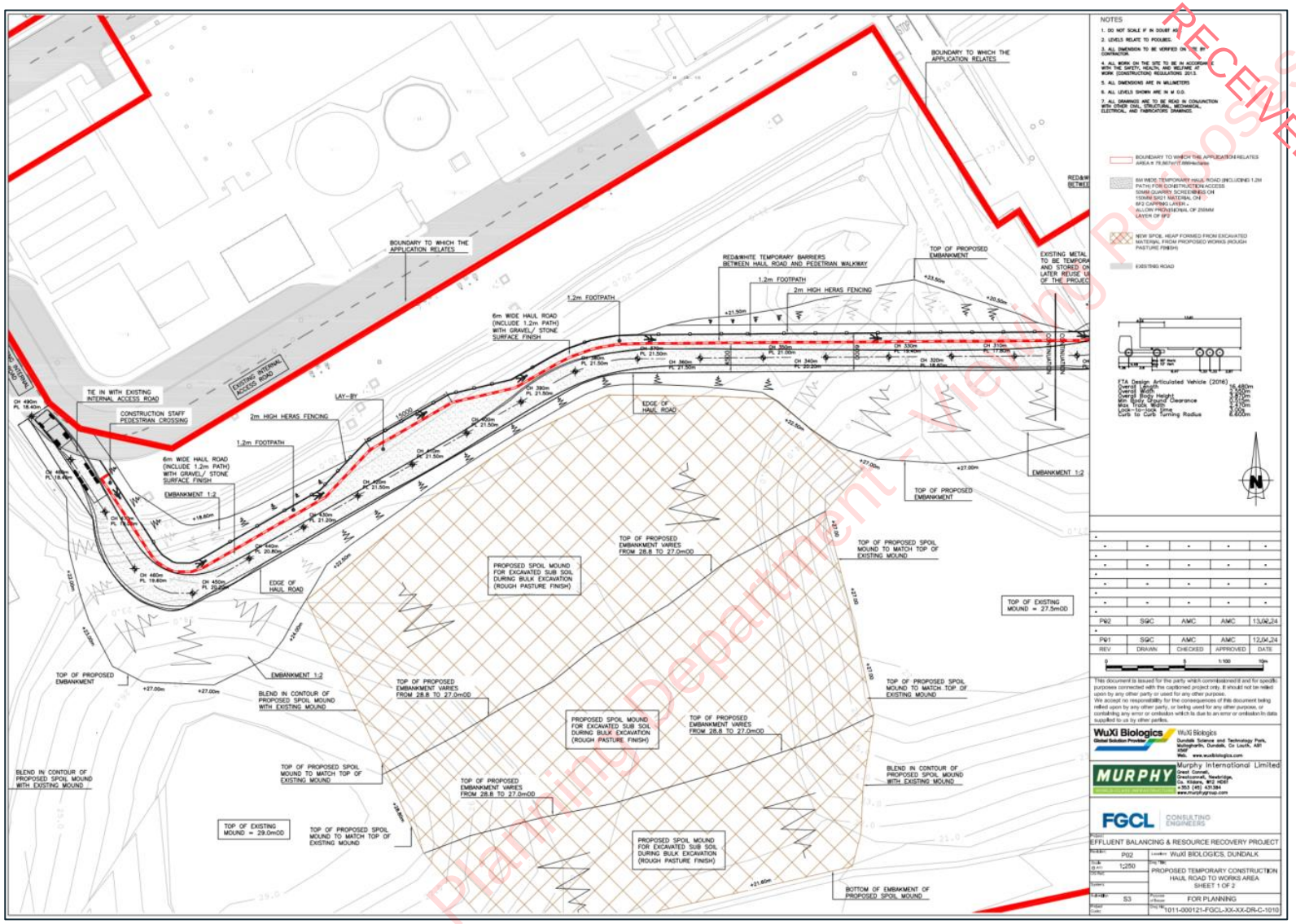


Figure 1.7 - Layout of the proposed development (5 of 6)

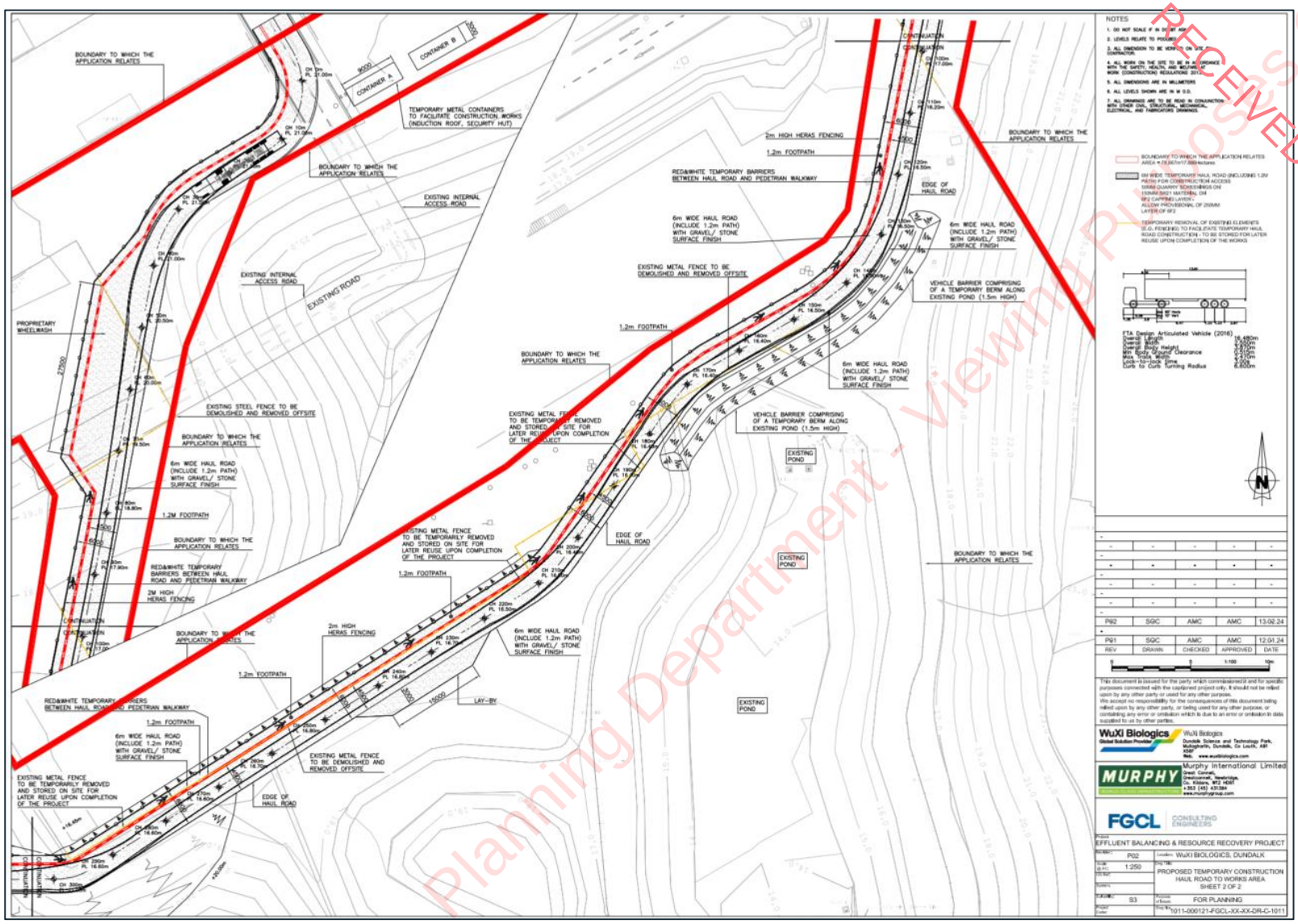


Figure 1-8 - Layout of the proposed development (6 of 6)

1.3 Construction Aspects

1.3.1 Construction Methodology

The following is the construction methodology for the Proposed Development. There are 14no. construction phases associated with the proposed development.

1. Mobilisation, Demolition and Site preparation (Phase 1)

Resolution of archaeological area in vicinity of site compound will be resolved by WuXi before any works in the area is carried out. The enabling works for the project will cover the site establishment and access routes to and from the main site works location. These will be developed prior to full mobilisation of the team to site. A temporary haul road from the existing WuXi contractors' compound will be established. The preparation of the site will be via the Mullagharlin road and can facilitate cars and vans via a temporary road for the contractors' personnel and equipment. 2no. existing pillars will be demolished at this existing entrance. This joint access gate facilitating access to WuXi Biologics Facility and Gas Networks Ireland (GNI) access gates will be relocated.

To secure the site and the boundary with the existing operations on the WuXi Biologics facility, temporary fencing will be erected. Access control will be implemented to the site along with lock up and opening procedure for the site. Services will also be identified throughout the site and warning signage and procedures implement.

The site compound set up will facilitate the safe movement of vehicles, staff and unloading and offloading of large equipment. There is a facility for 50no. car parking spaces for staff and visitors. The road has been designed for a one-way traffic system to minimise three points turning and potentially dangerous manoeuvring. A set down area has been allocated for overnight plant storage and a lay down area for materials. Items including waste management, power generation and storage of materials are incorporated into the temporary design. The location of the site compound allows for close monitoring of the works in proximity.

The compound will be formed giving due consideration to the movement of vehicles for deliveries (van) and offloading of the temporary cabins. The cabins will be delivered to site with due consideration to the gradient difference and the entry and exist routes from the site for the delivery vehicles.

Pedestrian access will be provided on the haul road through a 1.2m width footpath, demarcated by red and white temporary barriers and temporary fencing. The footpath will run along the length of the haul road. A pedestrian crossing will be created for entrance into the main works area. The existing CMT building area will be modified to suit the temporary access haul road and will result in the modification to some fencing, car park area and coverings to existing service manholes.

The service road between the existing WuXi Biologics facility and the Proposed Development will be fenced off and demarcated for the construction period. Facilities will be in place to accommodate deliveries to the existing WuXi Biologics facility and ensuring daily operations are not impacted. An interface point will be identified where the haul road meets the internal road in pink (see Figure 1.9). A haul road indicated in purple will be located to the south of the site to enable the movement of heavy machinery to the spoil heap for storage. Refer to Figure 1.9.

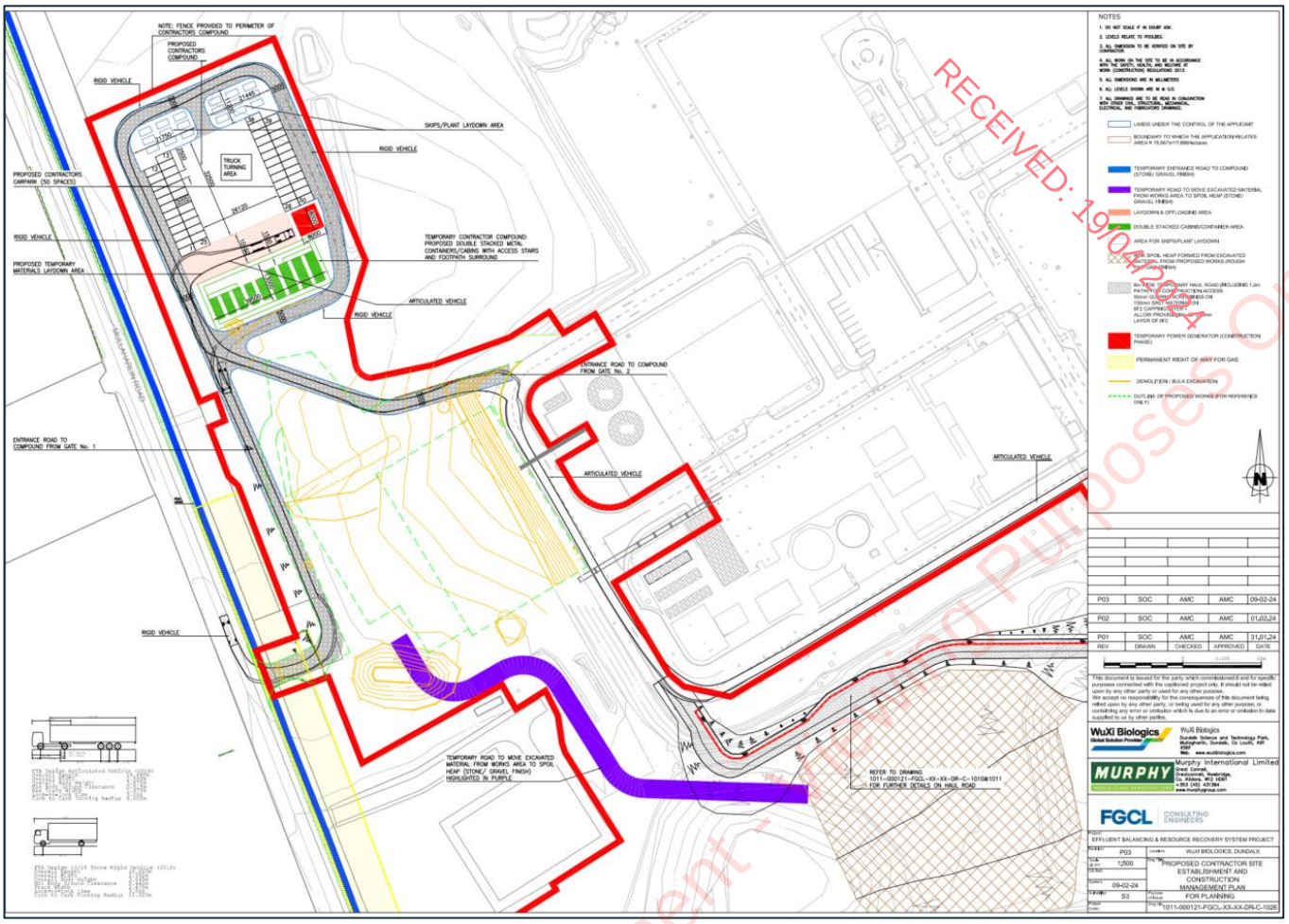


Figure 1-9 - Phase 1 works

The fire main adjacent to site will need to be diverted along with other existing services. Service continuity of the fire main will be maintained to the existing site in the event of a fire. This will be achieved through live tapping of the service. Excavation of ESB cables running through southwest of site will occur within this phase. The existing cables will be diverted away from the perimeter of the proposed project 'pinch point'. The contractor will facilitate any trenching required to enable new ESB cable route.

Pre-survey works will be carried out including ground scanning to locate, and record & protect existing underground as required. Temporary fencing and CCTV will be installed around the works area.

Erection and installation of temporary site lighting in the main site area during shorter light days for construction phase along with Mobile CCTV installation.

Trenches will be excavated to the required depth based on the type of utility. Maximum excavation depth for utilities is 2m bgl, with any material kept on site to be used for landscaping. Pipes will be laid on pea gravel bedding and surround with such material. Marker tape will then be placed 300mm above the service pipe.

2. Earthworks and early construction work (Phase 2)

- The maximum excavation depth for the proposed development is ca. 5m bgl. Topsoil and subsoil (Volume of Excavated material 34,407 m3) will be stripped and stockpiled in designated stockpile located within the red line boundary. Bulk excavation will have a haul length of 200m from the excavation pit to the south of the site – all within the red line boundary. The excavated soil will be located to the south of the site on the dry meadows and grassy verges between the two large man-made mounds which have been colonised by dry meadows and grassy verges habitat. Archaeological monitoring will be carried out throughout the excavation works in conjunction with the WuXi Biologics Archaeologist.

- Excavated rock will be stockpiled within the red line boundary and removed for offsite disposal to a suitably licenced / permitted waste facility, with the appropriate soil testing carried out. Stockpiles will be located 100m from any drainage.
- There is potential for groundwater to occur during the excavation works. Dewatering measures will need to be in place.
- Grips will be constructed to redirect rainwater and may be filled with drainage stone.
- New access road area will be excavated, and material will be moved to spill heaps.
- Once excavation has been achieved to foundation level blinding will be cast to complete the construction of the large tanks.
- Installation of acoustic blankets on the fence may be installed if required.

3. Concrete works (Phase 3)

The following points detail the operations for the concrete work during construction. All work involving concrete will follow the guidelines in the Preliminary Construction Environmental Management Plan for the Proposed Development.

- A formwork specialist contractor will be utilised to construct the concrete tanks.
- A temporary works assessment will be carried out for trafficking above the gas main at the site entrance.
- Mobile cranes will be used during construction.
- Steel will be tied and then shuttered once complete.
- Concrete will be poured, and shutters will be struck once curing period is complete (concrete mix design will be submitted for approval prior to pouring).
- The bund drainage pumps will be housed in the bund and set 500mm deeper under a perforated steel cover.
- Concrete formwork for all tanks will be the same process.
- Footings will be poured.
- Concrete foundation walls will be poured.
- Concrete floor will be poured.
- Reinforcement will be tied for the walls. Due to the excessive height scaffolding will be required to tie in situ.
- Formwork fixing will be constructed for concrete tank walls. These will be prefabbed and lifted into position and connected using MEWPs or similar.
- First pours will be done to form lower tank walls.
- Second pour will be done to complete tank walls.
- Construction joints will be placed in appropriate locations confirmed by designer.
- HDPE liner will be installed on all concrete tanks.
- Tanks will be hydro tested.
- Precast concrete roof sections will then be installed across the top of the tanks.
- Bund walls will be constructed.
- A separate bund area will be constructed for the chemical tanks will be constructed to the immediate north of the bund. This bunded area will be split into two sections to create individual bunds for each chemical.
- Safety railing installation and M&E systems.
- Drainage systems are to be installed including potential attenuation tank.
- Foundations for construction of new combined pipe and cable bridge will be constructed. This will be followed by the steel erection.
- Retaining wall will be constructed between administrative building and tank farm.
- Access road and Footpath construction will begin.

- Access road construction will include laying of capping material and subbase, kerbing and surfacing the road.
- CBR testing will be conducted prior to road construction.

4. Welfare Building/Process (Phase 4)

The construction of the Welfare Building will involve the following steps.

- The central site retaining wall will delineate the building welfare from the main tank areas. This will be constructed early on to enable early welfare foundation works.
- Building foundation will be laid.
- Raft foundation will be poured, steel fixing and shuttering will then be completed.
- Steel frames will be erected.
- Roof Purlins will be constructed.
- Cladding rails will be fitted.
- Building will be roofed, and walls will be cladded.
- Partition walls will be installed.
- Internal domestic electrical and lighting will be completed.
- Internal plumbing will be completed.
- Plastering work will be completed.
- The building will be prefabricated off site and delivered in stages. A mobile crane will be utilised to lift section into position.

5. MEICA fitout (Phase 5)

MEICA fitout will involve the following steps.

- Pipe rack installation from existing plant to new plant.
- The area will be fenced off for secured access only.
- Bund area equipment install.
- 2nr. lamella and flocculation tanks will be installed.
- 1nr. storage tank for post primary balancing will be installed.
- 3nr. sludge buffering and blending tanks in the bund area fit out.
- Installation of 1nr. liquor return tank.
- Installation of 1nr. supernatant tank.
- Installation of 1nr. rainwater harvesting tank.
- Installation of mechanical & electrical equipment for the process.
- Access equipment will be constructed.
- Hydrostatic testing will be performed on all tanks before commissioning.

6. Electrical install (Phase 6)

This phase of the work will involve the installation of electrical supplies to the plant and equipment.

- Installation of electrical power and cabling to the new plant (Phase 5).
- Wiring of new motor control centre (MCC) panel.
- MCC flash testing will be completed.
- All new equipment will be field wired.
- Site lighting and bund lighting completed.
- CCTV will be installed.
- Fire and alarm system will be wired.

- Security system will be installed and commissioned.
- All new equipment will be field wired.
- Site lighting and bund lighting completed.
- CCTV will be installed.
- Fire and alarm system will be wired.
- Security system will be installed and commissioned.

7. Chemical dosing (Phase 7)

This stage of work for the chemical dosing system will involve the following steps.

- Installation of small-bore pipework and dosing systems associated with Kalic lime, Urea, molasses, sulphuric acid, sodium hydroxide and aluminium sulphide.
- Installation of chemical tanks for storage of chemicals.
- Dosing points for injection into the various process steams.
- Hydro testing will be performed on all chemical tanks

8. Sludge Dewatering (Phase 8)

The sludge dewatering plant will require the following works.

- Dewatering equipment will be installed on a platform externally to the rear of the main process building.
- Installation of associated pipework and sludge cake pumps allowing transfer to the sludge cake skips for future disposal.
- The associated poly dosing system to the sludge dewatering screw presses will be installed in the main building

9. Odour system (Phase 9)

The odour abatement plant will require the following.

- Ducting to odour system will be installed to the various closed tanks.
- Odour treatment facility will be installed and commissioned.

10. Membrane treatment plant (Phase 10)

The construction and operation of the Membrane Treatment Plant will require the following.

- Inlet pipework and pumps will be installed from the aeration tanks to the membrane facility.
- Membrane skids will be installed along with associated ancillary equipment.
- Pipework for the membrane system will be installed.
- Permeate and Backwash tanks will be installed.
- Chemical systems, including CIP will be installed.
- Backwash pumps will be installed.
- Biomass wasting pumps will be installed.

11. Works outside site area (Phase 11)

There are some works identified to be outside the main pre-treatment site area. These include:

- Tie in works to the existing treatment plant area.
- Connection to the existing foul sewer network system
- Connection to the existing surface water system.

12. Site Finishes (Phase 12)

The following site finishes will be installed/constructed during this phase of the work.

- Paved areas will be constructed on 150mm layer of well compacted CL804 material or similar pending final design. Concrete pavements are to be cast to form footways around the welfare building.
- Installation of solar panels on the roof of the administrative building.
- Gullies and drainage systems will be installed prior to road formation.
- Road Formation will consist of 6F2 capping imported material and layers of well compacted Cl804.

13. Various Finishing Works (Phase 13)

Various finishing works will include:

- Landscaping Grass seeding.
- Road Surfacing.
- Security Fencing around perimeter of site to provide segregation between EBRRP the rest of the WuXi site.
- Turnstiles will be installed at exit of new plant into the WuXi site.
- General Finishing works.
- General fitout of administrative building, including the kitchen, office, and storage rooms and the laboratory.

14. Commissioning of equipment (Phase 14)

- Plant commissioning will be completed in several sequences when equipment becomes available for pretesting and wet testing.

1.3.2 Site Compound / Site Office

The contractors main construction office, storage yard and logistics operations will be accommodated within the red line boundary of the proposed development to the north of the site, as described in Section 1.3.1. This area will be equipped to obtain material deliveries, storage, and parking. Figure 1.10 shows the proposed layout of the compound.

The site compound set up will facilitate the safe movement of vehicles, staff and unloading and offloading of large equipment. There is a facility for 50no. car parking spaces for staff and visitors. The road has been designed for a one-way traffic system to minimise three points turning and potentially dangerous manoeuvring. A set down area has been allocated for overnight plant storage and a lay down area for materials. Items including waste management, power generation and storage of materials are incorporated into the temporary design. The location of the site compound set up allows for close monitoring of the works in proximity.

The contractor will have a dedicated area within the compound for refuelling plant or any other equipment that is bunded and has the necessary spill kit equipment available as and when required in line with any statutory IEPA & H&S legislations.

The compound will be formed giving due consideration to the movement of vehicles for deliveries (van) and offloading of the temporary cabins. The cabins will be delivered to site with due consideration for the gradient difference and the entry and exist routes from the site for the delivery vehicles.

The compound will be set up to securely enclose within the red line boundary, limited site storage and temporary welfare facilities comprising of the following:

- Canteen;
- Serviced Toilet;
- Site office;
- Site storage container; and,
- A number of Waste Skip for containing different waste streams e.g. steel, timber, plastics etc.

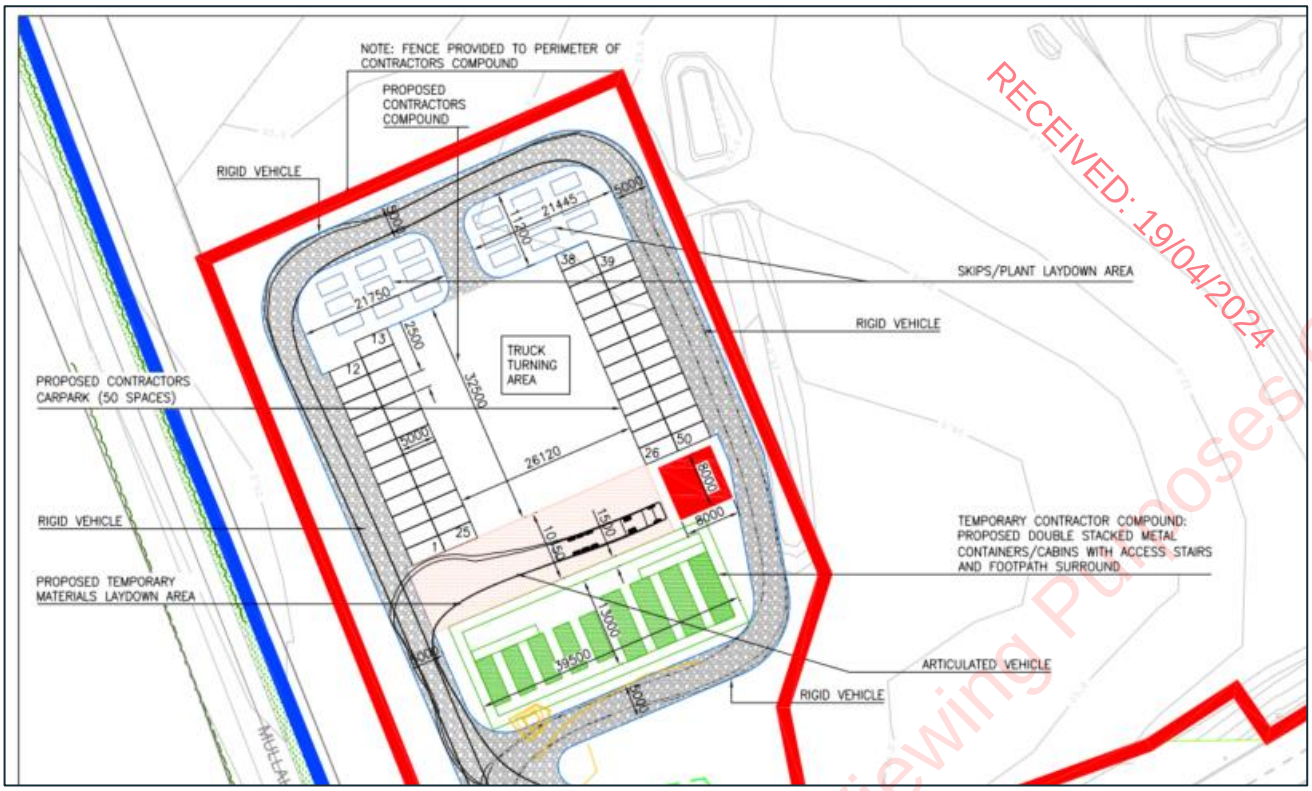


Figure 1.10 - Proposed Site Compound Location

1.4 Operational Phase

The Proposed Development will operate 24/7. The following sections provides details and calculations on the influent parameters and loading to the plant, characteristics of the influent, the stages of primary treatment and the treatment system.

Influent Parameters

In terms of flows, the proposed development will be developed in two stages, each of them based on a hydraulic capacity to treat and neutralise 1000 m³/day and 1500 m³/day – Stages 1 and 2, respectively. The maximum flow to the inlet works is 200 m³/h when one unit in any phase of the preliminary works is being bypassed. Regarding design wastewater loads, these are the same for both stages and are included in the Table 1.2 as maximum loads.

Table 1.2 - Influent Load Parameters

Parameter	Unit	Value
BOD (Biochemical Oxygen Demand)	kg/day	1,551
COD (Chemical Oxygen Demand)	kg/day	2,070
TSS (Total Suspended Solids)	kg/day	300
TN (Total Nitrogen)	kg/day	60
TP (Total Phosphorus)	kg/day	115

For the design of the proposed development, the characteristics listed on Table 1.3 are assumed.

Table 1.3 - Influent Typical Characteristics

Parameter	Unit	Value
BOD (Biochemical Oxygen Demand)	mg/l	20-750
COD (Chemical Oxygen Demand)	mg/l	100-3,000
TSS (Total Suspended Solids)	mg/l	0-700
TN (Total Nitrogen)	mg/l	60-120
TP (Total Phosphorus)	mg/l	0-100
NH4-N (Ammonia)	mg/l	1-110
TDS (Total Dissolved Solids)	mg/l	300-1,300
FOG (Fats, Oils & Grease)	mg/l	0-200
pH	-	1-14
Temperature	°C	<40
Chloride (max.)	mg/l	1,000
Sulphate (max.)	mg/l	1,000

Effluent Parameters

The discharge flows shall comply with the EPA's IED licence P1122-01 for the site, as the hourly and instantaneous flows to emission SE-1 (receiving waters Dundalk Bay via UE sewer and Dundalk WwTP) shall be limited to a maximum of 62.5 m^3/h (17.4 l/s) in Stages 1 and 2.

For the design loadings, the treated effluent will achieve the quality standards shown in Table 1.4. These quality standards are based on a 24h composite sample.

Table 1.4 - Effluent Load Parameters

Parameter	Unit	Value
BOD (Biochemical Oxygen Demand)	mg/l	150
	kg/d	150
COD (Chemical Oxygen Demand)	mg/l	261
	kg/d	261
TSS (Total Suspended Solids)	mg/l	175
	kg/d	175
TN (Total Nitrogen)	mg/l	30
	kg/d	30
TP (Total Phosphorus)	mg/l	17
	kg/d	17
Chloride	mg/l	1000
	kg/d	1,000
Sulphate	mg/l	1,000

	kg/d	1,000	
FOG (Fats, Oils & Grease)	mg/l	50	

Collection Network

The proposed development will treat wastewater flowing from four rising mains in the existing WuXi Biologics facilities (P1122-01), which in turn are equipped with flowmeters and connected to lift stations located in distinct areas of these facilities, as follows:

- DK0 - DK02 WS regens, as well as DK04 cooling tower blowdown and boiler FW regens;
- DK03 - DK03 waste flow;
- DK04 - DK04 boiler blowdowns and CUB process drains;
- DK02 - DK02 process waste;
- Surface water drainage; and,
- Attenuation pond drainage (emergency only).

Preliminary Treatment

The inlet works will consist of two sets of screens for the four rising mains carrying influent wastewater into the Proposed Development, namely an existing screen on site that will be focused on the non-process influent (combined diluted stream from DK0, DK03 and DK04) and a new screen that will treat the process waste from DK02, which shall go to full treatment. Grit and Fats, Oils & Grease (FOG) are not currently an issue for the influent wastewater.

Existing Screen

The existing screen (SC-0350001) is comprised of the following:

- 6 mm sized perforations, where the gross solids are retained.
- Duty/standby arrangement.
- Level sensors installed in case the screen gets clogged.
- Provision of a high-pressure washing facility.

Besides the non-process influent, the existing screen will also receive flows from the surface water drainage, as well as from the attenuation pond for emergency situations. After the screen, the flow can split and go either to the feed tank or to the new screen. In normal operation the flow will gravitate to the feed tank. If the spectral analyser at the existing screen shows high loading, that requires further treatment in addition to neutralisation, then flow will be pumped forward to the new screen. Duty/standby variable speed driven dry installed submersible Screen Transfer pumps will be provided.

New Screen

Besides process waste, the new screen will receive supernatants from the liquor balance tanks (as an alternative), as well as flows from import and treated water returned for further treatment. This screen shall be designed for a maximum flow of 200 m^3/h.

Neutralisation System (Mode of Operation 1)

The neutralisation system will be dedicated to wastewater that only requires pH correction, namely the non-process influent, since its loadings compliant with the effluent standards and, therefore, no full treatment is needed. The maximum daily flow discharge is 1,500 m^3/d (present neutralisation plant design flow). This mode of operation is comprised of:

- Existing screen;
- Feed tank, which is one of the existing 650 m^3 balancing tanks (TK-0350-02). Sulphuric acid dosing in this tank is planned to reduce the influent pH to acceptable values; and,
- pH correction tank (CT-0350-01/02) and IED discharge monitoring point.

The feed tank can also divert the flow to the new balance tanks if the non-process influent needs to go for full treatment. This will be based on online spectral analyser measurements and lab testing of tank contents (COD, TN and TP).

Full Treatment System (Modes of Operation 2 and 3)

Off-Spec and Balance Tanks

The off specification (off-spec) and balance tanks shall receive process waste from the new screen and the feed tank (TK-0350-02) for storage and flow homogenisation, being part of the full treatment line. 4 No. Balance Tanks and 2 No. Off-Spec Tanks are provided for operational flexibility. During normal operation it is envisaged that the duty Balance tank will be fed first.

Mixers will be provided to ensure tank contents are homogenous for sampling and forward feed. Septicity is not an issue at the existing neutralisation plant, therefore mixers to provide aeration are no longer proposed.

In normal operation, a single duty Balance Tank will be fed over a set period (operator adjustable). The tank contents will then be mixed for a period and sampling and testing (for COD, TP and TN) will be carried out to determine whether primary treatment is required, optimum poly and lime/alum dose or, in some cases, whether further dilution with “non-process” waste is required. This tank would then be ready for forward feed to treatment and feed from the new screen would move on to the next Balance Tank.

Side-access manways are provided into each Off-Spec and Balance Tanks (to de-risk the confined space).

Duty/assist/standby variable speed driven dry installed submersible pumps are located downstream of the Balance Tanks to transport the wastewater to the lime dosing tank or directly to the post primary balance tank (bypass of the primary treatment) or back to the off-spec tanks in an emergency, at a maximum flow of 64.8 m3/h (as in Stage 2 mass balance).

Duty/standby variable speed driven dry installed submersible pumps are provided to convey flows from the Off-Spec Tank to the duty Balance Tank.

Lime Dosing Tank

The lime dosing tank is provided to remove phosphorus from the influent wastewater by dosing with lime, or aluminium sulphate as an alternative. The characteristics of this tank are the following:

- The liquid volume is 35 m3, allowing a retention time of approximately 30 minutes for the maximum flow of 64.8 m3/h.
- A flash mixer and flow splitter will be located at the inlet and outlet of the lime dosing tank, respectively.
- The lime dosing tank may receive the supernatant returns from the liquor return balance tank. A fixed lime dose (determined via jar testing) will be dosed on a flow proportional basis in the flash mixer. Aluminium sulphate is also provided as an alternative coagulant.

Primary Treatment

The primary treatment step will consist in two lamella clarifiers arranged in a duty/standby basis, as well as flocculation tanks (where a polymer is dosed) located upstream of each clarifier. A fixed poly dose (determined via jar testing) will be dosed on a flow proportional basis. The inlet flow passes through a set of lamellas, where the flocs formed previously are retained and then settled at the bottom of the clarifiers as primary sludge, while the treated water flows into the next treatment step over the top of these settlers. The use of lamella allows a lower volume of the clarifier compared to a conventional clarifier.

Primary sludge produced in the lamella clarifiers will be comprised of BOD, COD, TSS and also lime as a result of phosphorus removal at the lime dosing tank upstream. Regarding sludge production with lime, the agreed design basis is a liquid lime (Kalic) dose rate of 600 mg/l to flows of 400 and 600 m^3/d for Stages 1 and 2, respectively, as well as 1 kg of dry solids produced for 1 kg of hydrated lime dosed. Table 1.5 shows the assumptions considered in the mass balance for primary sludge production.

Table 1-5 - Assumptions for Primary Sludge Production

Parameter	Unit	Value
BOD removal efficiency	%	25
COD removal efficiency	%	40
TSS removal efficiency	%	50
Liquid lime concentration	%	45
Liquid lime density	kg/m3	1.4
Lime sludge production	1 kg DS/kg hydrated lime	1

Post Primary Balance Tank

The post primary balance tank shall consist in cylinder tank with a liquid volume of 60 m^3 to allow a retention time of approximately 1 h for Stages 1 and 2 flows.

- Chemicals and nutrients are dosed upstream of and in the post primary balance tank, respectively, to enhance the performance of the secondary treatment, located downstream of this tank.
- Molasses (or alternative carbon source), urea (or alternative nitrogen source) and phosphorus to maintain an adequate C:N:P ratio in the biological tanks. These nutrients shall be provided from bunded IBC tanks.

The post primary balance tank shall also be designed to accommodate the supernatants flowing from the liquor return balance tank, serving as an alternative for the lime dosing tank.

Secondary Treatment Feed pumps

Duty/assist/standby variable speed driven dry installed submersible pumps are provided to convey flows from the Post Primary Balance Tank to the secondary treatment process via the filtering/screening step.

Filtering/Screening

A filtering/screening step will be added upstream of the secondary treatment to meet the requirements of the membrane supplier. It is anticipated that screening will be required to the order of 250 microns, which is in line with the proposed design of the secondary treatment step. This design includes a basket strainer included within each membrane bank loop to give precautionary protection from debris in the bioreactor contents.

Secondary Treatment

The secondary treatment step will consist of a membrane bioreactor system (MBR) with three biological tanks and membrane banks, from which biomass (sludge) is separated from treated water (permeate) and is recirculated back into the tanks, with the surplus sludge sent for dewatering.

The inlet flow will be split into the biological tanks (via flow split weirs with outlet flow measurement or flowmeters and flow control valves), which will be compartmentalized into anoxic and aerobic reactors to allow for nitrogen removal as well. The following table shows the size of these reactors for each biological tank. Table 2.5 shows the permeate characteristics.

Table 1.6 - Permeate Characteristics

Parameter	Unit	Stage 1	Stage 2
Flow	m3/d	1,057	1,553
Temperature	°C	15-25	15-25
pH	-	6.5-8.5	6.5-8.5
COD concentration	mg/l	≤100	≤100
BOD concentration	mg/l	<10	<10

TSS concentration	mg/l	<10	<10
Ammonia as N	mg/l	≤5	≤5
TN concentration	mg/l	≤28	≤19
TP concentration	mg/l	≤11	≤7

Treated Water Storage Tank

The treated water storage tank will be comprised of one of the existing 650 m^3 balancing tanks (TK-0350-01), with the feed tank being the other existing balancing tank (TK-0350-02). Both these tanks will use the same existing set of pumps to transport water to the pH correction tank.

Existing pH Correction Tank and IED Discharge Monitoring Point

The 6 m^3 pH correction tank (CT-0350-01/02) will be converted into a monitoring and polishing chamber, since pH correction shall already occur upstream of this tank, namely in the feed tank (for the neutralisation system - mode of operation 1) and upstream of the post primary balance tank (for the full treatment system - mode of operation 3). This will facilitate greater throughput of the treated water in the pH correction tank.

The treated water shall then flow into the IED discharge monitoring point, or back into the inlet works (existing screen) if the existing pH analyser or proposed spectral analyser, located in the pH correction tank, measure parameter values that are out of specification.

Treated Water Reuse

Treated water shall be reused for:

- Carrier water for chemical dosing.
- Inlet works.
- Washdown for the dewatering units.

Potable water should be provided for poly dosing and safety showers.

Sludge Blending and Buffer Tanks

The sludge blending tank will receive and combine both primary and secondary sludge, which will then flow into duty/standby buffer tanks. The combined sludge will have a minimum dry solids content of 0.8%.

Sludge Dewatering

Sludge dewatering will be designed to achieve an agreed dry solids concentration based on the final chosen dewatering technology and the availability of primary and secondary sludge of sufficient and adequate proportion and combined characteristics. The final dewatering technology will consider energy consumption, noise, washwater consumption and product dry solids.

Supernatant Return

The produced supernatants will flow into a sump and then to the liquor return balance tank. Return liquors are pumped to one of three locations. The supernatants are comprised of:

- Supernatants from the sludge dewatering step.
- Laboratory and CIP waste.
- Drainage from sludge skip area.
- Supernatants from odour control.
- Drainage from chemical delivery area.

The currently proposed total size for the supernatant sump is 5 m^3, while the liquor return balance tank has total and operating volumes of 98 and 88 m^3, respectively.

For the mass balance, the flow of the supernatants is based on total outlet flows of 1,000 and 1,500 m^3/d for Stages 1 and 2, respectively, quantities of 108 and 162 kg/d for Stages 1 and 2, respectively (equivalent to 600 mg/l liquid lime dose rates to 400 and 600 m^3/d flows), and assuming the dewatered sludge shall achieve 20% dry solids.

Odour Treatment

The proposed stack is 7.1 m high (1.6 m above maximum Administration Building ridge level).

Hazardous Area Classification

The current proposal is to zone the off-spec and balance tanks to cater for spurious discharges from the works. All areas downstream of these tanks shall be equipped with ventilation to prevent hazardous classification.

Sulphuric Acid Dosing

The sulphuric acid dosing system will be comprised two bulk storage tanks and respective dosing points, including:

- The existing 5 m3 storage tank (T-0350601) that is currently connected to the pH correction tank (CT-0350-01/02).
- A new 35 m3 storage tank to dose the feed tank (TK-0350-02), upstream of the post primary balance tank, as well as upstream of the lime dosing tank (if aluminium sulphate is used).

Caustic Dosing

The caustic dosing system shall use the existing 5 m^3 bulk storage tank (T-0350701) on site (the existing plant has had negligible dosing of caustic), which is currently connected to the pH correction tank (CT-0350-01/02), and it is also planned to dose upstream of the post primary balance tank.

Caustic will be used to increase the pH and to add alkalinity to the treated water. In this case, this chemical may be dosed:

- For lower pH waste than the influent wastewater, namely CIP flows that are produced from cleaning the membranes or that come directly from the WuXi facilities.
- To increase the pH or alkalinity for secondary treatment when aluminium sulphate is used for phosphorus removal in the lime dosing tank located upstream, as sulphuric acid may be required to depress the pH in this tank.

Aluminium Sulphate Dosing

Aluminium sulphate shall be provided as an alternative to lime for phosphorus removal in the lime dosing tank, being stored in a new 35 m^3 bulk tank. Laboratory tests shall be carried out for aluminium sulphate dosing as this will be later described during the detailed design phase.

Poly Dosing

The poly dosing system will be comprised of two automatic polyelectrolyte preparation units to produce polymer, each connected to the flocculation tanks (located upstream of the lamella clarifiers) and the dewatering units, in order to promote a higher aggregation of the flocs and dewatered sludge, respectively.

Laboratory tests show that for poly dosing in the flocculation tanks, a dosing rate of 2 mg/l will be applied, as higher rates will most likely lead to an increase of the COD concentration in the treated water.

A dose rate requirement of 10 kg poly/tonne dry solids is assumed for sludge dewatering.

Lime Dosing

Lime is planned to remove phosphorus in the lime dosing tank, where it will be dosed in the form of liquid (Kalic) with 45% concentration in solution. This will be stored in a 35 m^3 bulk tank. This chemical is successful for phosphorus removal at the existing balance system and pH correction system. The use of liquid lime (Kalic) rather than powder lime (external silo or bagging system) has many advantages, as:

- Powder lime causes dust Health and Safety issues.
- A bagging system for powdered lime may need an operative 7 days a week.
- Powder lime would require a building to encapsulate the storage tank/bagging system to avoid condensation and moisture.

Due to its high solution (45%), liquid lime dosing is suggested to be carried out in short runs of pipework to avoid blockages. If the tanker delivery connection and the lime bulk storage tank are far apart then a flushing system is required to prevent the liquid lime from accumulating in the bulk storage tank feed pipe considering the following:

- Long sweeping bends required.
- The flushing water can flow into the liquid lime bulk storage tank.
- High velocity pumping system is required for the flushing line.

Further testing will be carried out to optimise the dosing parameters and the lime dosing system

Bund Drainage

The existing and new bunds will be used to retain spillages from the treatment plant, for example, directing the flow into a sump that shall feed the existing screen.

Attenuation Pond

A facility to treat water from the attenuation pond shall be provided at the proposed development and a new set of pumps shall direct the flow to the existing screen at a flowrate of 30 to 40 m^3/h.

Process Interfaces

The process interfaces between the existing Wuxi equipment and the proposed development are as follows:

- DK02 process waste to new screen (DK02 stream to existing screen also to be valved).
- Attenuation pond pumped to inlet of existing screen (2 compartments).
- New bund surface water drainage to existing screen (2 compartments).
- Existing screen to Screen Transfer pump sump.
- Washwater to new screen.
- Feed Tank recirculation loop for sulphuric acid dosing.
- Link from existing Sulphuric Acid storage tank outlet to a new dosing pump (to feed the Feed Tank recirculation loop).
- New connection to the Feed Tank to allow Treated Water Storage Tank to be taken out of service.
- New pH monitor at the Feed Tank.
- Outlet from the Feed Tank to Feed Tank outlet pumps (to feed new Balance/Off-spec tanks).
- Secondary Treatment to Treated Water Storage Tank.
- Treated Water Storage Tank to Final Effluent Chamber.
- Link from existing Caustic Storage Tank outlet to new dosing pumps (to feed Post-Primary Balance Tank).
- New spectral analyser at pH Correction Tank.
- Facility to connect IBC to outlets from existing caustic storage and sulphuric acid storage tanks.

1.4.1 Environmental Management

The construction of the proposed development will be in accordance with the Preliminary Construction Environmental Management Plan (PCEMP) that will be submitted as part of this planning application (which takes account of the Schedule of Environmental Commitments presented within this EIAR). This document will be further developed and added to within the Detailed site specific CEMP which will be prepared by the Contractor in advance of the construction phase. The requirements of the CEMP will be fully implemented onsite for the duration of the construction phase of the project. Environmental monitoring will be carried out during the construction phase as detailed in Chapter 16 - Schedule of Environmental Commitments.

1.4.2 Traffic Management

The proposed transport routes of all machinery entering and egressing the site, for the full duration of the 15no. month phased construction period will be through the new temporary access route within the existing WuXi facility. This access point will include access control and security fencing.

As part of the proposed development, the existing agricultural gate on the Mullagharlin road will be repurposing to facilitate the access to the plant for small vehicles (cans /vans) for both the construction and operation phases.

All construction activities will be managed and informed by a Construction Traffic Management Plan (CTMP). The details of the CTMP will be agreed with the roads department of the Local Authority in advance of construction activities commencing on-site.

1.4.3 Waste Management

The Contractor will prepare a detailed C&D Resource and Waste Management Plan (RWMP) in accordance with the relevant following guidance '*Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition projects'* (EPA, 2021) which will take full account of the CEMP submitted as part of this planning application. The Construction RWMP will provide a mechanism for monitoring and auditing waste management performance and compliance for the duration of the project. The document will also provide a detailed overview of key waste management considerations for the project and will be fully implemented onsite for the duration of the construction phase of the project.

2. Scope of Study

The aim of this report is to provide supporting information to assist the competent authority, Louth County Council, to carry out an AA Screening determination with respect to the proposed project.

2.1 Legislative Context

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora, known as the 'Habitats Directive' provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 – 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservations of an EU-wide network of sites known as European sites. European sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans or projects that could potentially affect European sites. Article 6(3) establishes the requirement for Appropriate Assessment: -

> *"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

Article 6 (4) deals with the steps that should be taken when it is determined, as a result of Appropriate Assessment, that a plan or project will adversely affect a European site. Alternative solutions, imperative reasons of overriding public interest (IROPI) and compensatory measures need to be addressed in this case. Article 6(4) states: -

> *"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*
>
> *Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."*

2.2 Appropriate Assessment Process

Guidance on the AA process was produced by the European Commission (EC, 2021; 2019), which was subsequently used to develop guidance for Ireland by the Department of Environment, Heritage and Local Government in 2009 (DEHLG, 2009), National Parks and Wildlife Service in 2018[2] (NPWS 2018) and the Office of the Planning Regulator (2021). These guidance documents set out a staged approach to complete the AA process and outline the issues and tests at each stage. The stages outlined below are taken from the guidance document *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (DEHLG, 2009) and Office of the Planning Regulator; *Appropriate Assessment Screening for Development Management* (2021).

[2] https://www.npws.ie/development-consultations

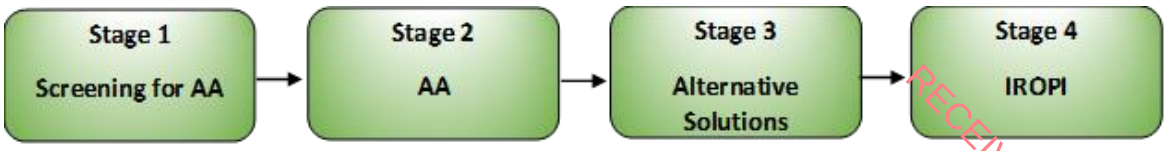


Figure 2-1 - Appropriate Assessment Process (Source: DEHLG, 2009).

2.2.1 Screening for Appropriate Assessment

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3): -

i. Whether a plan or project is directly connected to or necessary for the management of the site, and
ii. Whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a European site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, then the process must proceed to Appropriate Assessment.

2.2.2 Appropriate Assessment

Appropriate Assessment considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any necessary mitigation measures.

The competent authority can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site(s) concerned. If this cannot be determined, and where sufficient mitigation cannot be achieved, the alternative solutions need to be considered and the process proceeds to the consideration of alternative solutions.

2.2.3 Alternative Solutions

This examines any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of a European site. The process must return to AA as alternatives will require assessment in order to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected, it is necessary to examine whether there are imperative reasons of overriding interest (IROPI).

2.2.4 IROPI

This examines whether there are imperative reasons of overriding public interest for allowing a plan or project that will have adverse effects on the integrity of a European site to proceed in cases where it has been established that no less damaging alternative solution exists. Compensatory measures must be proposed and assessed, of which the Commission must be informed.

The AA process only progresses through the full process for certain plans and projects. For example, for a project not connected with the management of a European site and where no likely significant effects on a European site in view of its conservation objectives are identified, the process stops at Screening for AA. Throughout the process the precautionary principle must be applied, which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty (EC, 2021; 2018).

3. Methods

3.1 Guidance documents

The Screening for Appropriate Assessment was prepared with reference and due consideration to the following documents, guidelines and case law, including but not limited to: -

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna. *Official Journal of the European Communities* L 206/7-50.
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. *Official Journal of the European Union* L 20/7-25.
- European Communities (Birds and Natural Habitats) Regulations, 2011. *S.I. No. 77/2011* (as amended) ("the Habitats Regulations").
- Planning and Development Act, 2000. *No. 30 of 2000* (as amended) ("the Planning and Development Acts").
- EC (2019) *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.* European Commission, Brussels.
- EC (2021) *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC.* European Commission, Brussels.
- DEHLG (2010a) *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Revised 11/02/2010.* Department of the Environment, Heritage and Local Government, Dublin.
- DEHLG (2010b) *Circular NPW 1/10 & PSSP 2/10. Dated 11/03/2010.* Department of the Environment, Heritage and Local Government, Dublin.
- NPWS (2012) *Marine Natura Impact Statements in Irish Special Areas of Conservation. A Working Document. April 2012.* National Parks & Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin.
- OPR (2021) *Appropriate Assessment Screening for Development Management. OPR Practice Note PN01.* Office of the Planning Regulator, Dublin.
- Case law, including *Waddenzee* (C-127/02), *Sweetman v. An Bord Pleanála* (C-258/11), *Kelly v. An Bord Pleanála* (IEHC 400), *Commission v. Germany* (C-142/16), *People Over Wind* (C-323/17), *Holohan v. An Bord Pleanála* (C-461/17), *Eoin Kelly v. An Bord Pleanála* (IEHC 84) and *Heather Hill* (IEHC 450).

3.2 Desk Study

A desk study was carried out to collate information available on European sites in the vicinity of the proposed project. These areas were viewed using Google Earth, Google maps[3] and Bing maps[4].

The National Parks and Wildlife Service (NPWS) and National Biodiversity Data Centre (NBDC) online databases were reviewed concerning European sites and their features of interest in the vicinity of the proposed project.

The Environmental Protection Agency (EPA) mapping [5]system was used to identify any hydrological connection between the proposed project and European sites.

Locations and boundaries of all European sites within 15km of the proposed project were identified and reviewed using the NPWS online map viewer. Boundary shapefiles were also downloaded from this site to facilitate the preparation of project graphics.

Desktop information on relevant European sites were reviewed on the NPWS website, including the site synopsis for each SAC/SPA, the conservation objectives, the site boundaries as shown on the NPWS online map viewer,

[3] https://www.google.com/maps

[4] https://www.bing.com/maps

[5] https://gis.epa.ie/EPAMaps/

the standard Natura 2000 Data Form for the SAC/SPA which details conditions and threats of the sites, and published information on the relevant European sites.

Relevant planning information for the surrounding area was reviewed using the planning enquiry systems of Louth County Council. Search criteria were implemented to determine whether such projects or plans would not be relevant to this study. This reviewed information was used to determine potential for in-combination effects from other plans / projects with the proposed works.

Information from the aforementioned data sources was last access 12/04/2024

3.3 Site Visit

The site was subject to a site visit by Atkins Ecologist, Daniel Blake on the 1st of August 2023. The findings of site surveys have been used to inform this report. The purpose of the visit was to undertake an assessment of ecological features and supporting habitats that may be present within and surrounding the project site in relation to the proposed project; having regard to survey guidance sources such as *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017) and *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).

The objectives of the ecological Site visit were to: -

- Check for evidence of rare or protected habitats and species and to assess the potential for protected species to be present within the project site;
- Assess the potential for habitats listed on Annex I to the EU Habitats Directive, as well as species listed on Annex II to the EU Habitats Directive to occur on Site given their ecological requirements as identified by NPWS[6]; and
- Check for evidence of invasive plant species as listed on the Third Schedule of the Natural Habitats Regulations (S.I. 477 of 2011).

3.4 Statement of Authority

The Screening for Appropriate Assessment report was prepared by Daniel Blake and Colin Wilson. Owen O'Keefe provided peer review and support.

Daniel Blake (AtkinsRealis Dublin) has a degree in Wildlife Biology and has been working in the environmental consultancy sector for the past six years. He has worked in both large scale government infrastructure projects as well as domestic projects across the UK and Ireland conducting both environmental and ecological roles. Primarily conducting protected species surveys such as bats, badgers, birds, reptiles, small mammals and amphibians as well as invasive species surveys. He has also earned a Natural England licence for the survey of Great crested newt. He has been involved in habitat surveying and assisted in the writing of Appropriate Assessments, Preliminary ecological appraisals and protected species reports. Throughout his career he has acted as an ECoW for numerous sites to ensure environmental laws and practices are met. He has been involved in water and soil sampling surveys, levelling surveys and creation of hibernaculum. Daniel undertook field surveys and for the proposed development assisted with the collation of background information to inform this report.

Colin Wilson (Atkins Dublin) has a BSc (Hons) in Environmental Science and is a Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). He has over 16 years working in the fields of ecology and environmental management. He is a Senior Ecologist with experience in ecological surveying, environmental assessment, on-site ecological supervision and mitigation. He has experience on multiple infrastructure projects regarding all elements of surface and groundwater management, monitoring, sampling and associated reporting. Colin also has a broad range of experience in invasive species management, biosecurity and control. Colin has prepared AA screening reports, Natura Impact Statements and has also been involved in the development of Environmental Operating Plans and Construction Environmental Management Plans for a number of national infrastructure projects. Colin is the author of this report.

[6] 17 Reports 2019: https://www.npws.ie/publications/article-17-reports/article-17-reports-2019

Owen O'Keefe is a Senior Ecologist at AtkinsRéalis. He holds a BSc (Hons) in Ecology from University College Cork (2015) and is a Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). He has 8 years' professional experience in ecological consultancy, including extensive experience in Appropriate Assessment. He has prepared a large number of AA Screening Reports and Natura Impact Statements, as well as carried out technical appraisals of such reports for competent authorities. Owen undertook the peer review of this report.

4. Existing Environment

4.1 Surface Water Features

There are no watercourses or surface water features within the proposed development site. The nearest watercourses to the proposed development site are as follows;

The closest watercourse is the Carnabreagh Stream located ca. 700m west of the proposed development site and is separated from the proposed development site by the physical barrier of the M1 motorway. The Carnabreagh Stream flows into the Tates and Carrans Park Stream which outfalls into the larger watercourse of the Fane River which outfalls to Dundalk Bay. EPA datasets identify the Fane River has a Q-value score of 4 during 2020 which indicates a good water quality.

The Haggardstown Stream is located ca. 750m east and is separated from the proposed development site by the L3161 Marlbog Road. This stream outfalls directly into Dundalk Bay. EPA dataset identify the proposed development site is predominantly within the Haggardstown catchment.

The Haynestown Stream is located ca. 1.1km south of the proposed development site. and is separated from the proposed development site by the L3161 Marlbog Road. This stream is a tributary of the larger Fane River.

EPA datasets identify the Carnabreagh Stream, Haynestown Stream and the Fane River as having a "Moderate" WFD water quality status (2016-2021) and further details the watercourses as being at "*At Risk*" of not achieving the objectives of the WFD by 2027. EPA datasets identify the Haggards Stream as having a "Poor" WFD water quality status (2016-2021) and further details the watercourses risk status as being under 'Review'.

EPA datasets identify the Fane River has a Q-value score of 4 during 2020 which indicates a good water quality.

Inland Fisheries Ireland (IFI) undertake surveys along lakes and large order rivers and associated catchments areas throughout Ireland as part of assessments for the Water Framework Directive (WFD). The latest IFI surveys for the River Fane[7] were undertaken in 2018 and details the following; '*The Fane River catchment is located within the Neagh Bann International River Basin District and covers an area of approximately 140 km^2. The Fane River flows in a south-easterly direction through Co. Monaghan, with some of its tributaries flowing from Co. Armagh. The Fane River reaches the sea just south of Dundalk within Dundalk Bay SAC. Ten fish species were recorded at six sites surveyed on the Fane River Catchment in 2018. Brown trout was the most abundant species captured.'* Fish species captured as part of the 2018 survey included; Brown trout (*Salmo trutta*), Eel (*Anguilla anguilla*), Gudgeon (*Gobio gobio*), Lamprey spp., Perch (*Perca fluviatilis*), Pike (*Esox lucius*). Salmon (*Salmo salar*), Stone loach (*Barbatula barbatula*) and Three-spined stickleback (*Gasterosteus aculeatus*).

In context of the project site, there are no ditches or surface water features connecting the project site to any watercourse.

The surface water features within the vicinity of the project site are illustrated in Figure 4-1 below.

[7] http://wfdfish.ie/wp-content/uploads/2019/10/ERBD_Fane_2018-2.pdf

Figure 4-1 - Surface water features within the vicinity of the project site.

4.2 Waterbird Sites

A review of Irish Wetland Bird Survey (I-WeBS) datasets did not identify any I-WeBS count sites within or adjacent to the project site. The closest recorded I-WeBS count site is the Fane River Plain count site (code 0Z397) located 2km south of the project site, this site may not be subject to regular counting as no bird count data is available for this I-WeBS site. Dundalk Bay is the largest I-WeBS count site (code;0Z472) within the vicinity of the project site and, as detailed below for Dundalk Bay SPA, hosts a wide range of wintering waterbirds.

4.3 Ecology Site Visit

4.3.1 Habitats and Flora

The habitats within the Site are shown on Figure 4-2 below and are individually described in the following text.

GS2 Dry meadows and grassy verges

The proposed development site is predominantly composed of dry meadows and grassy verges (GS2), including two large man-made mounds which have been colonised by GS2 habitat. The mounded areas have been formed from site clearance works associated with the construction of the WuXi Biologic facility directly bordering the north of the proposed development site. The species diversity of the grasslands is low with rye grass and clovers being dominant. Other typical grassland species found in this area include dock (*Rumex crispus*), dandelion (*Taraxacum officinale*), thistle (*Cirsium vulgare*) and ragwort (*Jacobaea vulgaris*).

GA2 Amenity grassland (improved)

Surrounding the central WuXi Biologic facility are areas of amenity grassland (GA2). These grass verges are well managed / mown landscaped areas are of low ecological value and contain only common grass and herb species (bents, clovers etc.).

WL2 Treelines

On the west and south the proposed development site is bordered by treelines. These treelines predominantly consist of Ash (*Fraxinus excelsior*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus*) and ivy (*Hedera helix*). These treelines are dense, uniform with no gaps.

ED2 Spoil and bare ground

There are small sections of bare ground within central area of the proposed development site. These sections consist of areas of exposed rocky soil likely caused by vehicles on site.

BL3 Buildings and artificial surfaces

The Wuxi Biologic facility is comprised of large building with associated roads and carparks. Some of the artificial surfaces (roadways, pathways) associated with the WuXi Biologic facility are within the proposed development site.

FL8 Other artificial lakes and ponds

An attenuation pond is located to the south eastern side of the proposed development site, this lined pond was constructed as part of the WuXi Biologic facility. At the time of the survey this pond was dry but floral species bulrush (*Typha latifolia*) was present indicating the pond does receive and hold water.

Figure 4-2 below illustrates the locations of habitats within the project and Plates 4-1 – 4.6 below are site photographs of these habitats.

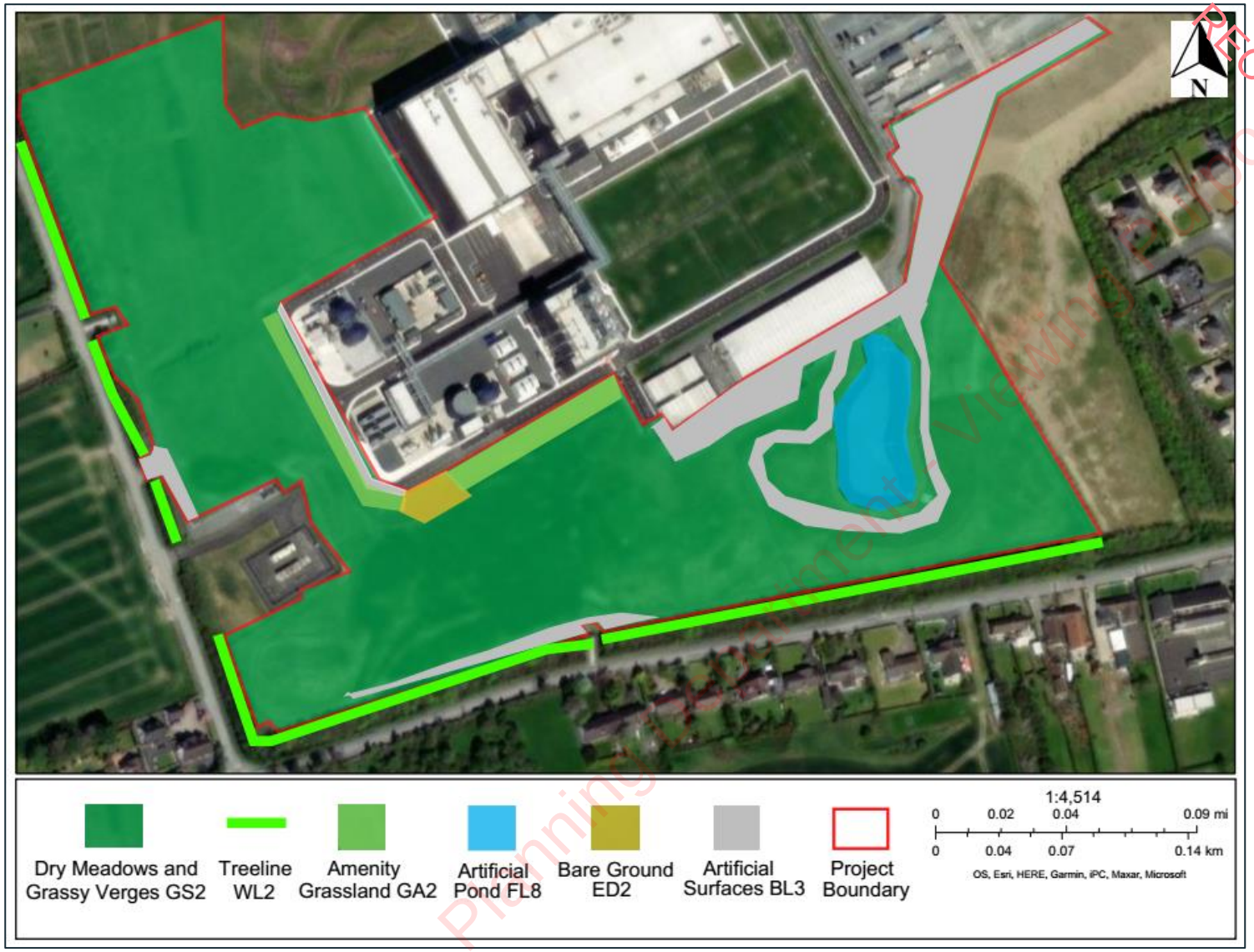


Figure 4-2 – Predominant habitats within and bordering the project site.

Plate 4-1 Dry meadows and grassy verges (GS2).

Plate 4-2 Amenity grassland (GA2).

Plate 4-3 Treelines (WL2).

Plate 4-4 Spoil and bare ground (ED2).

Plate 4-5 Buildings and artificial surfaces (BL3).

Plate 4-6 Artificial pond (FL8).

4.3.2 Fauna

Bats

Trees within the project site were inspected and assessed for potential bat roost features (holes, cracks, crevices etc.). No trees with bat roost potential were noted. The treelines bordering the western and southern boundaries of the project site have potential to act as a linear feature for commuting bats and the grassland area provided potential foraging habitat. No evidence of bats using the site were recorded during the survey.

Badgers and other large mammals

The Site and surrounding lands were surveyed for evidence of terrestrial mammal activity and mammal refugia (badger setts, fox dens etc.) during August 2023. Surveying for evidence of badger foraging activity and territorial range is preferable during the summer months (July / August) as badgers are more nocturnally active and as such there is greater potential for evidence of prints, faecal deposits, trails etc. No badger setts were found within the proposed project site extents nor within 30m of the project site boundary. The project site does not contain any mammal refugia (e.g. badger sett, fox den).

A hedgehog (*Erinaceus europaeus*) skin was found on the southern boundary of the site. This skin suggests predation of the animal in the area which may indicate foxes in the region.

Two hares (*Lepus* spp.) were seen within the project site during the 2023 survey near the eastern boundary beside the attenuation pond. This indicated that this species is using this site to forage but no evidence of resting areas for this species were found on site.

Birds

The bird species noted within the Site during the site surveys are Sparrow (*Passer domesticus*), House martin (*Delichon urbicum*), Kestrel (*Falco tinnunculus*), Swallow (*Hirundo rustica*) and Starling (*Sturnus vulgaris*).

The treeline encompassing the site provides valuable nesting and foraging habitat for a variety of bird species and the undisturbed GS2 grassland also provides foraging habitat for local passerine species. As noted on the site visit, kestrel was present on site suggesting the site has suitability for hunting for this or any other birds of prey in the area.

4.3.3 Invasive Species

The Site was surveyed for invasive plant species listed restricted under Section 49 of the Habitats Regulation (SI No. 477/2011, as amended). Species surveyed for included Japanese knotweed (*Fallopia japonica*) and associated hybrids, as well as other invasive plant species. Surveys were undertaken during August 2023 which is within the seasonally appropriate window to assess the Site for the presence of invasive plant species.

No evidence of legally restricted invasive plant species were recorded within the extents of the Site.

5. Connectivity to Natura 2000 Sites

5.1 Zone of Influence

The "Zone of Influence" of a plan, project or development is the area which may experience ecological effects as a result of its implementation, including any ancillary activities. The various impacts of a plan or project will each have their own characteristics, e.g. nature, extent, magnitude, duration etc. Accordingly, the area subject to each impact ("zone of impact") will vary depending on characteristics of the impact and the presence of pathways for its propagation. Ecological features within or connected to one or more zones of impact could, depending on their sensitivities, be affected by the plan or project under consideration. The area containing such features may be regarded as the Zone of Influence. As such, in establishing the Zone of Influence for a plan, project or development, regard must be had to the characteristics of its potential impacts, potential pathways for impacts and the sensitivities of ecological features in the receiving environment.

In its guidance on selecting which Natura 2000 sites to include in the AA Screening, *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities* (DEHLG, 2010a) recommends inclusion of sites in the following three categories: -

- Any Natura 2000 sites within or adjacent to the plan or project area,
- Any Natura 2000 sites within the Zone of Influence of the plan or project (generally within 15 km for plans, to be established on a case-by-case basis for projects, having regard to the nature, scale and location of the project, the sensitivities of the ecological receptors and the potential for in-combination effects), and
- Following the precautionary principle, any other Natura 2000 sites for which the possibility of significant effects cannot be excluded, e.g. for a project with hydrological impacts, it may be necessary to check the full extent of the catchment for Natura 2000 sites with water-dependent qualifying interests.

In addition, *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC* (EC, 2021) recommends consideration of Natura 2000 sites hosting fauna which could move to the project area or its zone(s) of impact, and the potential for the project to sever ecological connectivity within or between Natura 2000 sites. *Appropriate Assessment Screening for Development Management* (OPR, 2021) emphasises the importance of employing the source-pathway-receptor model (rather than arbitrary distances such as 15km) when selecting Natura 2000 sites for inclusion in the AA Screening.

The proposed project does not lie within any European site. There is no direct connectivity from the proposed project site any European sites via landscape features such as woodlands or treelines.

There are 5 no. European sites within the potential ZoI of the development project; 3 no. Special Areas of Conservation (SACs) and 2 no. Special Protection Areas (SPAs) for birds which are detailed in Table 5-1 below. Table 5-1 details these European sites, lists their qualifying interests and details potential connectivity between the project site and the European sites.

The nearest European sites are Dundalk Bay SAC and Dundalk Bay SPA which are located along the coastline ca. 2km east of the project Site. There is no direct connectivity from the project Site to Dundalk Bay SAC and Dundalk Bay SPA or any other European site via woodlands, treelines or any other vectors.

The proposed Site has no watercourses within or bordering its boundaries to provide indirect connectivity to any European site. The nearest watercourse is the Carnabreagh Stream approximately 700m west of the site on the opposite side of the motorway, this creates a physical barrier which separates the stream from the project site. Dundalk Bay is 2km away as such is sufficiently remote to negate any potential connectivity via groundwater pathways.

Table 5-1 - European sites within potential Zone of Influence of the proposed project.

Site Name and Code	Approximate Distance from project location	Qualifying Interests	Screening Comment
Dundalk Bay SAC (000455)[8]	2km east direct line distance.	➢ Estuaries [1130] ➢ Mudflats and sandflats not covered by seawater at low tide [1140] ➢ Perennial vegetation of stony banks [1220] ➢ *Salicornia* and other annuals colonising mud and sand [1310] ➢ Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] ➢ Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	No There is no direct overlap between the proposed works and Dundalk Bay SAC. There is no indirect connectivity between the project site and this SAC via watercourses, drains, ditches or any other vectors. The SAC is sufficiently remote to negate any groundwater linkage. The location, scale and duration of the proposed project is such that they will not contribute to direct or indirect impacts on habitats for which the SAC has been designated and do not have the potential to affect the conservation objectives of these habitats or species. This site is not considered further.
Dundalk Bay SPA (004026)[9]	2km east direct line distance.	➢ Great Crested Grebe (*Podiceps cristatus*) [A005] ➢ Greylag Goose (*Anser anser)* [A043] ➢ Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] ➢ Shelduck (*Tadorna tadorna*) [A048] ➢ Teal (*Anas crecca*) [A052] ➢ Mallard (*Anas platyrhynchos*) [A053] ➢ Pintail (*Anas acuta*) [A054] ➢ Common Scoter (*Melanitta nigra*) [A065] ➢ Red-breasted Merganser (*Mergus serrator*) [A069]	No There is no direct overlap between the proposed project site and this SPA. There is no indirect connectivity between the project site and this SPA via watercourses, drains, ditches or any other vectors. The SAC is sufficiently remote to negate any groundwater linkage. The proposed project is sufficiently remote that there is no risk of disturbance to waders and wildfowl using the SPA.

[8] https://www.npws.ie/protected-sites/sac/000455

[9] https://www.npws.ie/protected-sites/spa/004026

Site Name and Code	Approximate Distance from project location	Qualifying Interests	Screening Comment
		➢ Oystercatcher (*Haematopus ostralegus*) [A130] ➢ Ringed Plover (*Charadrius hiaticula*) [A137] ➢ Golden Plover (*Pluvialis apricaria*) [A140] ➢ Grey Plover (*Pluvialis squatarola*) [A141] ➢ Lapwing (*Vanellus vanellus*) [A142] ➢ Knot (*Calidris canutus*) [A143] ➢ Dunlin (*Calidris alpina*) [A149] ➢ Black-tailed Godwit (*Limosa limosa*) [A156] ➢ Bar-tailed Godwit (*Limosa lapponica*) [A157] ➢ Curlew (*Numenius arquata*) [A160] ➢ Redshank (*Tringa totanus*) [A162] ➢ Black-headed Gull (*Chroicocephalus ridibundus*) [A179] ➢ Common Gull (*Larus canus*) [A182] ➢ Herring Gull (*Larus argentatus*) [A184] ➢ Wetland and Waterbirds [A999]	Some species associated with Dundalk Bay SPA (e.g. geese, oystercatcher) are known to forage within agricultural lands outside the SPA site extents, however, the project site does not proffer suitable for foraging or roosting habitat for waterbirds and it is not a terrestrial site known for supporting roosting or foraging waterbirds. The location, scale and operation of the proposed project is such that they will not contribute to direct or indirect impacts on bird species for which the SPA has been designated and do not have the potential to affect the conservation objectives of these species. This site is not considered further.
Carlingford Mountain SAC (000453)[10]	9.9km north direct line distance	➢ Northern Atlantic wet heaths with *Erica tetralix* [4010] ➢ European dry heaths [4030] ➢ Alpine and Boreal heaths [4060] ➢ Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] ➢ Transition mires and quaking bogs [7140] ➢ Alkaline fens [7230] ➢ Siliceous scree of the montane to snow levels *(Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110]	No There is no direct overlap between the proposed works and Carlingford Mountain SAC. There is no indirect connectivity between the project site and this SAC via watercourses, drains, ditches or any other vectors. The location, scale and duration of the proposed project is such that they will not contribute to direct or indirect impacts on habitats for which the SAC has been designated and do

[10] https://www.npws.ie/protected-sites/sac/000453

Site Name and Code	Approximate Distance from project location	Qualifying Interests	Screening Comment
		➢ Calcareous rocky slopes with chasmophytic vegetation [8210] ➢ Siliceous rocky slopes with chasmophytic vegetation [8220]	not have the potential to affect the conservation objectives of these habitats or species. This site is not considered further.
Stabannan-Braganstown SPA (004091)[11]	8.8km south direct line distance	➢ Greylag Goose (Anser anser) [A043]	No There is no direct overlap between the proposed project site and this SPA. There is no indirect connectivity between the project site and this SPA via watercourses, drains, ditches or any other vectors. The proposed project is sufficiently remote that there is no risk of disturbance to waders and wildfowl using the SPA. The project site does not proffer suitable for foraging or roosting habitat for geese. The location, scale and operation of the proposed project is such that they will not contribute to direct or indirect impacts on bird species for which the SPA has been designated and do not have the potential to affect the conservation objectives of these species. This site is not considered further.
Slieve Gullion SAC (UK0030277)[12]	14.1km north direct line distance	➢ European dry heaths [4030]	No There is no direct overlap between the proposed works and Slieve Gullion SAC. There is no indirect connectivity between the project site and this SAC via watercourses, drains, ditches or any other vectors.

[11] https://www.npws.ie/protected-sites/spa/004091

[12] https://sac.jncc.gov.uk/site/UK0030277

Site Name and Code	Approximate Distance from project location	Qualifying Interests	Screening Comment
			The location, scale and duration of the proposed project is such that they will not contribute to direct or indirect impacts on habitats for which the SAC has been designated and do not have the potential to affect the conservation objectives of these habitats or species. This site is not considered further.

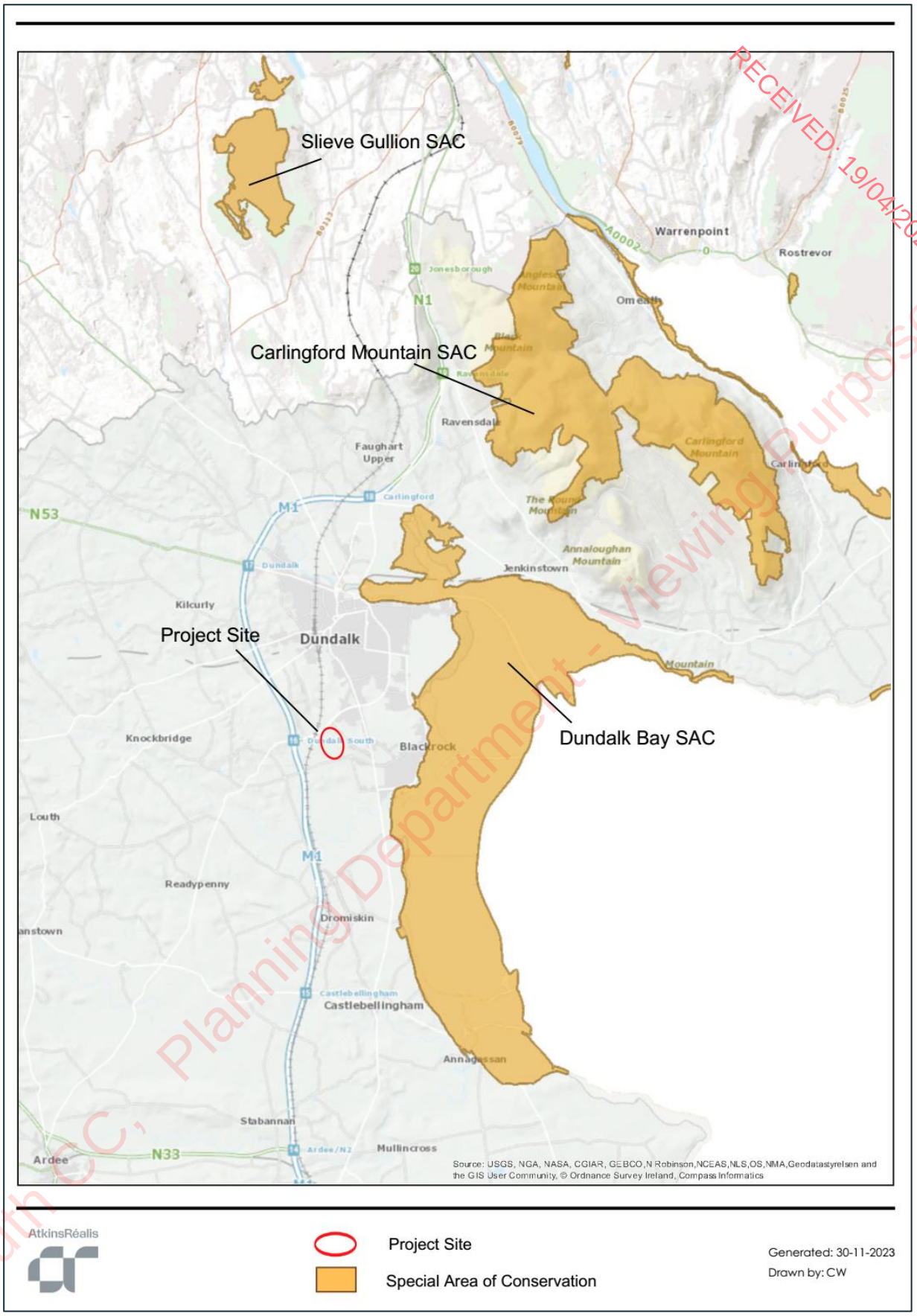


Figure 5-1 - SACs within the ZoI of the Proposed Project.

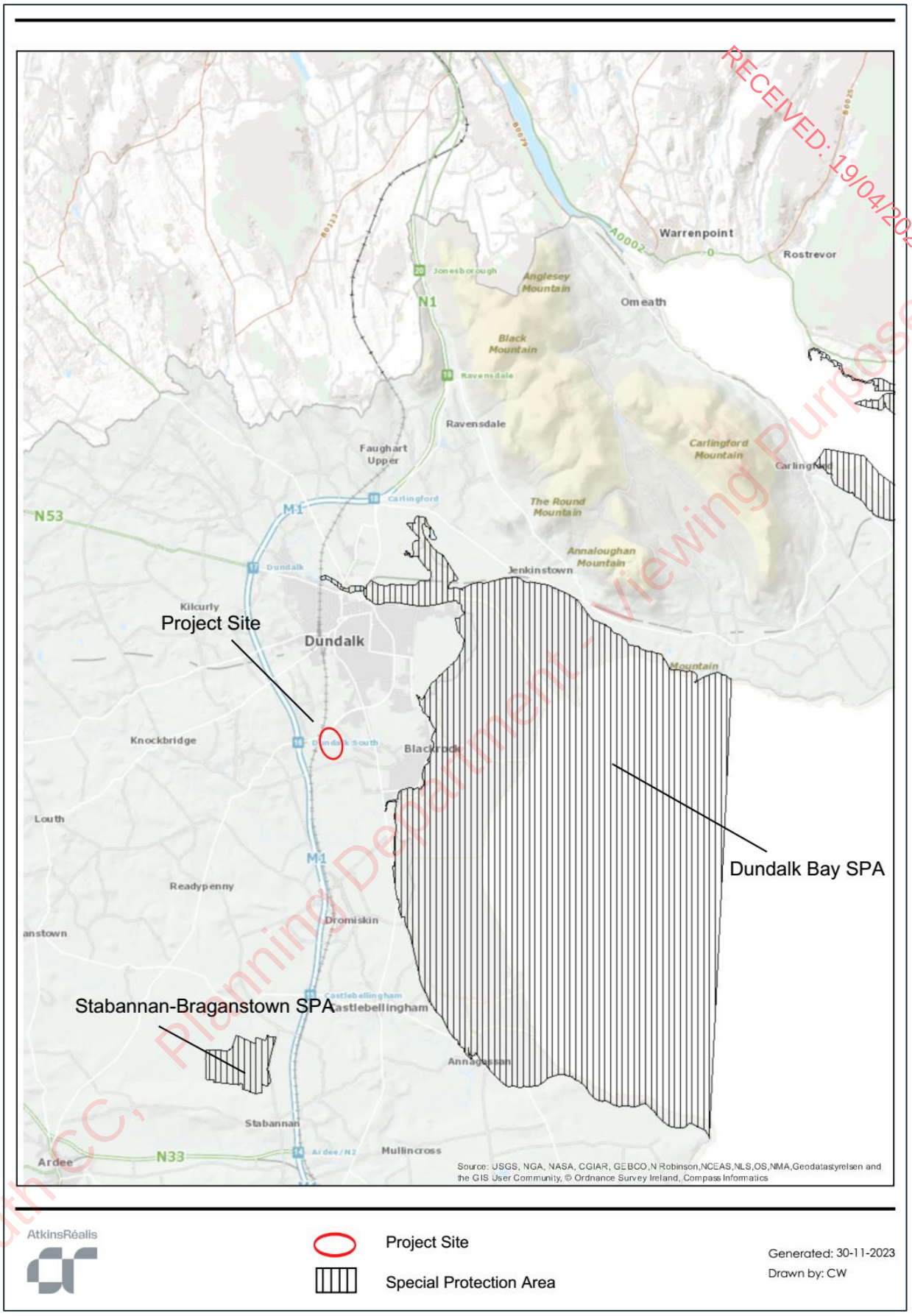


Figure 5-2 – SPAs within the ZoI of the Proposed Project.

5.2 Identification of Potential Impacts on European Sites

Construction Phase

The proposed project works are not being undertaken within the extents of or adjacent to any European site. There is no connectivity between the proposed project site and any of the identified Special Areas of Conservation or Special Protection Areas for birds through physical means such as hedgerows and treelines. There will be no direct impacts to European sites; i.e. no land take or the permanent removal of habitat supporting qualifying interest and ecological features of the designated sites.

Similarly there is no indirect connectivity from the project site to any European site via surface water features, groundwater pathways or any other vectors. A such there will be no indirect impacts on any habitats or species accommodated within European sites via indirect pathways.

The project site is sufficiently remote (ca. 2km) from Dundalk Bay so as not to cause any disturbance to waterbirds accommodated within Dundalk Bay SPA during the construction phase. The proposed project will not impact upon the migratory flight paths of SPA species nor restrict any mobility between wetland sites.

Potential impacts on ex-situ SPA waterbirds has also been considered. Some species associated with Dundalk Bay SPA (e.g. geese, oystercatcher) are known to forage within agricultural lands outside the SPA site extents, however, the project site is not a terrestrial site known for supporting roosting or foraging waterbirds and in addition, the habitats within the project site are not suitable for field feeding waterbird species.

Given the lack of any direct or indirect connectivity to any European sites, and given the location, scale and nature of the proposed project, there will be no likely significant effects on any European site during the construction phase of the proposed project via hydrological or any other pathways. Similarly, given the location, scale and nature of the proposed project there will be no likely significant effects to ex-situ SPA waterbirds.

Operational Phase

There is no direct connectivity from the proposed development site to any European sites and as such during the operational phase of the proposed development there will be no direct impacts on European sites.

During the operational phase, effluent arising from the WuXi Biologics facility will be treated by the new effluent balancing and resource recovery system which will generate solids (sludge) and treated water. Any solids associated with the treatment process will removed from site to a licenced waste facility. Treated waters will be discharged to the local sewer which connects to Dundalk WwTP. Following treatment, discharge from the WwTP is to the Irish Sea (Dundalk Bay SAC/SPA). Discharge from the WwTP is not anticipated to have any impact on any habitats or species associated with any designated conservation site given that it will be treated and given the dilution and dispersal that will occur within the Irish Sea. The core principle of the design of the proposed development will be to maintain compliance at the Industrial Emissions Directive (IED) discharge point, within the licence requirements (P1122-01). To comply, the design has been developed to include monitoring and recycling of flow capabilities should the system require additional treatment.

During the operational phase, surface water run-off (rainfall) from the proposed development site will either be treated and attenuated via the exiting WuXi Biologics facility drainage infrastructure (silt traps, interceptors) before discharge to a public sewer or will be redirected to the new effluent balancing and resource recovery system before discharge to a public sewer.

Given the levels of treatment occurring to water emissions from the proposed development and that all discharged waters are to the public sewer (and ultimately Dundalk WwTP) no direct or indirect adverse effects are anticipated on any European sites during the operational phase of the proposed development. Once the treatment process is operational reducing the risk of overloading the WwTP is considered a positive effect of the development over the long term.

No direct or indirect impacts will occur on internationally designated conservation areas during the operational phase of the proposed project.

5.3 In-combination Effects

5.3.1 Requirement for Assessment

The requirement for AA arising out of Article 6(3) of the Habitats Directive covers plans and projects that, "*either individually or in combination with other plans or projects*", are likely to have a significant effect on one or more Natura 2000 sites. This means that AA is required for any plan or project that, in combination with other plans or projects, would have a significant effect on one or more Natura 2000 sites, irrespective of the presence or absence of such effects from that plan or project on its own. Therefore, regardless of the significance of the effects of the plan or project individually, the potential for significant effects in combination with other plans and projects must be considered in all cases.

5.3.2 Approach and Methodology

The objective of this requirement is to capture significant effects potentially arising from the cumulation or other interaction of non-significant effects from multiple plans and projects. Consequently, the assessment of potential in-combination effects is not a pair-wise assessment, rather, it considers the totality of the effects arising from all plans and projects affecting the Natura 2000 site(s) in question. In identifying the plans and projects to be included in this assessment, it is important to define an appropriate geographical scope and timescale over which potential in-combination effects are to be considered and the sources of information to be consulted, as described below. It is also important to consider the nature of the interactions between effects, which may be additive, antagonistic, synergistic or complex.

5.3.3 Geographical Scope

In defining the geographical scope for identifying potential in-combination effects, it is important to remember that effects are evaluated in view of the conservation objectives of the Natura 2000 site(s) concerned. As such, two or more effects relating to the same conservation objective for a given Natura 2000 site would combine even if their geographical extents did not overlap. For example, the loss of a small area of an Annex I habitat type listed as a qualifying interest of a Natura 2000 site would combine with the loss of an entirely unconnected area of the same habitat type from a remote part of the same site to produce an in-combination effect, the significance of which would need to be evaluated in view of the relevant conservation objective. On that basis, the scope of the assessment of in-combination effects extends to all plans and projects affecting the same conservation objectives as the plan or project under consideration, irrespective of whether those effects are significant or not.

In this case, however, given the scale of the Proposed Development and sensitivities of the Natura 2000 sites in its ZoI, it was deemed most appropriate to include areas in close proximity to the proposed development and its ZoI (as described in Section 6.1) within the geographical scope for identifying potential in-combination effects.

5.3.4 Timescale

The timescale over which potential in-combination effects were considered in this case covered plans and projects from 5 years ago (i.e. 2018) to the present and all reasonably foreseeable future plans and projects, i.e. published draft plans and projects which are already in the planning system or have received planning permission.

5.3.5 Sources of Information

The following sources of information were consulted to gather information on other plans and projects:

- Louth County Council Planning Data viewed through;
- An Bord Pleanála Planning Applications viewed through; https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=d7d5a3d48f104ecbb206e7e5f84b71f1
- Louth County Development Plan 2021-2027

- Transport Infrastructure Ireland[13]
- Irish Water[14]

5.3.6 Assessment

Louth County Development Plan 2021-2027 sets out policies and objectives for the development of the district. The plan aims to promote the sustainable development and improvement of the economic, environmental, cultural and social aspects of the county. The County Development Plan also requires that any developments must be subject to the AA process and that permitted developments comply with the requirements of the Water Framework Directive, the relevant River Basin Management Plans and the Habitats Directive. A Strategic Environmental Assessment (SEA) was prepared for the County Development Plan and it went through the Appropriate Assessment Process. The findings of which were integrated into the objectives of the Plan resulting in a plan that afford high levels of protection to the environment and European sites.

A review of Transport Infrastructure Ireland (TII) publicly available planned projects[15] identified no major road project within 10km of the project site. Within Dundalk town there is 1no. road project; Mount Avenue Link Road, which is currently under construction. This road project will be completed in advance of the proposed treatment facility and as such the two projects will not act in-combination.

A review of Uisce Éireann (Irish Water) projects[16] identifies no water project within 2km of the proposed project. Uisce Éireann have a number of wastewater network upgrade projects in Dundalk town. These projects will increase the efficiency and capacity of the wastewater network and as such will act in combination with the proposed project in a positive way.

A search of the Louth County Council Planning Search site was conducted in December 2023 to determine if there are any granted developments within the vicinity of the proposed project which could act in combination with the project to give rise to cumulative impacts. (last accessed 05/12/2023). Near the proposed works, projects that have been granted planning permission include retention of existing developments, typical extensions to domestic dwellings or the construction of new domestic dwellings. Regarding potential impacts to water quality, these projects will have to comply with the EPA's Code of Practice for Wastewater Treatment Systems for Single Houses (EPA, 2009, 2018). These developments have conditions attached to their planning permission relating to sustainable development, such as siting of septic tanks, foul surface water and effluent drainage facilities, and clean surface water run-off drainage facilities. Therefore, it is not anticipated that the developments that have been granted permission will have any significant effects in combination with the proposed project.

Key developments which shall be considered are large-scale developments in the region of the proposed project, there are 16 no. of these developments which have been further assessed in terms of in-combination effects with the proposed project and are presented in Table 5-2 below.

It is considered that there are no An Bord Pleanála or Council approved developments or projects that will act in combination with the proposed project to give rise to significant in-combination effects any European site.

[13] https://www.tii.ie/projects/

[14] https://www.water.ie/projects/

[15] https://www.tii.ie/public-transport/projects-and-improvements/

[16] https://www.water.ie/projects/?map=our-projects&id=627

Table 5-2 - Granted developments in the vicinity of the proposed project.

Planning Ref	Decision Date	App. Name	Location	Description	Assessment
22127	14/04/2022	Groveview Builders Ltd	Haggardstown Dundalk Co Louth	The development will consist of the following; In the eastern parcel measuring 0.89ha, construction of 18no. 2 storey dwellings comprising 1no. detached 5-bedroom house, 5 no. detached 4-bedroom houses and 12 no. semi detached 4-bedroom houses. In the western parcel measuring 1.64 ha, construction of 35 no. 2 storey dwellings comprising 3 no. detached 4-bedroom houses, 23 no. semi-detached 4-bedroom houses and 9 no. semi-detached 3-bedroom houses.	Based on the location and nature of this project, cumulative impacts associated with the proposed project on the receiving environment are unlikely.
LCC Ref: 2360257 approved	20/09/2023	Groveview Builders Ltd.	Raynoldstown Village, Haynestown, Dublin Road, Dundalk, Co. Louth	Permission for development to consist of 96 houses and all associated ancillary site development works, boundary treatments, landscaping and open spaces on lands of circa 7.18Ha. (Previous Permission 03/1754) with existing vehicular and pedestrian access from the Dublin Road via The Boulevard, Raynoldstown Village, Haynestown, Dublin Road, Dundalk, Co. Louth.	This project has been subject to the Appropriate Assessment Screening process which concludes; '*Consequently, there will be no risk of adverse effects on Qualifying Interest habitats or species, nor the attainment of specific conservation objectives, either alone or in-combination with other plans or projects, for the relevant Natura 2000 sites*.' – Forest, Environmental Research and Services Ltd. Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site.
LCC Ref: 22688 approved	06/07/2023	Groveview Builders Ltd.	Raynoldstown Village, Haynestown, Dublin Road,	Permission for the construction of 65 houses and all associated ancillary site development works, boundary treatments, landscaping and open spaces on lands of circa 2.50 ha (Previous Permission 03/1754) with existing vehicle and pedestrian access from the Dublin	This project has been subject to the Appropriate Assessment Screening process which concludes; '*Consequently, there will be no risk of adverse effects on Qualifying Interest habitats or species, nor the attainment of specific conservation*

			Dundalk, Co Louth	Road via The Boulevard and Green Gates Manor Avenue.	*objectives, either alone or in-combination with other plans or projects, for the relevant Natura 2000 sites*.' – Forest, Environmental Research and Services Ltd. Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site.
LCC Ref: 238 approved	17/04/2023	Groveview Builders Ltd.	Marlbog Road, Haggardstown Dundalk, Co Louth	Permission to amend approved development (Ref. no. 22/127) on a parcel of land with a site area of 1.64 hectares at the western extent of the Marlmount Housing Development, which includes revisions to the site layout and a reduction in the number of dwellings from 35no. units to 31no. units.	Due to the location of the scheme, ca. 490m east of the proposed development it is unlikely there will be significant cumulative effects during construction and/ or operation. Therefore, no cumulative significant effects are likely to occur.
LCC Ref: 22583 approved	17/02/2023	Groveview Builders Ltd.	Haynestown, Dublin Road, Dundalk, Co Louth	Permission for the construction of 55 houses and all associated ancillary site development works, boundary treatments, landscaping and open spaces on lands of circa 2.08HA. (Previous Permission 03/1754) with existing vehicular and pedestrian access from the Dublin Road on sites 2-52 even numbers inclusive and 1-41 odd numbers inclusive, The Boulevard and sites 1-8 inclusive, Green Gates Manor Avenue, Raynoldstown Village. This application is accompanied by a Natura Impact Statement **Significant further information received on 20/12/2022 including addiitional house type, relocation of vehicular access from The Boulevard to serve sites 10-52 inclusive even numbers, amended red line boundary (new red line area measures c.3.05 Ha.) and additional technical information regarding the planning application.	This project has been subject to the Appropriate Assessment Screening process which concludes; '*Consequently, there will be no risk of adverse effects on Qualifying Interest habitats or species, nor the attainment of specific conservation objectives, either alone or in-combination with other plans or projects, for the relevant Natura 2000 sites*.' – Forest, Environmental Research and Services Ltd. Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site.

LCC Ref: 2364 - approved	06/04/2023	McParland Bros Builders Limited	Bellfield, Haggardstown Dundalk, Co Louth	Large-scale residential development - Permission for an LRD consisting of a total of 183 no. residential units along with provision of creche, provision of associated car parking at surface level, provision of electric vehicle charging points with associated infrastructure. Associated bicycle storage facilities and bin storage facilities. Use of existing access from Dublin Road with associated upgrade works to the existing internal access road to facilitate vehicular, pedestrian and cycle access. Internal access roads and footpaths and associated connections to the existing Bellfield residential estate. Residential communal open space areas with formal play area along with hard and soft landscaping, public lighting, boundary treatments including walls, railing and fencing. ESB substation. Internal site works and attenuation systems and all ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul, water, gas and ESB networks.	This project has been subject to the Appropriate Assessment Screening process which concludes; '*It may therefore be concluded that the proposed project, with the implementation of the prescribed mitigation measures, will not give rise to significant impacts, either individually or in combination with other plans and projects, in a manner that adversely affects the integrity of any designated site within the Natura 2000 network.*' – Flynn Furney Environmental Consultants Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site.
LCC Ref: 2360205 Pending	Further Infor Requested	Haggardstown Landscaping Ltd	Haynestown, Dundalk, Co. Louth	Permission for proposed works to lands for the purposes of a logistics yard, for the existing garden centre, including new vehicular entrance, gates, erection of boundary fencing and the installation of a permeable gravel yard surface	Due to the nature of the scheme, and its located to the north of the proposed development it is unlikely there will be significant cumulative effects during construction and/ or operation. Therefore, no cumulative significant effects are likely to occur.
ABP Ref: 305468	09/11/2020	John Lambe	Rossmakay, Knockbridge, Co. Louth	Construction of 1 pig house together with all ancillary structures, (to include meal storage bins).	This project has been subject to the Appropriate Assessment Screening process which concludes; *'it is considered that the proposed works do not have the potential to significantly affect the conservation objectives or qualifying interests of the Dundalk Bay SAC/SPA. The integrity of the sites will not be*

					adversely affected' – C.L.W Environmental Planners Ltd. Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site.
ABP Ref: 304782	07/10/2019	Kingsbridge Consultancy Limited (Applicant)	Blackrock Road, Haggardstown Blackrock, Dundalk, Co. Louth.	483no. residential units (258no. houses, 225no. apartments), childcare facility and associated site works.	This project has been subject to the Appropriate Assessment Screening process which concludes; '*The proposed development will not interfere with any key relationships or elements within the environment which define and control the structure and function of any Natura 2000 sites and will not result in significant adverse impacts on the integrity of the Natura 2000 network or any associated/underlying designations*.' - Corvus Environmental Consulting Ltd. Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site.
ABP Ref: 2360474	Decision due 10/06/2024	Marina Quarter Limited	Haggardstown Dundalk, Co. Louth	Large-Scale residential development on a site of ca. 18.54 hectares for the construction of 502no. residential units, a creche and all associated site works including strategic amenity, space, access, parkin, circulation infrastructure.	This project has been subject to the Appropriate Assessment Screening process which concludes; '*it has been concluded, beyond reasonable scientific doubt, that the Proposed Development will have no significant adverse effects on the QIs, SCIs and on the integrity and extent of Dundalk Bay SAC (000455) and Dundalk Bay SPA (004026). Accordingly, the Proposed Development will not adversely affect the integrity of any relevant European site.'* Given that no likely significant effects are anticipated from either project, there is no potential

					for the 2 no. projects to give rise to cumulative impacts which could affect any European site.
Cocklehill Wastewater Pump Station		Uisce Eireann	Cocklehill, Dundalk	The works involve the upgrade of Cocklehill wastewater pump station and is part of a project to improve the capacity of the existing wastewater network in the area and improve operational performance. These works will involve the upgrading of the existing pump station located at the end of Carrig Ard cul-de-sac.	Due to the location of the scheme, ca. 1.3km southeast of the proposed development it is unlikely there will be significant cumulative effects during construction and/ or operation. Therefore, no cumulative significant effects are likely to occur.
LCC Planning Ref: 2360372 – approved	19/11/2023	Pentagon Technologies (Ireland) Limited	Dundalk Science & Technology Park Mullagharlin Road Mullagharlin, Dundalk	Modifications to the existing building's façade and roof,together with associated amendments to both soft and hard landscaping & paving and all other ancillary site works.	This project has been subject to the Appropriate Assessment Screening process which concludes: '*It can 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 a European site. An appropriate assessment is not, therefore, required*.' – Moore Group Environmental Services Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site..
2360455	16/01/2024 Incomplete application	Louth & Meath Education & Training Board	Dublin Road (West) Haggardstown	A new two storey, 4,448.5 sq. m. Education Training extension including a link at both levels to the south of existing AMTCE Building, 77 car parking spaces, 20 bike parking spaces and associated site and landscaping works.	Based on the location and nature of this project, cumulative impacts associated with the proposed project on the receiving environment are unlikely.
19171	24/06/2019	Van Dijk Architects	Inner Relief Road (R215) and Dublin Road (R132)	The development will consist 142no apartments (58no. 1-bed, 64no. 2-beds and 20no. 3-beds) in five buildings, ranging in height from two to five storeys on a site measuring 2.16 ha including a creche (122sq.m)	Based on the location and nature of this project, cumulative impacts associated with the proposed project on the receiving environment are unlikely.

				together with parking roadways and ancillary site works including works to public road.	
LCC Planning ref: 2360356 - pending	06/02/2024 Further info received	WuXi Biologics	Wuxi Biologics Ireland Limited, Dundalk Science And Technology Park, Mullagharlin, Dundalk, A91 X56F	Permission to erect a 3MW Wind Turbine, located at the East area of our existing biopharmaceuticals plant; the Wind Turbine will be installed with a hub height of 80 meters and a blade radius of 45 meters, with underground ducting connecting to the existing ESB substation. The application relates to the development which comprises of an activity which holds an Industrial Emissions Discharge (IED) Licence (Licence No. P1122-01)	This project has been subject to the Appropriate Assessment Screening process which concludes: '*A Stage 2 (Appropriate Assessment) is therefore not required to assist the competent authority (Louth County Council) in undertaking an Appropriate Assessment of the potential for adverse effects from the Proposed Development, alone or in-combination with other plans and projects, on the integrity of this European site*.' – Veon Ecology Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site.
LCC Planning Ref: 23419 - pending	15/11/2023 Further information requested	Ion Renewables Limited	Mullagharlin, Dundalk, Co Louth	Permission for (i) Construction of a Stationary Battery Storage Facility which includes eighty four 20 ft containers and fourteen medium voltage transformers; (ii) Construction of single storey substation building and bund to facilitate transformer plant along with a new internal access road to connect to the existing road network within the Xerox Technology Park lands; (iii) All associated site and development works	This project has been subject to the Appropriate Assessment Screening process which concludes: '*It is therefore concluded that the proposed development in conjunction with these measures will not present any direct or indirect detrimental impact, either alone or in combination with any other plan or project, upon the integrity and qualifying interests of the protected species or habitats with or hinder achieving the conservation objectives of the Dundalk Bay SPA and SAC'* – EHP Services Given that no likely significant effects are anticipated from either project, there is no potential for the 2 no. projects to give rise to cumulative impacts which could affect any European site.

5.4 Likelihood of Significant Effects on Natura 2000 Sites

The proposed project does not lie within any European site and there is no direct connectivity to any SAC or SPA. There is no indirect connectivity from the project site via surface water, groundwater or any other vectors. During the operational phase waste water will go the existing foul sewer for treatment at Dundalk Wastewater Treatment plant.

Given the lack of any connecting pathways to any European sites either during the construction or operational phases of the proposed project and considering the nature, scale and location of the proposed project, there will be no likely significant effects on any European site as a result of the proposed project.

5.5 Consideration of Findings

This Appropriate Assessment Screening Report has examined the details of the proposed Effluent Balancing and Resource Recovery System, and the European sites in their Zone of Influence. It has analysed the potential impacts of the proposed works on the receiving natural environment and evaluated their effects, both individually and in combination with other plans and projects, in view of the conservation objectives of the relevant European sites.

This Screening for Appropriate Assessment report is based on the best available scientific information. It is concluded by the authors of this report that the proposed Effluent Balancing and Resource Recovery System, individually or in combination with other plans and project, will not give rise to likely significant effects on any European sites. Thus, it is recommended that it is not necessary for the proposed project to proceed to Appropriate Assessment.

This conclusion and recommendation is based on current and available information. Should the scope, nature or extent of the proposed project change, a new Screening for Appropriate Assessment report will be required.

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