

● ● ● ● ● **LAND PLANNING & DESIGN**

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Leixlip WTP
Leixlip
Co. Dublin

Landscape and Visual Impact Assessment

Prepared for
Irish Water

by
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1 INTRODUCTION

This document has been prepared by Cunnane Stratton Reynolds Ltd (CSR), landscape architects and planners on behalf of Irish Water.

The Landscape and Visual Impact Appraisal (LVIA) was informed by a desktop study and a survey of the site and its receiving environment in July 2021. The report identifies and discusses the landscape and visual constraints and opportunities concerning the proposed upgrades to existing water treatment plant at Leixlip Water Treatment Plant, Co. Dublin.

2 METHODOLOGY

2.1 Definition of Landscape

Ireland is a signatory to the European Landscape Convention (ELC). The ELC defines landscape as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'. This definition is important in that it expands beyond the idea that landscape is only a matter of aesthetics and visual amenity. It encourages a focus on landscape as a resource in its own right - a shared resource providing a complex range of cultural, environmental and economic benefits to individuals and society.

As a cultural resource, the landscape functions as the setting for our day-to-day lives, also providing opportunities for recreation and aesthetic enjoyment and inspiration. It contributes to the sense of place experienced by individuals and communities and provides a link to the past as a record of historic socio-economic and environmental conditions.

As an environmental resource, the landscape provides habitat for fauna and flora. It receives, stores, conveys and cleans water, and vegetation in the landscape stores carbon and produces oxygen. As an economic resource, the landscape provides the raw materials and space for the production of food, materials (e.g. timber, aggregates) and energy (e.g. carbon-based fuels, wind, solar), living space and for recreation and tourism activities.

2.2 Forces of Landscape Change

Landscape is not unchanging. Many different pressures have progressively altered familiar landscapes over time and will continue to do so in the future, creating new landscapes. For example, within the receiving environment, the environs of the proposed development have altered over the last thousand years, from wilderness to agriculture and settlement or townscape.

Many of the drivers for change arise from the requirement for development to meet the needs of a growing population and economy. The concept of sustainable development recognises that change must and will occur to meet the needs of the present, but that it should not compromise the ability of future generations to meet their needs. This involves finding an appropriate balance between economic, social and environmental forces and values.

The reversibility of change is an important consideration. If change must occur to meet a current need, can it be reversed to return the resource (in this case, the landscape) to its previous state to allow for development or management for future needs.

Climate change is one of the major factors likely to bring about future change in the landscape, and it is accepted to be the most serious long-term threat to the natural environment, as well as economic activity (particularly primary production) and society. The need for climate change mitigation and adaptation, which includes the management of water and more extreme weather and rainfall patterns, is part of this.

2.3 Guidance

Landscape and Visual Appraisal and Impact Assessment (LVIA) is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity. As this report is not part of an Environmental Impact Assessment Report (EIAR), and is instead a standalone Landscape and Visual Appraisal, the report does not include a statement of the significance of effects. However the process by which the landscape and visual effects are identified is similar to that of a Landscape and Visual Assessment carried out as part of an EIAR.

The methodology for assessment of the landscape and visual effects is informed by the following key guidance documents, namely:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition 2013, published by the UK Landscape Institute and the Institute of Environmental Management and Assessment (hereafter referred to as the GLVIA).
- Guidelines (Draft) on the Information to be Contained in Environmental Impact Statements, 2017, published by the Environmental Protection Agency.

Key Principles of the GLVIA

Use of the Term 'Effect' vs 'Impact'

The GLVIA advises that the terms 'impact' and 'effect' should be clearly distinguished and consistently used in the preparation of an LVIA.

'Impact' is defined as the action being taken. In the case of the proposed development, the impact would include the construction of the buildings and associated boundaries and external areas.

'Effect' is defined as the change or changes resulting from those actions, e.g. a change in landscape character, or changes to the composition, character and quality of views in the receiving environment. This report focusses on these effects.

Assessment of Both 'Landscape' and 'Visual' Effects

Another key distinction to make in a LVIA is that between landscape effects and the visual effects of development.

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

Views and 'visual amenity' refer to the interrelationship between people and the landscape. The GLVIA prescribes that effects on views and visual amenity should be assessed separately from landscape, although the two topics are inherently linked. Visual assessment is concerned with changes that arise in the composition of available views, the response of people to these changes and the overall effects on the area's visual amenity.

2.4 Methodology for Landscape Assessment

In Section 6 of this report the landscape effects of the development are assessed. The nature and scale of changes to the landscape elements and characteristics are identified, and the consequential effect on landscape character and value are discussed. Trends of change in the landscape are considered.

The assessment of significance of the effects takes account of the sensitivity of the landscape resource and the magnitude of change to the landscape which resulted from the development.

Sensitivity of the Landscape Resource

Landscape sensitivity is a function of its land use, landscape patterns and scale, visual enclosure and distribution of visual receptors, scope for mitigation, and the value placed on the landscape. It also relates to the nature and scale of development proposed. It includes consideration of landscape values as well as the susceptibility of the landscape to change.

Landscape values can be identified by the presence of landscape designations or policies which indicate particular values, either on a national or local level. In addition, a number of criteria are used to assess the value of a landscape. These are described further in below.

Landscape susceptibility is defined in the GLVIA as *the ability of the landscape receptor to accommodate the proposed development without undue consequences for the maintenance of the baseline scenario and/or the achievement of landscape planning policies and strategies*. Susceptibility also relates to the type of development – a landscape may be highly susceptible to certain types of development but have a low susceptibility to other types of development.

For the purpose of assessment, three categories are used to classify the landscape sensitivity of the receiving environment.

Sensitivity is therefore a combination of Landscape value and Susceptibility.

Table 1: Categories of Landscape Sensitivity

Sensitivity	Description
High	Areas where the landscape exhibits strong, positive character with valued elements, features and characteristics. The character of the landscape is such that it has limited/low capacity for accommodating change in the form of development. These attributes are recognised in landscape policy or designations as being of national, regional or county value and the principal management objective for the area is conservation of the existing character.
Medium	Areas where the landscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong. The character of the landscape is such that there is some capacity for change in the form of development. These areas may be recognised in landscape policy at local or county level and the principal management objective may be to consolidate landscape character or facilitate appropriate, necessary change.
Low	Areas where the landscape has few valued elements, features or characteristics and the character is weak. The character of the landscape is such that it has capacity for change; where development would result in a minor change or would make a positive change. Such landscapes are generally unrecognised in policy and where the principal management objective is to facilitate change through development, repair, restoration or enhancement.

Magnitude of Landscape Change

The magnitude of change is a factor of the scale, extent and degree of change imposed on the landscape with reference to its key elements, features and characteristics (also known as 'landscape receptors'). Four categories are used to classify magnitude of landscape change.

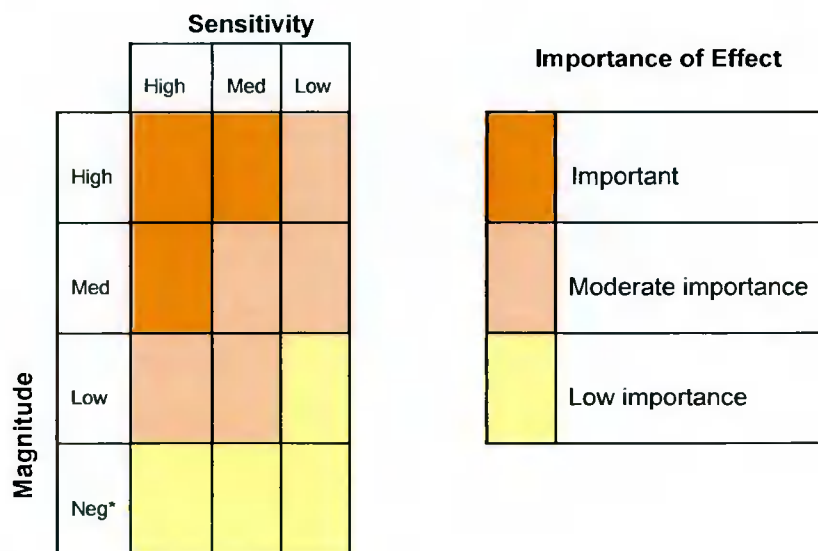
Table 2: Categories of Landscape Change

Magnitude of Change	Description
High	Change that is moderate to large in extent, resulting in major alteration or compromise of important landscape receptors, and/or introduction of large elements considered uncharacteristic in the context. Such development results in change to the character of the landscape
Medium	Change that is moderate in extent, resulting in partial loss or alteration to key elements features or characteristics of the landscape, and/or introduction of elements that may be prominent but not necessarily substantially uncharacteristic in the context. Such development results in change to the character of the landscape.
Low	Change that is moderate or limited in scale, resulting in minor alteration to key elements features or characteristics of the landscape, and/or introduction of elements that are not uncharacteristic in the context. Such development results in minor change to the character of the landscape.
Negligible	Change that is limited in scale, resulting in no alteration to key elements features or characteristics of the landscape key elements features or characteristics of the landscape, and/or introduction of elements that are characteristic of the context. Such development results in no change to the landscape character.

Landscape Effects

A conclusion on the relative importance of landscape effects (either on physical landscape elements or on the landscape character) can be arrived at by combining the landscape sensitivity and the magnitude of change. This is illustrated in Figure 1. below.

As this report is not part of an Environmental Impact Assessment Report (EIAR), and is instead a standalone Landscape and Visual Appraisal, the report does not include a statement of the significance of effects.



* Negligible

Figure 1. Guide to the classification of the level of effects

The matrix above is used as a guide only. The assessor also uses professional judgement informed by their expertise, experience and common sense, to arrive at a classification of significance that is reasonable and justifiable.

Landscape effects are also classified as positive, neutral or negative/adverse (See definitions in Section 2.6). Development has the potential to improve the environment as well as damage it. In certain situations, there might be policy encouraging a type of change in the landscape, and if a development achieves the objective of the policy the resulting effect might be positive, even if the landscape character is profoundly changed.

2.5 Methodology for Visual Assessment

Visual appraisal considers the changes to the composition of views, the character of the views, and the visual amenity experienced by visual receptors. Visual receptor sensitivity is a function of two main considerations:

- *Susceptibility of the visual receptor to change.* This depends on the occupation or activity of the people experiencing the view, and the extent to which their attention or interest is focussed on the views or visual amenity they experience at that location.

Visual receptors most susceptible to change include residents at home, people engaged in outdoor recreation focused on the landscape (e.g. trail users), and visitors to heritage or other attractions and places of community congregation where the setting contributes to the experience.

Visual receptors less susceptible to change include travellers on road, rail and other transport routes (unless on recognised scenic routes which would be more susceptible), people engaged in outdoor recreation or sports where the surrounding landscape does not influence the experience, and people in their place of work or shopping where the setting does not influence their experience.

- *Value attached to the view.* This depends to a large extent on the subjective opinion of the visual receptor but also on factors such as policy and designations (e.g. scenic routes, protected views), or the view or setting being associated with a heritage asset, visitor attraction or having some other cultural status (e.g. by appearing in arts).

Three categories are used to classify a viewpoint's sensitivity:

Table 3: Categories of Viewpoint Sensitivity

Sensitivity	Description
High	Viewers at viewpoints that are recognised in policy or otherwise designated as being of value, or viewpoints that are highly valued by people that experience them regularly (such as views from houses or outdoor recreation features) and views which are highly valued by the local community. This may also include tourist attractions, and heritage features of regional or county value, and viewers travelling on scenic routes. The composition, character and quality of the view may be such that its capacity for accommodating compositional change in the form of development may or may not be low. The principle management objective for the view is its protection from change that reduces visual amenity.
Medium	Viewers considered of medium susceptibility, such as locations where viewers are travelling at slow or moderate speeds through or past the affected landscape in cars or on public transport, where they are partly but not entirely focused on the landscape, or where the landscape has some valued views. The views are generally not designated, but which include panoramic views or views judged to be of some scenic quality, which demonstrate some sense of naturalness, tranquillity or some rare element in the view.

Low	Viewers at viewpoints reflecting people involved in activities not focused on the landscape e.g. people at their place of work or engaged in similar activities such as shopping, etc. The view may present an attractive backdrop to these activities but there is no evidence that the view is valued, and not regarded as an important element of these activities. Viewers travelling at high speeds (e.g. motorways) may also be generally considered of low susceptibility.
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Magnitude of Change to the View

Classification of the magnitude of change takes into account the size or scale of the intrusion of development into the view (relative to the other elements and features in the composition, i.e. its relative visual dominance), the degree to which it contrasts or integrates with the other elements and the general character of the view, and the way in which the change will be experienced (e.g. in full view, partial or peripheral, or glimpses). It also takes into account the geographical extent of the change, the duration and the reversibility of the visual effects.

Four categories are used to classify magnitude of change to a view:

Table 4: Categories of Visual Change

Magnitude of Change	Description
High	Extensive intrusion of the development in the view, or partial intrusion that obstructs valued features, or introduction of elements that may be considered uncharacteristic in the context, to the extent that the development becomes co-dominant with other elements in the composition and affects the character of the view and the visual amenity.
Medium	Partial intrusion of the development in the view, or introduction of elements that may be prominent but not necessarily uncharacteristic in the context, resulting in change to the composition but not necessarily the character of the view or the visual amenity.
Low	Minor intrusion of the development into the view, or introduction of elements that are not uncharacteristic in the context, resulting in minor alteration to the composition and character of the view but no change to visual amenity.
Negligible	Barely discernible intrusion of the development into the view, or introduction of elements that are characteristic in the context, resulting in slight change to the composition of the view and no change in visual amenity.

Visual Effects

A conclusion on the relative importance of visual effects can be arrived at by combining the visual receptor sensitivity and the magnitude of change. This is included in Figure 1.1 above as for Landscape Effects.

As this report is not part of an Environmental Impact Assessment Report, and is instead a standalone Landscape and Visual Appraisal, the report does not include a statement of the significance of effects.

Quality and Timescale

Qualitative Impacts

The predicted impacts are also classified as *beneficial*, *neutral* or *adverse*. This is not an absolute exercise; in particular, visual receptors' attitudes to development, and thus their response to the impact

of a development, will vary. However, the methodology applied is designed to provide robust justification for the conclusions drawn. These qualitative impacts/effects are defined as:

- Adverse – Scheme at variance with landform, scale, pattern. Would degrade, diminish or destroy the integrity of valued features, elements or their setting or cause the quality of the landscape(townscape)/view to be diminished.
- Neutral - Scheme complements the scale, landform and pattern of the landscape(townscape)/view and maintains landscape quality.
- Beneficial – improves landscape(townscape)/view quality and character, fits with the scale, landform and pattern, and enables the restoration of valued characteristic features or repairs / removes damage caused by existing land uses.

Timescale of the Impacts

Impacts/effects are also categorised according to their longevity or timescale:

- Temporary – Lasting for one year or less;
- Short Term – Lasting one to seven years;
- Medium Term – Lasting seven to fifteen years;
- Long Term – Lasting fifteen years to sixty years;
- Permanent – Lasting over sixty years.

A statement is made as to the appropriateness of the proposed development based on the combined assessment of the predicted landscape and visual effects. This methodology, in accordance with the various guidelines for LVIA, results in a conclusion as to the appropriateness of the proposed development based on objective assessment of its likely landscape and visual impacts.

3 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The Proposed Development

Permission for development at the existing Leixlip Water Treatment Plant site, Cooldrinagh & Backwestonpark Townlands, Leixlip, Co. Dublin. The proposed development consists of:

- 1) Demolition of existing Workshop and (defunct) Activated Carbon Building adjacent to the 'old' / northern Treatment Plant Building;
- 2) Construction of a Sulphuric Acid Storage and Dosing Facility Building (single storey up to approximately 8.8 metres in height) adjacent the 'new' / southern Treatment Plant Building;
- 3) Construction of a Lime Storage & Dosing Facility Building (single storey up to approximately 11 metres in height) adjoining the 'old' / northern Treatment Plant Building, associated external storage silos (2 no.) with external staircase (up to c. 12.3 metres in height) partially enveloped with a perforated metal architectural screen, and ancillary plant and equipment;
- 4) Reconfiguration and repurposing for use as a De-Alkalisation Plant of existing (disused) High-Lift Pump Hall within the 'old' / northern Treatment Plant Building;
- 5) The construction of a new ancillary Workshop Building (single storey up c. 4.5 metres in height) to the rear / south of the 'old' / northern Treatment Plant Building;
- 6) Temporary and enabling works to facilitate construction and continued / uninterrupted operation of the Treatment Plant site; and,
- 7) Provision of additional car parking (to the rear / south of the 'old' / northern Treatment Plant Building), modification and extension of existing drainage, utility and services infrastructure and connections to serve and facilitate new and reconfigured buildings, and all other associated and ancillary development and works above and below ground level.

In addition to the above, the development shall include dosing lines from the Sulphuric Acid Storage and Dosing Facility Building to the raw water intake lines and the Lime Storage and Dosing Facility Building to the existing treated water pipelines.

In terms of visual impacts the taller structures described above - Lime Storage & Dosing Facility Building up to 11m in height – are most prominent and obtrusive beyond the WTP site itself and are the main focus of this assessment. Following an analysis of options to mitigate the visual impact and visibility of the silos (and their industrial character in such a sensitive setting) A Perforated Metal Architectural Screen is proposed to clad these "silo" type structures within a simple cuboid form made of a perforated metal Architectural screen. This will mitigate their industrial form in the landscape avoiding a more negative image or effect. A detailed report on the options and the preferred solution is contained in the Design Statement by Taylor McCarney Architects.

4 EXISTING RECEIVING ENVIRONMENT

The following statutory plans are referenced in this section, owing to their relevance to the site location and its proposed development:

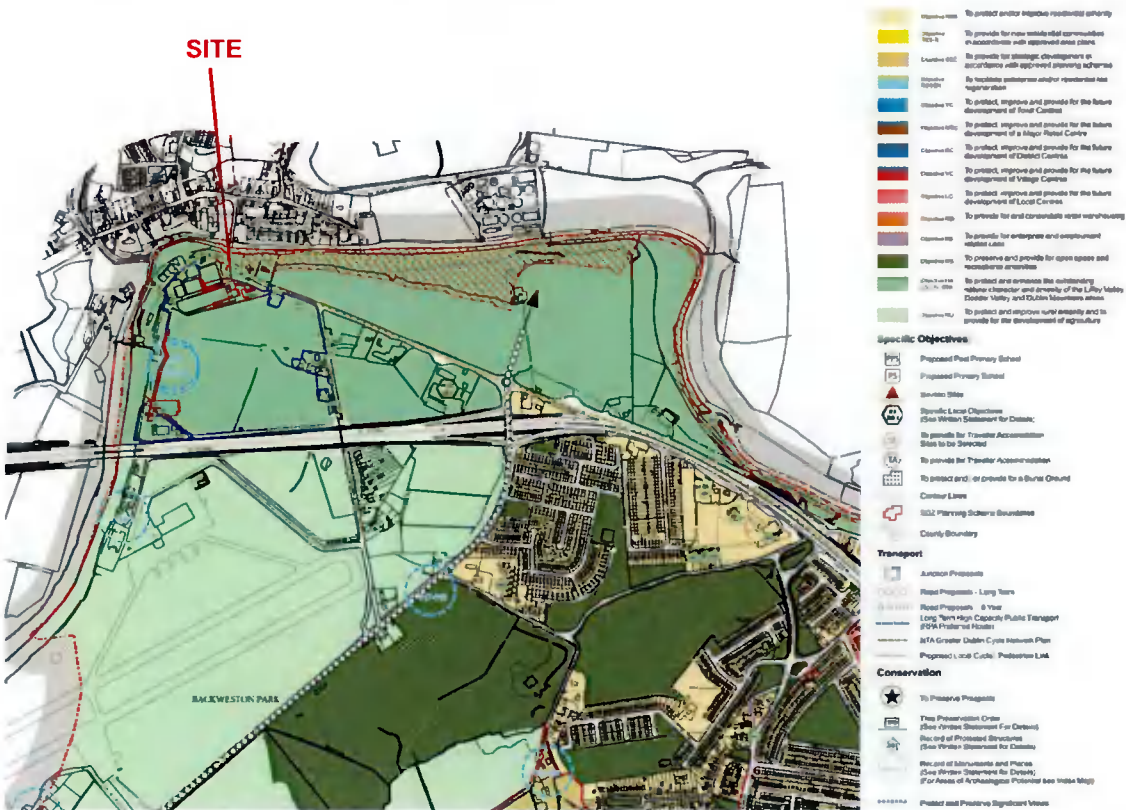
- South Dublin Development Plan 2016-2022,
- Draft South Dublin Development Plan 2022-2028, and
- Kildare County Development Plan

4.1 South Dublin County Development Plan 2016-2022

The subject site falls within the jurisdiction of South Dublin County Council, and as such the current South Dublin Development Plan 2016-2022 (hereafter referred to as the Development Plan) is applicable to the site. The Development Plan contains a number of policies and objectives relating to landscape and protected views and prospects as well as zoning objectives.

Zoning

Figure 1: Land use Zoning Map (Source: SDCC)



The subject lands lies within the 'High Amenity' Zoning area as per the development plan, with the objective;

"To protect and enhance the outstanding natural character and amenity of the Liffey Valley, Dodder Valley and Dublin Mountains areas".

River Valleys & Natural Conservation

Sites of national and international biodiversity value are designated as Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Natural Heritage Areas (NHA). These are protected under

law and through the planning system. However, they account for only a small proportion of the County's Green Infrastructure.

The site abuts the River Liffey to the North and West. The River Rye is a tributary of River Liffey, both the rivers confluences at Leixlip, just north-west of the subject site.

The Development Plan HCL Policy 10 Liffey Valley & Dodder Valley states;

"It is the policy of the Council to protect and enhance the visual, recreational, environmental, ecological, geological and amenity value of the Liffey Valley and Dodder Valley, as key elements of the County's Green Infrastructure network."

Relevant Objectives;

HCL10 Objective 1: *To restrict development within areas designated with Zoning Objective 'HA – LV' (To protect and enhance the outstanding character and amenity of the Liffey Valley) and 'HA – DV' (To protect and enhance the outstanding character and amenity of the Dodder Valley) and ensure that new development is related to the area's amenity potential and is designed and sited to minimise environmental and visual impacts.*

HCL10 Objective 2: *To ensure that development within the Liffey Valley and Dodder Valley will not prejudice the future creation and development of uninterrupted and coherent parklands including local and regional networks of walking and cycling routes.*

HCL10 Objective 3: *To ensure that development proposals within the Liffey Valley and Dodder Valley, including local and regional networks of walking and cycling routes, maximise the opportunities for enhancement of existing ecological features and protects and incorporates high value natural heritage features including watercourses, wetlands, grasslands, woodlands, mature trees, hedgerows and ditches, as part of the County's Green Infrastructure network.*

HCL10 Objective 7: *Within areas designated 'High Amenity – Liffey Valley' and 'High Amenity – Dodder Valley' non-residential development will only be permitted where it: Relates to the area's amenity potential or to its use for agriculture or recreational purposes, including recreational buildings; or Comprises the redevelopment of or extensions to existing commercial or civic uses or development of new commercial or civic uses within an existing established area of commercial or civic activity; and Preserves the amenity value of the river valley including its landscape value, views or vistas of the river valley and its biodiversity value.*

Architectural / Archaeological Heritage

The SDDP chapter on Heritage, Conservation and Landscapes sets-out a range of policies and objectives to protect and conserve the built, cultural and natural heritage of the county. There are a number of Protected Structures and Record of Monuments and Places within the site and in the vicinity of the site.

Relevant Policies & Objectives:

HCL Policy 3 Protected Structures: *"It is the policy of the Council to conserve and protect buildings, structures and sites contained in the Record of Protected Structures and to carefully consider any proposals for development that would affect the special character or appearance of a Protected Structure including its historic curtilage, both directly and indirectly".*

HCL3 Objective 1: *To ensure the protection of all structures (or parts of structures) and the immediate surroundings including the curtilage and attendant grounds of structures contained in the Record of Protected Structures.*

Figure 2: Protected Structures and Records of Monuments and Places (RMP) (source: NIAH)



The Development Plan includes the following policies and objectives relating to Landscape character:

'It is the policy of the Council to preserve and enhance the character of the County's landscapes particularly areas that have been deemed to have a medium to high Landscape Value or medium to high Landscape Sensitivity and to ensure that landscape considerations are an important factor in the management of development.'

HCL7 Objective 1: *'To protect and enhance the landscape character of the County by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the landscape, taking full cognisance of the Landscape Character Assessment of South Dublin County (2015).'*

HCL7 Objective 2: *'To ensure that development is assessed against Landscape Character, Landscape Values and Landscape Sensitivity as identified in the Landscape Character Assessment for South Dublin County (2015) in accordance with Government Guidance on Landscape Character Assessment and the National Landscape Strategy.'*

Green infrastructure

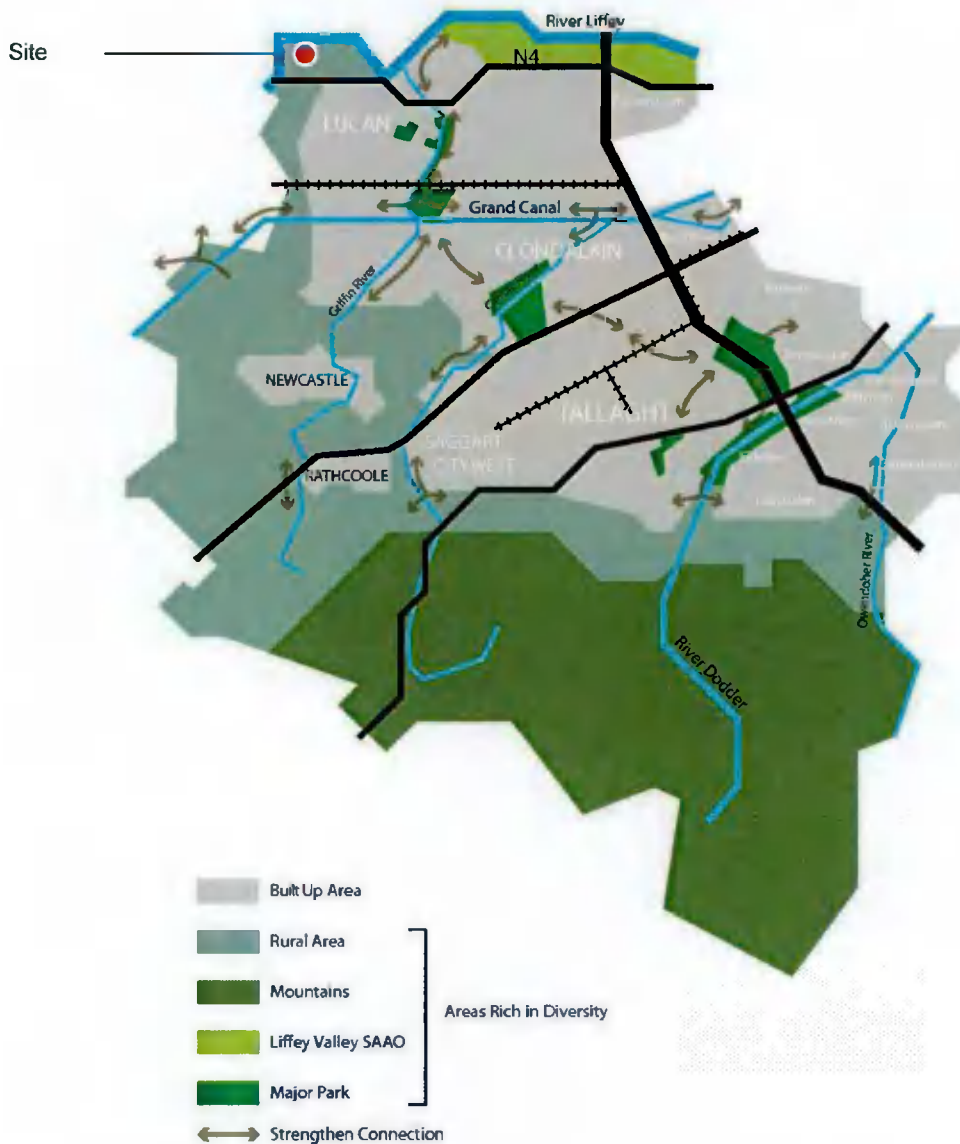
The term Green Infrastructure is described in the Plan as an interconnected network of waterways, wetlands, woodlands, wildlife habitats, greenways, parks and conservation lands, forests and other open spaces that adjoin and are threaded through urban areas.

The following objectives are contained in the Plan:

G1 Objective 1: 'To establish a coherent, integrated and evolving Green Infrastructure network across South Dublin County with parks, open spaces, hedgerows, grasslands, protected areas, and rivers and streams forming the strategic links and to integrate the objectives of the Green Infrastructure Strategy throughout all relevant Council plans, such as Local Area Plans and other approved plans.'

G1 Objective 2: 'To prepare and implement a South Dublin County Green Infrastructure Strategy during the lifetime of this plan that will form the basis for the identification, protection, enhancement and management of the Green Infrastructure network within the County.'

Figure 3: South Dublin County Council Strategic Green Infrastructure network (Source: SDCC)



The Plan notes that the County's Green Infrastructure network comprises an interconnected network of green spaces that possess a broad range of ecological elements including inter alia: core areas such as the County's three Natura 2000 sites; proposed Natural Heritage Areas (pNHA), the Liffey Valley, Dodder River Valleys and the Grand Canal; and individual elements such as watercourses, parks, hedgerows/ tree-lines and sustainable drainage features in park lands.

A number of objectives are listed in the Plan as follows:

G2 Objective 1: *'To reduce fragmentation of the Green Infrastructure network and strengthen ecological links between urban areas, Natura 2000 sites, proposed Natural Heritage Areas, parks and open spaces and the wider regional Green Infrastructure network.'*

G2 Objective 2: *'To protect and enhance the biodiversity value and ecological function of the Green Infrastructure network.'*

G2 Objective 9: *'To preserve, protect and augment trees, groups of trees, woodlands and hedgerows within the County by increasing tree canopy coverage using locally native species and by incorporating them within design proposals and supporting their integration into the Green Infrastructure network.'*

G2 Objective 10: *'To promote a network of paths and cycle tracks to enhance accessibility to the Green Infrastructure network, while ensuring that the design and operation of the routes responds to the ecological needs of each site.'*

G2 Objective 11: *'To incorporate appropriate elements of Green Infrastructure e.g. new tree planting, grass verges, planters etc. into existing areas of hard infrastructure wherever possible, thereby integrating these areas of existing urban environment into the overall Green Infrastructure network.'*

G2 Objective 12: *'To seek to control and manage non-native invasive species and to develop strategies with relevant stakeholders to assist in the control of these species throughout the County.'*

G2 Objective 13: *'To seek to prevent the loss of woodlands, hedgerows, aquatic habitats and wetlands wherever possible including requiring a programme to monitor and restrict the spread of invasive species such as those located along the River Dodder.'*

A separate policy and list of objectives exist relating to watercourses:

Green Infrastructure Policy 3 Watercourses Network:

'It is the policy of the Council to promote the natural, historical and amenity value of the County's watercourses; to address the long term management and protection of these corridors and to strengthen links at a regional level.'

G3 Objective 1: *'To promote the natural, historical and amenity value of the County's watercourses and address the long term management and protection of these corridors in the South Dublin Green Infrastructure Strategy.'*

G3 Objective 2: *'To maintain a biodiversity protection zone of not less than 10 metres from the top of the bank of all watercourses in the County, with the full extent of the protection zone to be determined on a case by case basis by the Planning Authority, based on site specific characteristics and sensitivities. Strategic Green Routes and Trails identified in the South Dublin Tourism Strategy, 2015; the Greater Dublin Area Strategic Cycle Network; and other government plans or programmes will be open for consideration within the biodiversity protection zone, subject to appropriate safeguards and assessments, as these routes increase the accessibility of the Green Infrastructure network.'*

G3 Objective 3: *'To ensure the protection, improvement or restoration of riverine floodplains and to promote strategic measures to accommodate flooding at appropriate locations, to protect ground and surface water quality and build resilience to climate change.'*

G3 Objective 5: *'To restrict the encroachment of development on watercourses, and provide for protection measures to watercourses and their banks, including but not limited to: the*

prevention of pollution of the watercourse, the protection of the river bank from erosion, the retention and/or provision of wildlife corridors and the protection from light spill in sensitive locations, including during construction of permitted development.'

Views and Prospects

Section 9.2.1 of the Development Plan refers to Views and Prospects. Scenic views are distinguished as views for protection and preservation and are marked on the Development Plan map. Generally, there are no views and prospects from the site or towards the site.

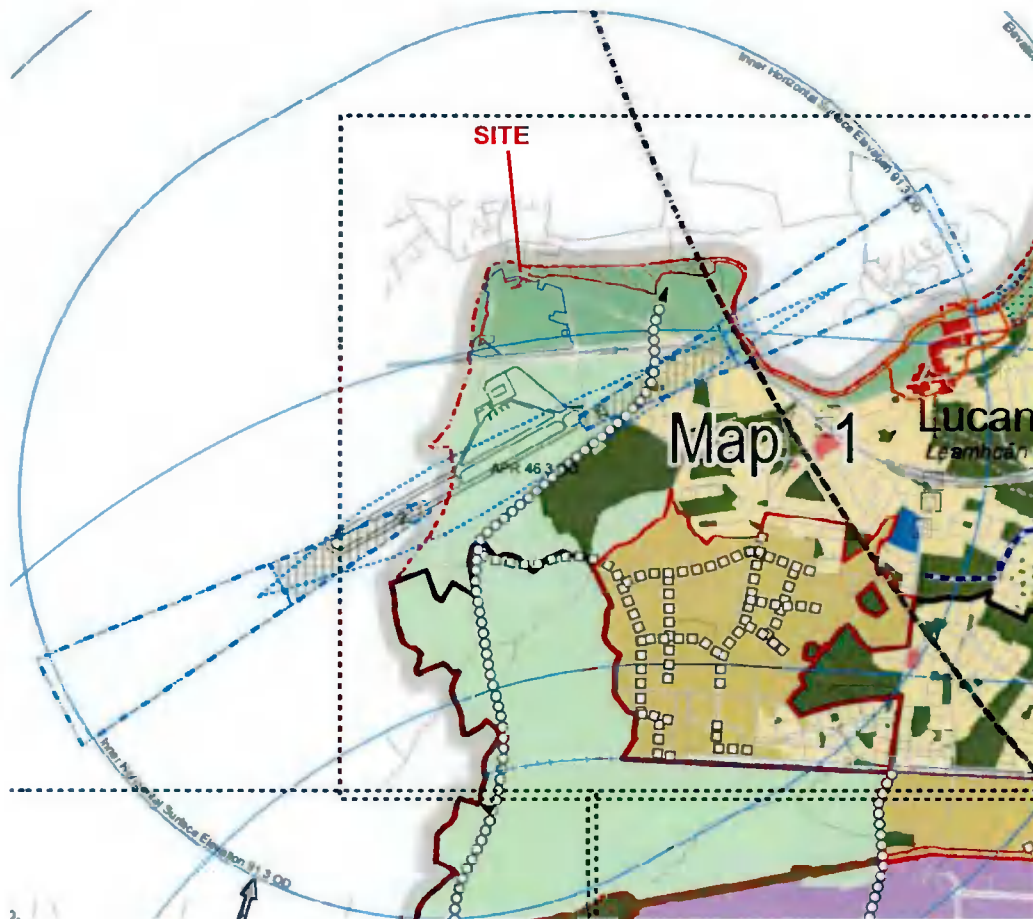
Aerodrome

The site lies in close proximity to Weston Aerodrome, which consists of one runway. The aerodrome is used for private landing.

The safeguarding requirements in the vicinity of civil aerodromes are principally set out as 'International Standards and Recommended Practices' within 'Annex 14 to the Convention on International Civil Aviation', which is published by the International Civil Aviation Organisation (ICAO) and the Irish Aviation Authority Guidance Material on Aerodrome Annex 14 Surfaces (2015).

For each runway length category, the ICAO sets out different safeguarding requirements in the form of three-dimensional geometric shapes 'Obstacle Limitation Surfaces', which define the airspace and provide a framework for limiting the heights and/or closeness of any objects or structures on or in the vicinity of the aerodrome (with further variations depending on whether its runways have 'instrument' status or not). In general, any new objects should not penetrate the 'Obstacle Limitation Surfaces' and any existing objects which penetrate the 'Obstacle Limitation Surfaces' should ideally be removed.

Figure 4: Weston Aerodrome Obstacle Limitation Surfaces (Source: SDCC)



Relevant Policy & Objectives:

E9 Objective 2: *To maintain the airspace around the aerodrome free from obstacles so as to facilitate aircraft operations to be conducted safely, including restricting development in the environs of the aerodrome. The airspace is defined by the Obstacle Limitation Surfaces, prepared and mapped on the Development Plan map in accordance with the ICAO Standards and the Irish Aviation Authority 'Guidance Material on Aerodrome Annex 14 Surfaces' (2015).*

IE9 Objective 3: *To prohibit and restrict development in the environs of Weston Aerodrome in the following ways:*

- a) *By prohibiting development within the immediately adjacent approach areas to reduce the slight risk to persons on the ground and the increased risk to occupants of an aircraft in the event of the aircraft accidentally touching down outside the aerodrome boundary while taking off or approaching to land, except whereby development could not reasonably expect to increase the number of people working or congregating in or at the property (this may include development such as the extension of an existing dwelling or a change of building use).*
- b) *By applying height restrictions to development in the environs of the Aerodrome.*
- c) *By eliminating potential sources of interference with the operation of electronic navigation aids.*
- d) *By obviating possible hazards to aircraft through the generation of smoke, dust or fumes which may reduce visibility.*
- e) *By controlling and assessing the locations of any activities which may be an attraction to birds.*
- f) *By limiting the extent, height and type of external lighting to avoid confusing pilots in the interpretation of aeronautical lights or cause dazzle or glare. The extent of the restriction necessary in any particular instance depends on its purpose. In some cases, more than one purpose may have to be served in which case a combination of the restrictions to satisfy all the purposes to be served will be necessary.*

IE9 Objective 4: *To limit residential development and other land uses impacted by noise, such as nursing homes, schools, hospitals, and conference centres within the Noise Significant Area Boundary delineated for Weston Aerodrome, subject to an appropriate noise assessment and mitigation measures to protect residential amenity.*

Landscape Character

South Dublin County Council Landscape Character Assessment (hereafter referred to as the Assessment) contains five Landscape Character Areas (LCAs). The site is located within the Urban South Dublin LCA and is abutting the Liffey Valley LCA.

Urban South Dublin LCA 5

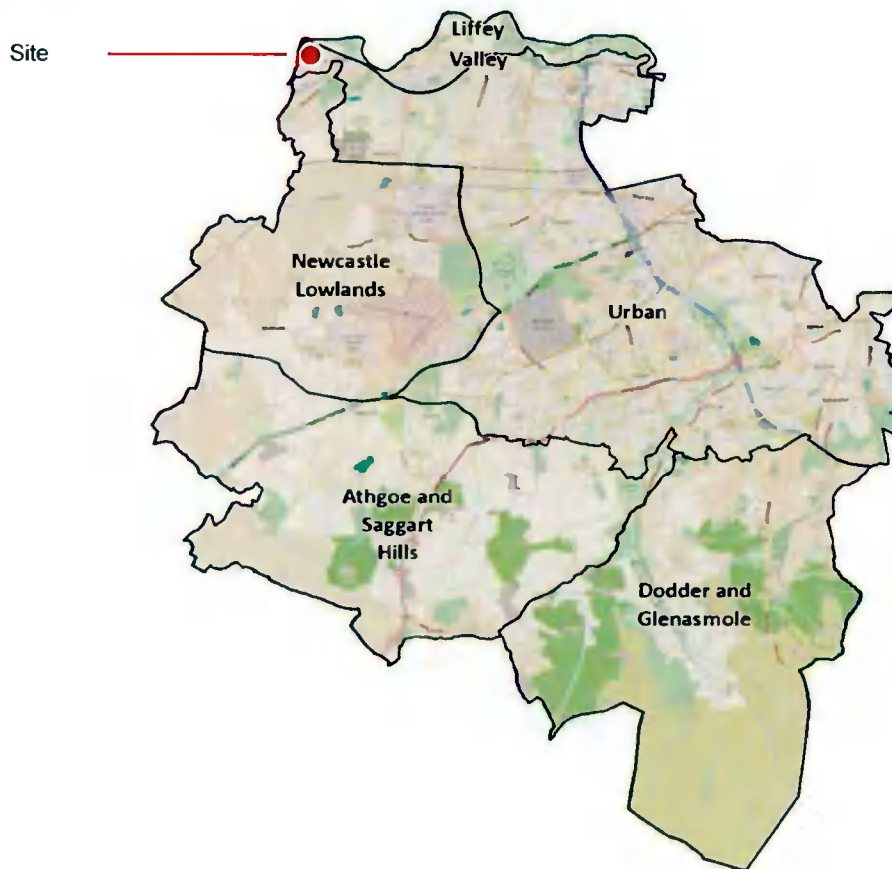
A Landscape Character Assessment of South Dublin was completed in 2015. The proposed site is located within 'Landscape Character Area 5 - Suburban South Dublin'. The built-up nature of the area is noted and the presence of major transport routes, housing areas, grassy spaces, industrial areas and parks, as well as the backdrop of rural and upland views. In general prospects of the Liffey River Valley, Dublin Mountains and to the rural hinterland are to be preserved however no specific viewpoints or scenic routes are identified in close proximity to or relevant to the site.

The views out to the Dublin Mountains and rural hinterland are of particular importance here. Key mitigation measures cited in the write up of the character area are that;

- *Grassland and other amenity area open spaces should be managed for the dual benefits of public access and biodiversity.*

- *Tree and shrub planting should be an integral component of amenity grasslands (schools recreational grounds, golf courses and playing fields).*
- *The development of green infrastructure to connect different habitats within the urban context.*
- *Tree planting on streets and open spaces – particularly on ‘miscellaneous ‘open space in housing areas- to improve their character.*
- *Enhance connectivity between open spaces as a means of enhancing biodiversity while providing off road connections for pedestrian and cyclists.*
- *Proposed developments should be audited for their impact on views particularly those to the rural hinterland of the county (2015 p.90).*

Figure 5: Landscape Character Areas in South Dublin County (Source: SDCC)



Liffey Valley LCA 1

The River Liffey is visible from the subject site. Due to the close proximity to the LCA 1 Liffey Valley, the landscape character assessment to LCA 1 is referred to below. Generally, the view of the valley and rural hinterland are of particular importance here. Key mitigation measures cited in the write up of the character area are that;

- *Overall, the LCA is in good to moderate condition. The habitats and river areas, particularly around the Strawberry Beds, retain a rural sense despite the proximity of the M50. This rural character contrasts with the more active urban character that comprises much of the rest of the LCA.*
- *The historical settlements of Lucan and Palmerstown combined with a number of large houses and their parklands increases landscape interest and diversity.*
- *The views into the river valley and across the ridges to the north are attractive features, provide a landscape setting and context and contribute significantly to the distinctive character of this*

landscape. It is an interesting, diverse LCA and the landform generally creates an intimate and enclosed landscape that offers occasional rather than consistent views to the river such as at river crossings or from the slopes of the valley.

- The habitats, in particular mature trees and alluvial woodland, add further interest and screening opportunities.
- Noise associated with the major transport corridors can detract from the rural character around the Strawberry Beds

Table 5: Summary of Landscape Character Sensitivity and Capacity

	Landscape Sensitivity	Visual Sensitivity	Overall Landscape Sensitivity	Landscape Value	Landscape Capacity
LCA 5 Urban South Dublin	<p><i>Please note, the urbanised areas of South Dublin County was not assessed in detail as this would require a finer scale assessment, normally undertaken as a townscape character assessment.</i></p> <p><i>(Note: The Assessment sets out a summary of key characteristics, values, forces for change, condition and mitigation measures however more detailed analysis is required)</i></p>				
LCA 1 Liffey Valley	<i>Medium High - High</i>	<i>Medium High - High</i>	<i>High</i>	<i>High</i>	<p><i>Negligible to none.</i></p> <p><i>Key Characteristics of the landscape are highly vulnerable to development. Development would result in a significant change in Landscape character and should be avoided if possible.</i></p>

4.2 Draft South Dublin Development Plan 2022-2028

South Dublin County Council commenced a review of the South Dublin County Development Plan 2016-2022 on the 31st of July 2020 and the Council is expected to create a new South Dublin County Development Plan for the period 2022 to 2028 over the next two years.

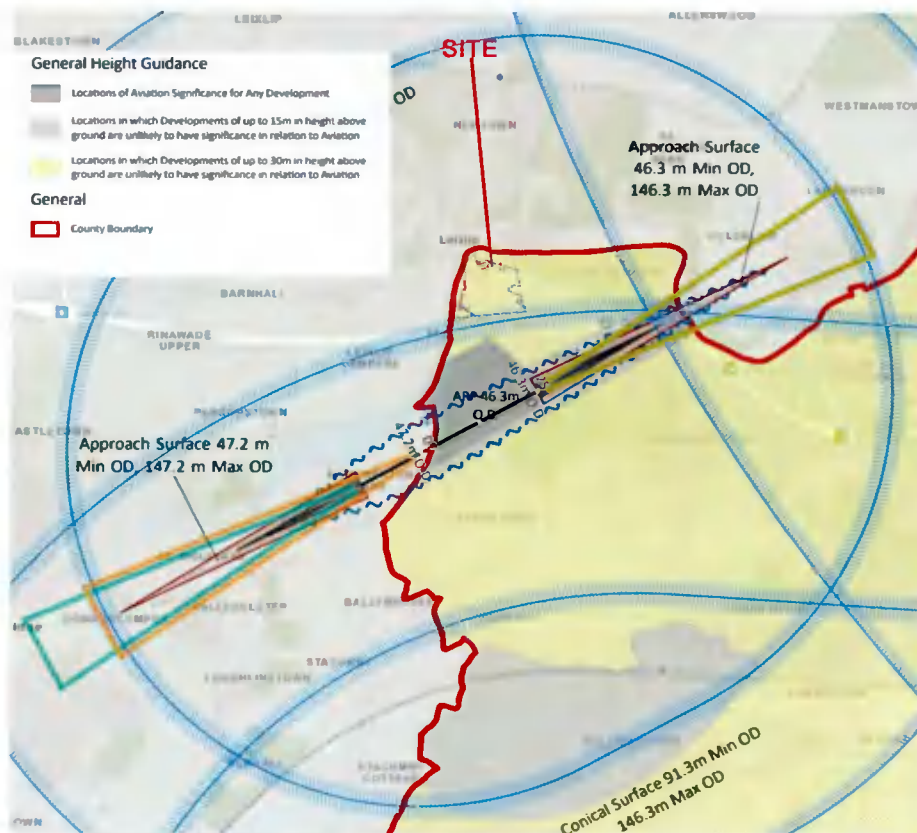
The Draft County Development Plan 2022-2028 is now available online and the public are invited to get involved and give views on the Draft Plan. Stage 2 of the development plan and public consultation process commenced on the 7th July 2021 and will run up to and including the 15th of September 2021.

Most of the policies and objectives in relation to the subject site has remained the same. Only items that have changed or amended in the Draft Plan are presented here.

Building Height

Due to the close proximity to the Weston Aerodrome, there are development limitations in the vicinity for aviation and public safety. The subject site lies within 'yellow' zone where 'Developments of up to 30m in height above ground are unlikely to have significance in relation to aviation'.

Figure 6: Weston Aerodrome General Height Guidance for developments



Liffey Valley

The Landscape and Visual Amenity of Liffey Valley has been strengthened in the new Draft Plan.

Relevant Policy & Objectives:

Policy NCBH7: Liffey River Valley and Special Amenity Area Order: "Protect and enhance the special amenity value of the Liffey Valley, including its landscape, visual, recreational, ecological, geological, and built heritage value, as a key element of the County's Green

Infrastructure network and implement the provisions of the Liffey Valley Special Amenity Area Order (SAAO)”.

NCBH7 Objective 1: *To restrict development within areas designated with Zoning Objective 'HA – LV' (To protect and enhance the outstanding character and amenity of the Liffey Valley) and to ensure that new development:*

- *does not significantly impact on built or cultural heritage assets, on sensitive habitats, species, or ecosystem services,*
- *is related to the area's amenity potential,*
- *is designed and sited to minimise environmental and visual impacts,*
- *and enhances the County's green infrastructure network.*

NCBH7 Objective 3: *To improve and extend the Liffey Valley Special Amenity Area Order along the Liffey Valley area in South Dublin from the border with Dublin City administrative area to Kildare County and promote its tourism potential subject to the protection of its biodiversity and ecological value.*

NCBH7 Objective 4: *To facilitate and support the development of the Liffey Valley (Zoning Objective 'HA – LV') as an interconnected green space and park in collaboration with Dublin City Council, Fingal County Council, Kildare County Council, the OPW and other State agencies, existing landowners, community groups and sectoral and commercial interests in accordance with the Ministerial Order for the Liffey Valley SAAO by:*

- *Carrying out a study of the lands that comprise Liffey Valley inclusive of the Special Amenity Area Order (SAAO) and adjacent lands;*
- *Investigating and determining, as part of the study, viable and appropriate uses to support and facilitate the development of a Regional Park (Liffey Valley Park), with particular emphasis on enhancing the recreation, amenity value and accessibility of the area while protecting the valley's biodiversity and enhancing the green infrastructure network;*
- *Identifying and designating, as part of the study, possible future new pedestrian routes and footbridge locations in accordance with 'Towards a Liffey Valley Park' (2007) or any superseding plan, including potential permissive access routes.*

Universal accessibility for all should be balanced with ensuring that environmental and built heritage sensitivities are not negatively impacted upon.

NCBH7 Objective 5: *To ensure that development proposals within the Liffey Valley, including local and regional networks of walking and cycling routes*

- *avoid impacts on the Valley's sensitive landscape character and ecological network,*
- *maximise opportunities for enhancement of existing features,*
- *protect and incorporate natural and built heritage features as part of the County's Green Infrastructure network,*
- *do not prejudice the future creation and development of interconnected public parklands.*

Landscape Character

The subject site still remains in the South Urban Dublin LCA 5 as per the Draft Landscape Character Assessment (LCA) 2021 – Appendix 9. All the sensitivities and constraints remain the same as identified before in this report under Section 2.1 (Landscape Character) and summarised under Table 5.

Views and Prospects

Scenic views are distinguished as views for protection and preservation and are marked on the Development Plan map. The views and prospects remain the same – that is to protect the views towards the Liffey Valley.

Green Infrastructure

There are efforts made to strengthen the Green Infrastructure & Network in the County. The Draft Plan reflects the current development plan policies.

Relevant Policies & Objectives:

Policy GI1: Overarching Protect, enhance and further develop a multifunctional GI network, using an ecosystem services approach, protecting, enhancing and further developing the identified interconnected network of parks, open spaces, natural features, protected areas, and rivers and streams that provide a shared space for amenity and recreation, biodiversity protection, water quality, flood management and adaptation to climate change.

GI1 Objective 4: To require development to incorporate GI as an integral part of the design and layout concept for all development in the County including but not restricted to residential, commercial and mixed use through the explicit identification of GI as part of a landscape plan, identifying environmental assets and including proposals which protect, manage and enhance GI resources providing links to local and countywide GI networks

GI1 Objective 5: Continue to liaise with adjoining local authorities to ensure the protection and enhancement of cross county GI corridors.

Policy GI7: Landscape, Natural, Cultural and Built Heritage Protect, conserve and enhance landscape, natural, cultural and built heritage features, and support the objectives and actions of the County Heritage Plan.

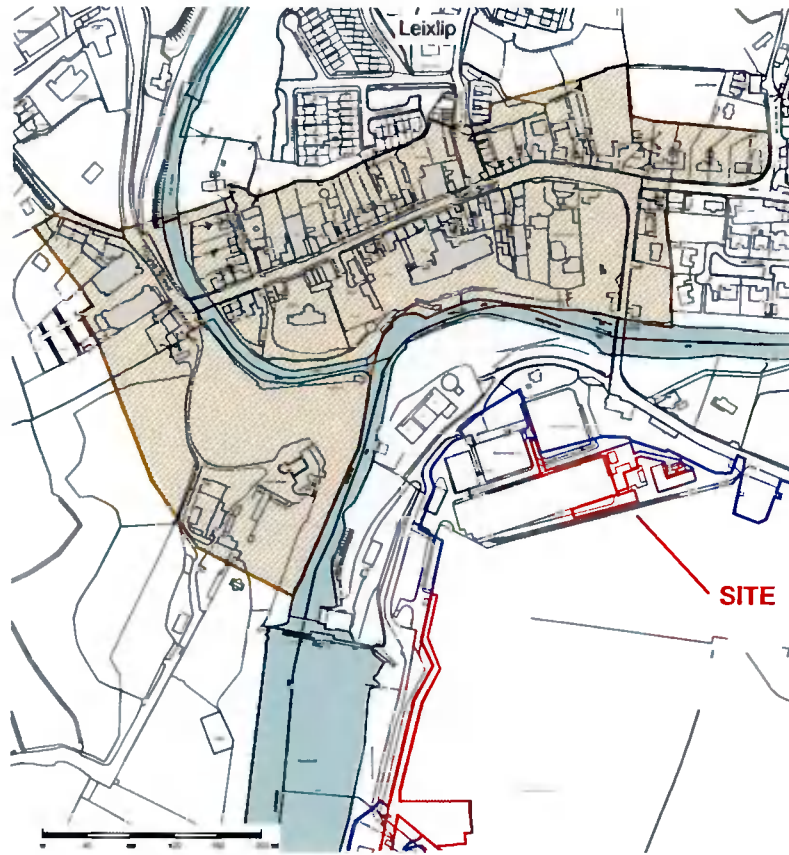
GI7 Objective 1: To protect, conserve and enhance natural, built and cultural heritage features and restrict development that would have a negative impact on these assets in accordance with the provisions of Chapter 3 Natural, Cultural and Built Heritage of this Development Plan.

GI7 Objective 2: To protect and enhance the landscape character of the County by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the landscape, in accordance with the provisions of South Dublin's Landscape Character Assessment and the provisions of Chapter 3 Natural, Cultural and Built Heritage of this Development Plan.

4.3 Kildare County Development Plan 2017-2023

Due to the site's close proximity to the Kildare County Council boundary, Kildare County Development Plan 2017-2023 (hereafter referred to as KCDP), its relevant policies and objectives, sensitivities and constraints for outlined below.

Figure 7: Leixlip Architectural Conservation Area (Source: KCDP)



Archaeology & Architectural Heritage

AH 1: Manage development in a manner that protects and conserves the archaeological heritage of the county, avoids adverse impacts on sites, monuments, features or objects of significant historical or archaeological interest and secures the preservation in-situ or by record of all sites and features of historical and archaeological interest. The Council will favour preservation in – situ in accordance with the recommendation of the Framework and Principals for the Protection of Archaeological Heritage (1999) or any superseding national policy.

AH 4: Ensure that development in the vicinity of a site of archaeological interest is not detrimental to the character of the archaeological site or its setting by reason of its location, scale, bulk or detailing and to ensure that such proposed developments are subject to an archaeological assessment. Such an assessment will seek to ensure that the development can be sited and designed in such a way as to avoid impacting on archaeological heritage that is of significant interest including previously unknown sites, features and objects.

Water Corridors (Rivers and Canals) (Areas of High Amenities)

WC 6: Support and promote an extension of the proposed Special Amenity Area Order for the Liffey Valley from Lucan to Leixlip (which is envisaged by the Dublin Local Authorities) to other parts of the Valley within County Kildare.

Landscape Character

The site sits in close proximity to "Northern Lowlands" Landscape Character Area. According to Council's Landscape Character Area study, such lowlands are deemed "Class 1 Low Sensitivity," which is described as being; "Areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area."

In terms of landscape impact the site does not fall within the geographical area of this LCA. The only impact if any is visual impact.

Relevant Policy and Objectives:

LL 2: *Continue to permit development that can utilise existing structures, settlement areas and infrastructure, whilst taking account of the visual absorption opportunities provided by existing topography and vegetation.*

LO 1: *Have regard to the Landscape Sensitivity Factors in the vicinity of sites in the consideration of any significant development proposals.*

LO 4: *Protect the visual and scenic amenities of County Kildare's built and natural environment.*

LO 5: *Preserve the character of all important views and prospects, particularly upland, river, canal views, views across the Curragh, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty.*

Protected Structures

PS 1: *Conserve and protect buildings, structures and sites contained on the Record of Protected Structures of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.*

PS 2: *Protect the curtilage of protected structures or proposed protected structures and to refuse planning permission for inappropriate development within the curtilage or attendant grounds of a protected structure which would adversely impact on the special character of the protected structure including cause loss of or damage to the special character of the protected structure and loss of or damage to, any structures of architectural heritage value within the curtilage of the protected structure. Any proposed development within the curtilage and/or attendant grounds must demonstrate that it is part of an overall strategy for the future conservation of the entire built heritage complex and contributes positively to that aim.*

PS 3: *Require that new works will not obscure views of principal elevations of protected structures.*

Protected Landscapes

The site lies within the vicinity of a designated Special Areas of Conservation (SAC) and proposed Natural Heritage Areas (pNHA) – Rye Water Valley / Carton (001398).

Policies of the Council on Natural Heritage and Protection include;

NH 5: *Prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the county and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.*

NH 7: *Contribute towards the protection of the ecological, visual, recreational, environmental and amenity value of the county's Natural Heritage Areas and associated habitats.*

NH 8: *Ensure that any proposal for development within or adjacent to a Natural Heritage Area (NHA), Ramsar Sites and Nature Reserves is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the site, particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats.*

NH 9: *Ensure the impact of development within or adjacent to national designated sites Natural Heritage Areas, Ramsar Sites and Nature Reserves that is likely to result in significant adverse*

effects on the designated site is assessed by requiring the submission of an Ecological Impact Assessment (EclA) prepared by a suitably qualified professional, which should accompany planning applications and council developments, as not all developments are likely to result in adverse effects.

Green Infrastructure

GI 1 Ensure the protection, enhancement and maintenance of Green Infrastructure and recognise the health benefits as well as the economic, social, environmental and physical value of green spaces through the integration of Green Infrastructure (GI) planning and development in the planning process.

GI 16: Encourage the planting of woodlands, trees and hedgerows as part of new developments using native plants of local provenance.

Scenic Routes and Protected Views

The views of the River Liffey are protected views as identified on the development plan. The viewpoint is 'RL 1 Views from Leixlip Bridge, Leixlip', as listed in the development plan. It is general guidance then any development should not detract from the setting of the view or impact negatively of the visual amenity.

Summary of Planning Policy Section:

- The site lies within the jurisdiction of South Dublin County Council and borders with Kildare County Council.
- The site is zoned as 'High Amenity' zoning as per Development Plan.
- The site falls within the geographical area of Landscape Character Area 5 – South Urban Dublin and borders with LCA 3 Liffey Valley as per the 2015 Landscape Character Assessment for South Dublin and Draft 2021 Landscape Character Assessment
- The site lies adjacent to the Kildare LCA 3 Northern Lowlands as per Kildare County Landscape Character Assessment.
- The only Protected View is SR 1 from Leixlip Bridge along the Liffey Valley / river. There are no other protected views and scenic routes within the vicinity. The general guidance is that the visual amenity of the Liffey Valley and the character should not be affected by inappropriate development.
- There are a number of Protected Structures within the vicinity of the site and an Architectural Conservation Area, west and north of Liffey Valley. The general guidance is that proposals should not detract from the settings and affect the settings of Protected Structures.
- The site also is in proximity of Liffey Valley Proposed Natural Heritage Areas and River Rye / Carton House Demesne Special Area of Conservation. Any development on site should not affect the quality of these protected landscapes.

4.4 Landscape Baseline: Description of the Site and Environs

The existing site and its environs are described below in terms of:

- Location
- Built, Natural and Cultural Heritage
- Landscape and Visual Amenity
- Landscape Character

Location and Overview

The site is located on the southside of Leixlip Road and to the east side of River Liffey. The site is bound by private properties to the north, some residential and open space to the east, M4 motorway to the south and the Leixlip Hydro Station and Liffey River to the west.

The site is occupied by Irish Water. The site occupies the Leixlip Hydro Station and Leixlip Water Treatment Plant. This service infrastructure land use has been established and expanded over the past 50 years.

Figure 8: Site and immediate surroundings (site boundary in red)



Built, Natural and Cultural Heritage

The village of Leixlip is historical and the site is located off one of the most used historical roads, which was once the main thoroughfare from Dublin to Galway. Leixlip Village enjoys the attractive setting of the unspoilt Liffey river at this location. The area contains historical demesnes and this is evident in the landscape in the form of parkland trees, stone walls, arches and gates, and local milestones and other historic features.

The Salmon Leap public house north of the site along Leixlip Road, was built around 1850's and is a protected structure. The public house is located in a prominent location outside the village and faces straight on to the Leixlip Bridge which is also a Protected Structure. The National Inventory of Architectural Heritage (NIAH) appraisal states; "A simple, well-proportioned street-fronted public house, located on a prominent corner just outside Leixlip village".



Plate 1 & 2: The setting of the public house (currently a pub) in relation to the bridge

Landscape and Visual Amenity

The Leixlip village surroundings area is quite picturesque this is due to the setting of the village along the Liffey River Valley. The valley character area type is quite strong at this location. The area is surrounded by some historical demesnes and this is evident in the landscape in the form of tall, lined matured trees and, stone walls and gates and local milestone / milepost.

The scenic view of Liffey River from the Leixlip Bridge is the only Protected Viewpoint in the area.

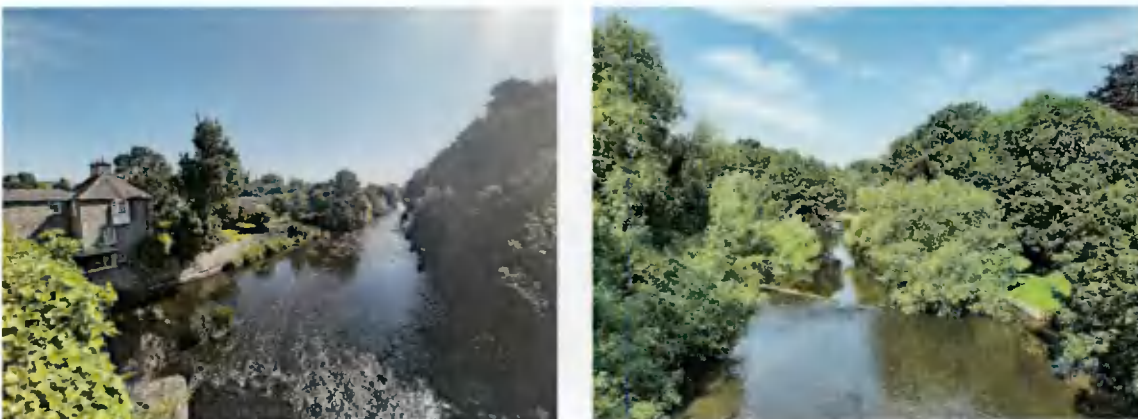


Plate 3 & 4: Protected Views from Leixlip Bridge (left image - looking east from the bridge and right image – looking west from the bridge)

Visibility

The matured vegetation in the surrounding landscape, along the site boundary and the river valley screens the application site from all sides. Generally, long-distance views are negated due to the matured vegetation and due to the rolling topography. There are some views available from elevated lands of the village, but the views are localised or only visible from gaps in vegetation. The use of the site is well established over the years and is well screened.

These are illustrated in images below.

Views from short distance



(left to right) **Plate 5 & 6:** View from Leixlip Road looking west towards the site, **Plate 7:** View looking west from pedestrian bridge over M4 Motorway

Views from medium distance



(left to right) **Plate 8 & 9:** Medium distance views from elevated lands of the village

Views from long distance



Plate 10: View from Waste Water Treatment Plant entrance, **Plate 11:** View from St. Catherine's Park

Landscape Character

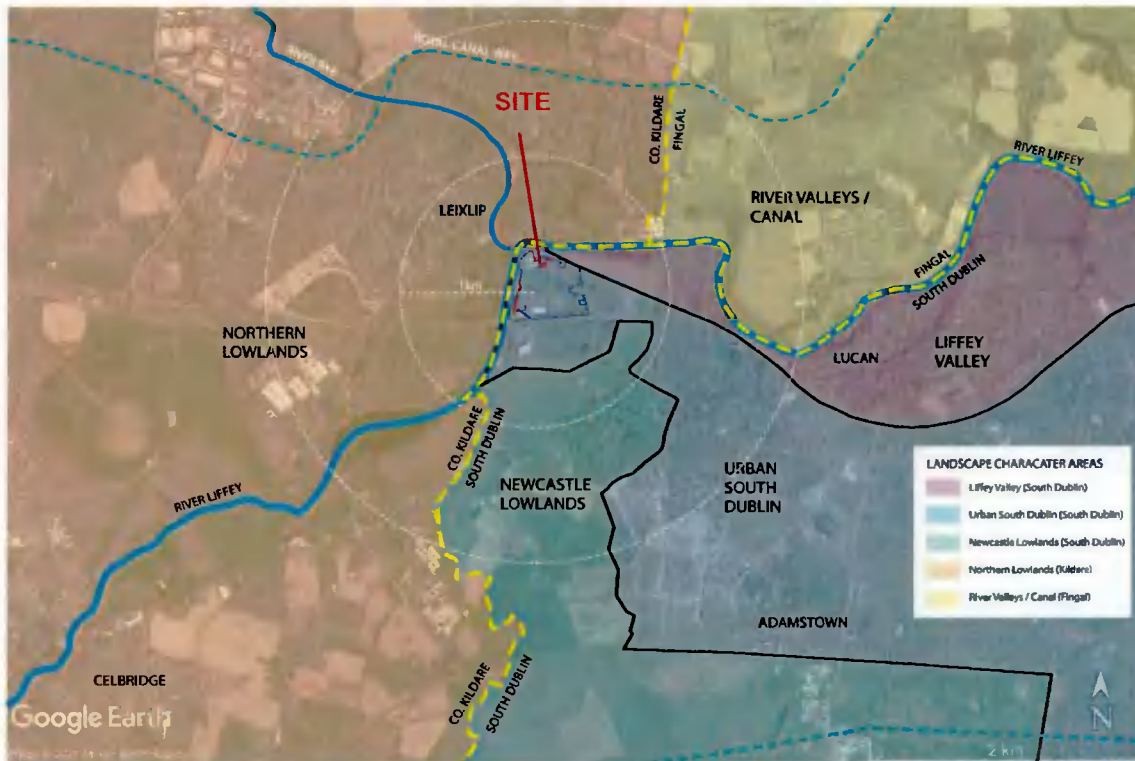
There are five different landscape character areas within 2 kms radius of the proposed development. The Irish Water lands are located within the geographical area of LCA 5 Urban South Dublin on which they have limited impact / visibility. The site is well screened in the wider landscape and therefore existing structures have limited or no visibility in the other landscape character areas. The area is strongly influenced by river landscape of the Liffey .

The landscape character of the application site and immediate surroundings is mixed and can be defined by;

- The strong River Liffey Valley landscape character of the area

- Historical setting of the Leixlip village and Leixlip Bridge along the unspoilt river Liffey
- Heritage features in the form Protected structures and RMP's identified in the vicinity of the site, such as Leixlip Bridge, Public House, etc
- Historical Demesnes in ruins or in-function scattered in the landscape.
- Established service infrastructure in the area Leixlip Water Treatment Plant, Hydro Station and Electricity Grid / Sub-station as service infrastructure within the Urban South Dublin Landscape Area.
- Limited access to the site due to the private ownership.
- Limited views from short/medium/long distance across the majority of the site area.

Figure 9: Landscape character areas in the vicinity of the site



As such, the **landscape sensitivity** of the subject site / Urban South Dublin LCA is **'Medium'**: Areas where the landscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong. These areas may be recognised in landscape policy at local or county level and the principal management objective may be to consolidate landscape character or facilitate appropriate, necessary change.

4.5 Summary of Landscape Characteristics and Values

The values and characteristics of the site are listed below and can be categorised in two ways – values which should be conserved, and those that provide opportunity for enhancement. These values are summarised below:

The character of the area is not protected but any development should consider the setting of the area and where possible be sympathetic to it.

4.5.1 Conservation Values

The values to be conserved indicate those aspects of the receiving environment which are valued and sensitive and could be negatively impacted on by the proposed development.

- Recognition of this area's cultural significance, ecological features, highly sensitive landscape character, and designated sites in Policy.
- Retention or enhancement of high amenity landscape character of Liffey River Valley
- The relationship between the historical built environment in terms of views, boundary treatments and landscape character.
- The setting of the public house in a prominent location in relation to the bridge, its protected viewpoint, and approaches to village.
- The parkland landscape character of the wider landscape – simple large elements – woods, fields and built elements

4.5.2 Enhancement Values

The enhancement values reflect change that is occurring in the landscape and its inherent robustness. These include:

- The site has been in long standing industrial / service infrastructure land use which has therefore limited the accessibility and diversity of the lands.
- Consolidation of service infrastructure in the area and to facilitate sustainable infrastructure to the area
- Ambiguity of extent of High Amenity zoning, which includes existing commercial lands south of Leixlip Road, and the LCA Liffey Valley which terminates at the Leixlip Road. Land south of this road is within the LCA Urban South Dublin which is a more appropriate representation of its current character and influences.

5 POTENTIAL IMPACTS OF THE DEVELOPMENT

The proposed development is described in section 3. From a landscape and visual impact perspective the key issue is the height of the proposed buildings, its visibility / interaction with surrounding areas both at construction stage and on completion – operational stage.

5.1 Construction Stage

Potential Landscape Impacts

The potential construction impacts on the landscape include the:

- Demolition of existing building and erection of hoarding and construction equipment (cranes) change of the local landscape to a construction site.
- Entry and exit of construction plant, vehicles and materials.
- Movement of soil and storage of materials.

Potential Impacts on Views

The potential construction impacts on views include the:

- Erection of new buildings and all engineering, building and landscape works required with associated site infrastructure, fencing and plant.
- Visibility of site plant and machinery, which will be both still and moving. Cranes will be visible over the roofs of existing buildings.

The construction stage will be approximately 18 months.

5.2 Operational Stage

Potential Landscape Impacts

The potential operational impacts on the landscape include:

- Likely little or no impact on the landscape character
- No loss of any valuable landscape elements on site
- Intensification of land use on site

Potential Impact on Views

- Change in the content of some localised viewpoints
- Change in the character of the view from the Leixlip Bridge and Leixlip Road and the setting of the Salmon Leap pub.
- Potential introduction of elements into the view, as viewed from elevated residential areas / sensitive landscape areas.

5.3 Potential Cumulative Impacts

The proposed development is part of the upgrade of the Leixlip Water Treatment Plant. The potential cumulative impact would be intensification of the existing industrial nature of the strategic water treatment plant use, and its impact on landscape character areas and views. Due to limited site visibility from the wider areas, the impact would be localised.

5.4 Remedial or Reduction Measures: Mitigation

There is limited capacity to mitigate the visual intrusion of the development. The main focus has been on simplifying its form and materiality using Architectural Screening in order to be less intrusive in views. Mitigation measures are proposed and considered only on the lands of the subject site between the development and the site boundary.

5.4.1 Construction Phase

During construction there will be a change to the landscape and there will be localised adverse effects.

The remedial measures proposed revolve around the implementation of appropriate site management procedures – such as the control of site lighting, storage of materials, placement of compounds, delivery of materials, car parking, etc. Visual impact during the construction phase will be mitigated somewhat through appropriate site management measures and work practices to ensure the site is kept tidy, dust is kept to a minimum, and that public areas are kept free from building material and site rubbish.

Site hoarding will be appropriately scaled, finished and maintained for the period of construction of each section of the works as appropriate. To reduce the potential negative effects during the construction phase, good site management and housekeeping practices will be adhered to. The visual effect of the site compound and scaffolding visible during the construction phase are of a temporary nature only and therefore require no remedial action other than as stated above.

Existing trees adjacent to the site will be retained and protected in accordance with arboricultural best practice i.e. BS5837: Trees in relation to Design, Demolition and Construction – Recommendations (BSI, 2012).

Adverse effects during construction will be short-lived.

5.4.2 Operational Phase

The proposed development involves the upgrade of the Leixlip Water Treatment Plant. The development involves introduction of buildings & structures into the site and some views. The proposed development is a minor addition in the form of upgrades to the current functioning of the water treatment plant. The change will be localised and will have limited impact on the wider landscape resource but potentially intrusive in some views from Leixlip Bridge. A Perforated Metal Architectural Screen has been used to simplify the form and reduce industrial character of the new structure reducing intrusiveness in key views.

6 PREDICTED LANDSCAPE IMPACTS

6.1 Landscape Sensitivity

The receiving environment consists of;

- Subject lands and its immediate surroundings,
- LCA 5 Urban South Dublin, and
- LCA 1 Liffey Valley

The LCA 1 Liffey Valley of South Dublin Landscape Character Assessment (2015) and LCA 3 of Kildare Landscape Character Assessment (2004) are not impacted / affected directly by the proposed development. If there is any impact it is visual impact on these landscape character areas which will be covered in Section 7 of this report.

The Landscape Sensitivity of the baseline landscapes defined in Section 4 and is as follows:

- **LCA 1 Liffey Valley** is classified as 'High Sensitivity', and
- **LCA 3 Northern Lowlands** is classified as 'Low Sensitivity'.

Since the LCA 3 Northern Lowlands has 'low' sensitivity and the development does not directly lie within the geographical area of the LCA, there will be no predicted landscape impacts on this LCA.

The landscape sensitivities of the Subjects Lands and LCA 5 Urban South Dublin are combined together for this assessment because the subject site is fragmented from the whole landscape character area and covers a negligible geographical area of the Urban South Dublin LCA.

The landscape sensitivity of the **Subjects Lands and LCA 5 Urban South Dublin** is classified as 'Medium Sensitivity' - *Areas where the landscape has certain valued elements, features or characteristics but where the character is mixed or not particularly strong.*

6.2 Construction Stage

Construction Impacts on the Landscape

Construction Stage will involve site clearance, building and related works for some period of time. These are generally intrusive and visually adverse in nature.

Construction Effects on the Landscape

These impacts would have the following effects on the baseline landscape areas as follows:

Subject Lands / LCA 5 – Urban South Dublin (Medium Sensitivity)

The effects during construction would relate to a very small geographical extent of this LCA. Development works are to be expected in this mixed-environment and are not out of keeping with the character of the area.

The magnitude of change to the area during construction is expected to be 'Low.'

The importance of this effect would be Moderate Adverse, temporary effect.

LCA 1 – Liffey Valley (High Sensitivity)

The effects of the development during construction is outside the geographical extent of this LCA and would be localised in the wider context. The scheme is relatively limited in scale and would not change the character of the wider LCA. Effects are also localised to the Liffey and Leixlip Bridge

The Magnitude of Change relative to the whole character area is considered '**Negligible**', resulting in '**Low**' Landscape Effects. The scheme would be in keeping with its scale and context and therefore qualitatively is Neutral.

6.3 Operational Stage

The effects of this in terms of alteration of the landscape character are assessed below;

Subject Lands / LCA 5 – Urban South Dublin (Medium Sensitivity)

The effects of the development at operation would be localised and relate to a very limited geographical extent of Urban South Dublin LCA. The proposal would introduce new structures and two silos into the landscape which may be prominent from localised viewpoints (see the visual assessment for detail), but also reflect existing uses in the immediate area.

The Magnitude of Change is considered '**Low**' - *Change that is moderate or limited in scale, resulting in minor alteration to key elements features or characteristics of the landscape, and/or introduction of elements that are not uncharacteristic in the context. Such development results in minor change to the character of the landscape.*, resulting in a '**Moderate**' importance Landscape effect.

Qualitatively, the effect is Adverse - *Scheme at variance with landform, scale, pattern.*

LCA 1 – Liffey Valley (High Sensitivity)

The effects of the development at operation is outside the geographical extent of this LCA and would be localised in the wider context. The scheme is relatively limited in scale and would not change the character of the wider LCA. Effects are visual and localised to the Liffey and Leixlip Bridge

The Magnitude of Change relative to the whole character area is considered '**Negligible**', resulting in '**Low**' Landscape Effects. This effect is confined to a small area of visibility around Leixlip Bridge and is and although local this is Adverse. There is no effect on the wider LCA.

7 PREDICTED VISUAL IMPACTS

7.1 Visual Effects

Based on the assessment of the landscape characteristics, values and sensitivities, 3 representative viewpoints were selected to assess visual impact and effects. 2 other viewpoints from elevated lands from Leixlip village were considered – due to low visibility and localised impact these were discarded.

Both the landscape architect's site survey and verified views were captured in July 2021. Existing photographs and proposed photomontages are provided by gnet3D .

The assessed viewpoints are listed in Table 6 below. A sensitivity rating has been ascribed to each visual receptor based on the definitions provided in Table 4. A rationale for the sensitivity rating is provided under the description of each existing view below.

Table 6: Selected Viewpoints for Visual Assessment

VP	Viewpoint	Rationale for selection	Viewpoint sensitivity	Site Visibility
1	Looking south-west from Leixlip Road	Representative of views experienced by road users and pedestrians	Low	Visible
2	Looking south from Leixlip Bridge.*	Representative of views experienced by road users and pedestrians and tourists	Medium	Partially visible
3	Private entrance to Site / Leixlip Hydro Station	Representative of views experienced by road users and pedestrians	Low	Visible

*A sequence of views illustrating visibility crossing the bridge is provided

Figure 10: Viewpoint map – See Photomontage Booklet by GNet 3D



Photography and presentation of viewpoints

Each Viewpoint is illustrated by a photograph showing the existing view and the photomontage showing the proposed development.

Photomontages have been produced by Gnet3D and are presented in a separate photomontage booklet with a map of their locations (extract in Figure 10 above). Verified photographs and photomontages have been taken with a wide angle focal length (FL) and prime lens to allow representation of the development within its context. In all visualisations, the extent of the 50mm FL view has been indicated for reference, which is broadly equivalent to the c.40 degree Horizontal Field of View (HFOV) and is representative of what the human eye perceives and reflects the requirements of the Landscape Institute Technical Guidance Note on Visual Representation 2019.

To correctly view the photomontage at the correct scale the extents of the 50mm lens or 40 degree angle of view should be extended to A3 in size and viewed at arms length. This can be done by printing a hard copy or, more easily, digitally on screen, allowing reference back to the wider angle to understand the context.

Each viewpoint is described below in its existing condition and the effects of the proposed development. The descriptions, including of the change / effects, focus primarily on the extent of the 50mm image, and the winter (worst case scenario) view, but refer to the context, as appropriate, to inform analysis.

Viewpoint 1 - Looking south-west from Leixlip Road

Existing View

The existing view is from Leixlip Road, the viewpoint is located opposite the site entrance to Leixlip Road. The viewpoint is located in close proximity to the application site. The viewpoint is representative of views experienced by road users and pedestrians.

In the foreground the Leixlip Road is visible, in the middle ground the site's boundary wall is visible and in the background the existing structures on the site are visible. In the background some tree tops are visible.

The view is of a busy local road with a harsh opening to a prominent industrial / infrastructural works creating a gap in what is generally a tree lined rural corridor. The quality of the view is currently poor.

Therefore, the **viewpoint sensitivity is Medium** - *such as locations where viewers are travelling at slow or moderate speeds through or past the affected landscape in cars or on public transport, where they are partly but not entirely focused on the landscape, or where the landscape has some valued views. The views are generally not designated, but which include panoramic views or views judged to be of some scenic quality, which demonstrate some sense of naturalness, tranquillity or some rare element in the view.*

Visual Impacts and Effects

The view would change to include the new building and silos within their architectural screen in the middle of the view. The development would form an extension of existing development of site in scale and character.

The magnitude of change would be Medium - *Partial intrusion of the development in the view, or introduction of elements that may be prominent but not necessarily uncharacteristic in the context, resulting in change to the composition but not necessarily the character of the view or the visual amenity.*

The change is of **Moderate Importance** in the Short, Medium and Long Term.

Qualitatively the impact would be Neutral i.e. *Schememaintains landscape quality. (Although the quality of the view is poor)*

Viewpoint 2 - Looking south from Leixlip Bridge.

Existing View

8 views are presented here (viewpoints 2a – h) representative of the progression across Leixlip bridge from Leixlip village on the north side to the frontage of the Salmon Leap Inn on the south side.

The views are from the footpath on the westside of the Leixlip Bridge. The range of views travel from a distance of approximately 50m (2a) to 10m (2h) from the Salmon Leap Inn looking south towards the public house and WTP to the rear. The views are representative of the views experienced by road users and pedestrians, and tourists at a very scenic location.

In each view the foreground is occupied by Leixlip Bridge and Leixlip Road. In the closer views (2e-h) the bridge is no longer visible and the public house dominates.

In each view, the public house which is a protected structure is clearly visible with its attractive vernacular and colourful façade. Where the bridge is visible, large trees are clearly visible along the banks of the river. In the background, over or to the side of the public house the existing WTP development on the site is partially visible along with some tree-tops.

Both the bridge and the public house are Protected Structures and their setting and character are an integral part of the view. Due to the low-lying locations and thick vegetation long distance views are limited. The public house is a prominent and landmark feature at the end of the bridge or dominating the view when close and the existing buildings to the rear are only partly visible above the roofline to one side, associated with a larger mature tree further to the rear.

The views and progression form an attractive location with post card views in all directions, including the historic pub.

Therefore, the **viewpoint sensitivity is High** - *Viewers at viewpoints that are recognised in policy or otherwise designated as being of value, or viewpoints that are highly valued by people that experience them regularly (such as views from houses or outdoor recreation features) and views which are highly valued by the local community. This may also include tourist attractions, and heritage features of regional or county value, and viewers travelling on scenic routes. The composition, character and quality of the view may be such that its capacity for accommodating compositional change in the form of development may or may not be low. The principle management objective for the view is its protection from change that reduces visual amenity.*

Visual Impacts and Effects

The proposed new building and two screened silos are visible rising above and behind the public house in Views 2a – e. The architectural screening simplifies the form of the structures and ties it to existing adjacent elements in the view. Whilst prominent when furthest from the public house this prominence reduces as the building is approached and in Views 2f – h is no longer visible. This change and its effects are tabulated below.

VPNo.	Location distance from Development	Sensitivity	Comment	Degree of Change	Importance and Term		
					Short	Medium	Long
2a	149.1m	High	Prominent above and behind pub	High	Important and Adverse		
2b	135.15m	High	Prominent above and behind pub	High	Important and Adverse		
2c	117.7m	High	Prominent above and behind pub	High	Important and Adverse		
2d	97.75m	High	Partly visible above and behind pub	Medium	Moderate and Adverse		
2e	85.1m	High	Slightly visible above and behind pub	Low	Low and Adverse		
2f	78.1m	High	Negligible visibility	Negligible	Low and Neutral		
2g	71.15m	High	Not visible	No Change	No Change		
2h	64.1m	High	Not visible	No Change	No Change		

The worst case scenario for the linked sequence of views scheduled above representative of crossing the Liffey in Leixlip results in an Important and Adverse effect in 3 out of 8 views.

A 4th view experiences a Moderately Important and Adverse change. In approaching closer than 100m to development however, visibility declines and the effects drop from Low and Adverse to Neutral to No Change as increasingly the Salmon Leap Inn screens views of the development to the rear.

Viewpoint 3 - Private entrance to Site / Leixlip Hydro Station

Existing View

The view if from the private entrance to the site / to Leixlip Hydro Station. The viewpoint is looking south-east at the application site and is a close-range view. The viewpoint is representative of the views experienced by road users and pedestrians on this route.

The viewers are looking at the road and road verge in the foreground. In the middle ground, the public house is clearly visible. Stone walls and stone piers are also visible in the middle ground. In the foreground, the existing development on site is clearly visible. Mature trees are scattered in the view.

The view is from a private road, the only receptors are road users. The view has some valued features and the public house is a prominent feature in the existing view.

Therefore, the **viewpoint sensitivity is Low** - Viewers at viewpoints reflecting people involved in activities not focused on the landscape e.g. people at their place of work or engaged in similar activities..

Visual Impacts and Effects

The view would change to include the proposed development in the middle of the background. The development would form an extension of existing development of site and the architectural screening keeps a neutral and simple form alongside the existing structures in the view.

The magnitude of change would be Medium - *introduction of elements that may be prominent but not necessarily uncharacteristic in the context, resulting in change to the composition but not necessarily the character of the view or the visual amenity.*

The change is of **Moderate Importance** in the Short, Medium and Long Term.

Qualitatively the impact would be Neutral i.e. *maintains landscape quality.*

i.e. the existing landscape quality / view is not of high value and is not degraded further by the development.

8 CONCLUSIONS

Landscape Impacts and Effects

The magnitude of change to the Landscape Character is considered Low (in its immediate environs) to Negligible in the wider Liffey Valley landscape. The landscape sensitivities range from Medium to High resulting in a landscape effect of Moderate & Adverse Importance. However this effect is primarily visual and very localised as can be seen in the commentary above. The land use is already established and similar structures are present in the WTP site.

Visual Impacts and Effects

Three viewpoints were assessed representative of this localised landscape change.

Viewpoint 1 from the Leixlip Road experiences an effect of Moderate and Neutral importance reflecting the fact that the current view is not of a high quality.

Viewpoint 3 at the entrance to the Leixlip Hydro Station also experiences an effect of Moderate and Neutral importance for similar reasons and also due to the mitigating effect of the proposed architectural screening simplifying the form and design language of the industrial structures.

Viewpoint 2 has been analysed in some depth and reflects a sequence of views from north of the river, across the Leixlip Bridge to the Salmon Leap Inn. It illustrates a change in visibility and therefore effect from Important and Adverse to Low Importance and Neutral and then no change. This reflects the typical movement experienced (by vehicles and pedestrians) along a road corridor albeit in a highly scenic and recognised location and corridor.

Mitigation in the form of architectural screening has not reduced the visibility of the proposed development, however it has altered the more industrial language and character of the silos (now enclosed), to a more neutral, simple and acceptable form, where visible as a backdrop in the generally scenic composition of the pub, bridge and river landscape.