



ENVIRONMENTAL BALANCE IN DESIGN AND CONSTRUCTION

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THORNTONS RECYCLING

ENVIRONMENTAL IMPACT STATEMENT FOR PROPOSED DEVELOPMENT AT MILLENNIUM BUSINESS PARK

VOLUME 2 – MAIN EIS

CHAPTER 14 – ARCHAEOLOGY, ARCHITECTURAL AND CULTURAL HERITAGE

JANUARY 2017

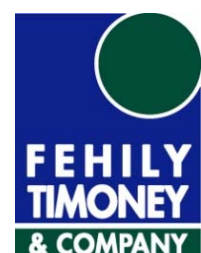


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14 ARCHAEOLOGY, ARCHITECTURAL & CULTURAL HERITAGE

14.1 Introduction

This chapter assesses the impacts, if any, of the proposed development on the archaeological, historical and cultural environment in the vicinity of the site. This chapter will also propose mitigation measures to safeguard any monuments, features or finds of antiquity, if required.

The objectives of this chapter are to:

- identify all known features of archaeological, architectural and cultural heritage importance in the vicinity of the proposed development
- determine any potential impacts of the proposed development on the archaeological, architectural and cultural heritage resource
- identify measures to mitigate any potential impacts of the development on the archaeological, architectural and cultural heritage resource.

14.2 Study Area

There is no professional standard for defining the extent of a study area when assessing potential impacts on archaeological, architectural or cultural heritage remains. A study area of 1 km from the site boundary has been imposed around the proposed development to assess the presence of statutorily protected archaeological remains. This involved mapping all Recorded Monuments within 1 km of the development and assessing their potential to be impacted on as a result of the proposed development.

In addition, a study area of 1 km has been imposed around the proposed development area to record the presence of Protected Structures or any additional statutorily protected archaeological, architectural or cultural heritage features recorded in the *Fingal County Development Plan 2011 – 2017*, the *Draft Fingal County Development Plan 2017 – 2023* or the National Inventory of Architectural Heritage.

The key objectives of this report are to assess, as far as is reasonably possible from existing records, the potential impacts of the proposed development on the archaeological, architectural and cultural heritage resource. The following key issues are addressed:

- Direct and indirect impacts of construction activities on recorded and unrecorded archaeological, architectural and cultural heritage features
- Direct and indirect impacts of the operation of the proposed development on recorded and unrecorded archaeological, architectural and cultural heritage features
- Residual impacts of the proposed development on recorded and unrecorded archaeological, architectural and cultural heritage features.

14.3 Methodology

A desk based assessment was carried out for this study which involved detailed interrogation of the archaeological and historical background of the proposed development area and its surrounding landscape.

The following sources were examined as part of the desk based assessment and a list of sites and areas of archaeological, architectural and cultural heritage potential was compiled:

Record of Monuments and Places of County Dublin - This is a list of archaeological sites known to the National Monuments Service. Back-up files of the Sites and Monuments Record (SMR) provide details of documentary sources and field inspections where these have taken place. There are no sites recorded on the RMP within the proposed development area.

The *Fingal County Development Plan (2011–2017)* contains objectives on the preservation and management of archaeological, architectural and cultural heritage features. It was consulted to obtain information on sites within 1 km of the proposed development area.

The *Draft Fingal County Development Plan (2017–2023)* was also consulted to determine if any sites were present within 1 km of the proposed development area which were not previously identified in the Fingal County Development Plan (2011–2017).

National Inventory of Architectural Heritage (NIAH) - This is a section within the Department of Arts, Heritage and the Gaeltacht (DoAHG). The work of NIAH involves identifying and recording the architectural heritage of Ireland from 1700 to the present day. The NIAH website also contains a non-statutory register of historic gardens and designed landscapes, and this was assessed to look for the presence of any such features within 1 km of the proposed development area.

Previous Environmental Impact Statement (EIS) - An EIS was previously prepared in 2007 in relation to the development of a recycling facility at the same site. Information contained within Chapter 12 of this EIS (Material Assets: Archaeology, Architectural and Cultural Heritage) was examined.

Cartographic sources - These are important in tracing land-use development within the proposed development area, as well as providing important topographical information on sites and areas of archaeological potential. Cartographic analysis of relevant maps has been made to identify any topographical anomalies that may no longer remain within the landscape.

Aerial photographs of Ordnance Survey Ireland and Bing aerial photography - This coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its potential to contain previously unidentified archaeological remains.

Environment Protection Agency's "*Guidelines on the Information to be Contained in Environmental Impact Statements*" and "*Draft Revised Guidelines on the Information to be Contained in Environmental Impact Statements*" provide standard definitions for potential impacts on archaeological, architectural and cultural heritage remains.

By examining the above sources, an impact assessment and mitigation strategy was prepared. The impact assessment was undertaken to outline potential adverse impacts the proposed development may have on the archaeological, architectural or cultural heritage resource, while the mitigation strategy was designed to avoid, reduce or offset such adverse impacts.

14.4 Existing Environment

14.4.1 Archaeological and Historical Background

There are no Recorded Monuments within the proposed development area. There are seven Recorded Monuments within 1 km of the site (www.archaeology.ie). The closest Recorded Monument (DU014-050) is located approximately 400 m north west of the site and takes the form of a surface scatter of burnt mound material comprising charcoal-blackened soil and peat-cracked stone, representing a historic fulachta fiadh. This Recorded Monument was discovered as part of investigations for the Phase 2 north-eastern gas pipeline in 1998.

Excavations is an annual bulletin that contains summary accounts of all excavations carried out annually in Ireland. This electronic database (www.excavations.ie) contains summary accounts of all the excavations carried out in Ireland – north and south – from 1970 to 2015. It has been compiled from the published Excavations Bulletins from those years. The database was consulted for information on previous archaeological investigations undertaken within the townland in which the proposed development site is located. No relevant excavations have been recorded on the *Excavations* bulletin in the vicinity of the study area, i.e. within the townlands of Grange and Cappoge.

Reference to cartographic sources identified no archaeological features within the proposed development area. However, some architectural features were noticeable. Two roofed structures are recorded in the south east corner of the proposed development area on the Historic 6 Inch (1829-1841) Ordnance Survey Map. The Historic 25 Inch (1897-1913) Ordnance Survey Map, a more recent map, records three roofed structures in the same area. Present day mapping and site walkover evidence identifies two disused buildings in this area.

Aside from the two disused buildings which are currently on site and referred to above, there was no evidence of any archaeological, architectural or cultural heritage features recorded on aerial photographs of the proposed development area.

14.4.2 Record of Monuments and Places (RMP)

There are no Recorded Monuments within the proposed development area. There are seven Recorded Monuments within 1 km of the site, as presented in Table 14-1 and Figure 14-1

Table 14-1: RMP sites within 1 km of the proposed development

RMP No.:	DU014-050
Townland:	Grange
Classification:	Fulacht fiadh
Distance from proposed development area:	c. 400 m
Description:	The investigations in 1988 for Phase 2, north-eastern Gas Pipeline uncovered a surface scatter of burnt mound material comprising charcoal-blackened soil and peat-cracked stone (6m E-W; 5m N-S). The remains formed part of a penannular feature with an opening towards the East. A variety of stone types were noted (Gowen, 1989).
Reference:	www.archaeology.ie

RMP No.:	DU014-116002
Townland:	Cappoge
Classification:	Structure
Distance from proposed development area:	c. 800 m
Description:	Excavation (Licence nos. 06E0288 ext. and 08E0032 ext.) undertaken at the site in advance of the Ballycoolin Road realignment indicated that the area close to the 'site of' Cappogue Castle (DU014-027) and was used for domestic occupation and agricultural activity during the medieval period. This monument was one of several possible structures identified and comprised foundations trenches that formed a rectangular building (11.7m x 6m) on an E-W axis. Pottery recovered from the vicinity indicates occupation during the 12th – 14th centuries (McQuade, 2010).
Reference:	www.archaeology.ie
RMP No.:	DU014-025
Townland:	Ballycoolen
Classification:	Reduntant Record
Distance from proposed development area:	c. 800 m
Description:	This is a well-defined rise (diam. 20-25m, H 2m). It lies along a prominent ridge in the landscape. Listed in the SMR (1988) as 'Earthwork unclassified'. Archaeological testing undertaken in 1994 to assess the archaeological potential of the ground surrounding the feature revealed a natural soil profile. The mound is a natural one, apparently rising over a cone of rock some 3-3.5m beneath the original summit level. Following an archaeological assessment, the upper portion of the mound was mechanically removed under archaeological supervision to ensure that no archaeological features had been inserted into it even though it is a natural feature. In spite of its morphology and possible parallels in the near vicinity the moat has been shown to have been a natural feature (Gowen, 1995) and was not included in the statutory list of recorded monuments (RMP, 1998). The evidence is not sufficient to warrant accepting this as an archaeological monument.
Reference:	www.archaeology.ie
RMP No.:	DU014-116003
Townland:	Cappoge
Classification:	Structure
Distance from proposed development area:	c. 800 m

Description:	Excavation (Licence nos. 06E0288 ext. and 08E0032 ext.) was undertaken at the site in advance of the Ballycoolin road realignment. It indicated that the area close to the 'site of' Cappogue Castle (DU014-027) was used for domestic occupation and agricultural activity during the medieval period. Located adjacent to structure (DU014-16002) this monument was one of several possible structures identified and comprised foundations of two perpendicular slot trenches (9m long). Pottery recovered from the vicinity indicates occupation during the 12th – 14th centuries (McQuade, 2010).
Reference:	www.archaeology.ie
RMP No.:	DU014-027
Townland:	Cappoge
Classification:	Castle – tower house
Distance from proposed development area:	c. 800 m
Description:	<p>Gabriel Beranger's drawing of 1776 shows a three-storey tower at the south-eastern corner of a walled enclosure (Harbison, 1998). In 1778 when Austin Cooper visited Cappogue Castle it stood as a three-storey tower house with corner turret in the SE (Price, 1942). It was associated with the Woodcock family from the 13th to the 16th century (Ball, 1920). Demolished before 1860 (Healy, 1975). Not visible at ground level.</p> <p>Excavations (Licence nos. 06E0228 ext and 08E0032 ext) were undertaken north of the site of Cappogue castle in advance of the Ballycoolin Road Realignment. The standing remains of a structure appear to have incorporated part of the remains of the gatehouse of the castle but no definite remains of the tower house were identified on this site and it is highly likely that the stone from this structure was re-used after it fell into disuse in the 17th century (McQuade, 2010).</p>
Reference:	www.archaeology.ie
RMP No.:	DU014-117
Townland:	Cappoge
Classification:	Burial Ground
Distance from proposed development area:	c. 900 m
Description:	Excavation (Licence no. 06E0288) was undertaken at the site in advance of the Premier Business Park development. Located to the SE was a much-disturbed burial ground. At least sixteen individuals were aligned E-W and enclosed by a deep ditch and orientated in a NE-SW direction, but only a short section of this ditch survived. Another burial was found c. 75m to the NE of the main burial-ground: that individual was facing southwards (McQuade, 2009).
Reference:	www.archaeology.ie
RMP No.:	DU014-118

Townland:	Cappoge
Classification:	Enclosure
Distance from proposed development area:	c. 900 m
Description:	Excavation (Licence no. 06E0288) was undertaken at the site in advance of the Premier Business Park development. A large L-shaped ditch (3.9m w. x 1.74m max. depth) extended N – S for 53.4m and the E return extended for c. 20m. The size of this ditch and its organic waterlogged fill indicates that it could represent the remains of a moat that may have delimited the earlier settlement on this site, prior to the construction of the recorded Cappoge Castle (DU014-027). Pottery recovered from the moat indicates occupation during the 12th – 14th centuries (McQuade, 2009).
Reference:	www.archaeology.ie

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Legend

- Record of Monuments and Places (RMP)
- ▭ Proposed Site Boundary
- 1km Buffer of Site

Date 13/10/2016

Client Name
Thorntons Recycling

Project Title
EIS for Proposed Development at Millennium Park

Figure Title
RMP Sites within 1km of the Proposed Development

Figure No. 14.1 **Rev.** A

Scale 1:15,000 **@ A4**

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14.4.3 National Monuments

The Department of Arts, Heritage and the Gaeltacht maintains a database on a county basis of National Monuments in State Care. The term National Monument is defined in Section 2 of the National Monuments Act (1930) as a monument, or the remains of a monument:

“the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto” (www.archaeology.ie).

There are no National Monuments in State Care within the proposed development area or the 1 km study area.

There are no sites with Preservation Orders or Temporary Preservation Orders within the proposed development area or the 1 km study area.

There are no World Heritage Sites or Candidate World Heritage Sites within the proposed development area or the 1 km study area.

14.4.4 Fingal County Development Plan 2011 – 2017

Section 6.2 of the Fingal County Development Plan (2011-2017) contains a list of *National Monuments in Fingal in State Care or with Preservation Orders*. None of National Monuments on this list are located within the proposed development area or within 1 km of this area.

Section 6.3 of the Fingal County Development Plan (2011-2017) contains a list of *Architectural Conservation Areas* within Fingal. None of the Architectural Conservation Areas on this list are located within the proposed development area or within 1 km of this area.

14.4.5 Draft Fingal County Development Plan 2017 – 2023

Section 10.3 of the Draft Fingal County Development Plan (2017-2023) contains a list of *Architectural Conservation Areas* within Fingal. None of the Architectural Conservation Areas on this list are located within the proposed development area or within 1 km of this area.

14.4.6 Protected Structures

Appendix 3 of the Fingal County Development Plan (2011-2017) contains the *Record of Protected Structures* for the county. There are no Protected Structures within the proposed development area. There are two Protected Structures within the 1 km study area (Figure 14-2). Appendix 2 of the Draft Fingal County Development Plan (2017-2023) identifies no further Protected Structures within 1 km of the proposed development area in addition to those listed in Table 14-2.

Table 14-2: Protected Structures within 1 km of the Proposed Development

Protected Structure No.	Description	Townland	Distance
681	Castle 'Site of' Archaeological site	Cappoge	c. 800 m
677	Earthwork Unclassified	Ballycoolen	c. 900 m



Legend

- Protected Structures (Fingal County Development Plan)
- Proposed Site Boundary
- 1km Buffer of Site

Date 14/10/2016

Client Name
Thorntons Recycling

Project Title
EIS for Proposed Development at Millennium Park

Figure Title
Protected Structures within 1km of the Proposed Development

Figure No. 14.2	Rev. A
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Scale 1:15,000 @ A4



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14.4.7 Architectural Conservation Areas

Section 6.3 of the Fingal County Development Plan (2011-2017) and Section 10.3 of the Draft Fingal County Development Plan (2017-2023) contain lists of *Architectural Conservation Areas* within Fingal. None of the Architectural Conservation Areas on either of these lists are located within the proposed development area or within 1 km of this area.

14.4.8 National Inventory of Architectural Heritage (NIAH)

NIAH (www.buildingsofireland.ie) maintains a non-statutory register of buildings and historic gardens recorded on a county basis.

There are no entries recorded on either the NIAH building survey or the NIAH garden survey within the proposed development area or within 1 km of the proposed development area.

14.5 Summary of Key Possible Impacts

As described in further detail in Chapter 2 of this EIS, this proposal will comprise the development of a waste processing and bale storage buildings, an administration building, vehicle marshalling areas, associated parking, surface and foulwater infrastructure and other ancillary infrastructure at the site.

As a result of carrying out this assessment, the following potential archaeological, architectural and cultural heritage direct, indirect, construction, operational and residual impacts have been assessed for the proposed development:

14.5.1 Construction Phase Impacts (Direct and/or Indirect)

- There are no Recorded Monuments, Protected Structures, Architectural Conservation Areas, NIAH structures or NIAH historic gardens within the proposed development area. As a result, there will be no direct construction impact on the recorded archaeological, architectural or cultural heritage resource.
- The proposed development will have a permanent direct construction impact on any previously unrecorded archaeological remains that may exist within the development area.
- There are seven Recorded Monuments and two Protected Structures within the 1 km study area. It is considered there will be an imperceptible construction visual and noise impact on the archaeological, architectural and cultural heritage resource.

14.5.2 Post Construction Phase Impacts (Direct and/or Indirect)

- There are seven Recorded Monuments and two Protected Structures within the 1 km study area. It is considered there will be an imperceptible operational visual and noise impact on the archaeological, architectural and cultural heritage resource.

14.6 Mitigation Measures

14.6.1 Construction Mitigation Measures

- Excavations carried out as part of the construction works will be monitored by site supervision staff, and if in the event that any archaeological remains are uncovered all works on site will cease immediately and an archaeologist will be retained to survey the findings and make recommendations for the progression of the construction works.
- There are no mitigation measures proposed to offset the imperceptible construction visual and noise impact on the archaeological, architectural and cultural heritage resource.

14.6.2 Post Construction Mitigation Measures

- There are no mitigation measures available to offset the imperceptible operational visual and noise impact on the archaeological, architectural and cultural heritage resource.

14.7 Residual Impacts after Mitigation

- There will be an imperceptible residual visual and noise impact on the archaeological, architectural and cultural heritage resource.

14.8 Monitoring

With the exception of the mitigation measures recommended in Section 14.6 above, there are no future monitoring requirements.

Table 14-3: Summary of Impacts

Potential Impact	Significance	Proposed Mitigation	Residual Impact
Potential direct construction impact on previously unrecorded archaeological remains	Unknown	Ceasing of construction works and retaining a licenced archaeologist to survey the site and provide recommendations on the progression of construction works should archaeological features be identified.	None
Visual and noise construction impact	Imperceptible	None	Imperceptible
Visual and noise operational impact	Imperceptible	None	Imperceptible

14.9 Conclusion and Summary

There are no Recorded Monuments, Protected Structures, Architectural Conservation Areas, NIAH structures or NIAH historic gardens within the proposed development area. As a result, there will be no direct construction impact on the recorded archaeological, architectural or cultural heritage resource. The proposed development will have a permanent direct construction impact on any previously unrecorded archaeological remains that may exist within the development area. There are seven Recorded Monuments and two Protected Structures within the 1 km study area.

It is considered there will be an imperceptible construction and operational visual and noise impact on the archaeological, architectural and cultural heritage resource. Excavations carried out as part of the construction works will be monitored by site supervision staff, and if in the event that any archaeological remains are uncovered all works on site will cease immediately and an archaeologist will be retained to survey the findings and make recommendations for the progression of the construction works.

There are no mitigation measures available to offset the imperceptible construction and operational visual and noise impact on the archaeological, architectural and cultural heritage resource. There will be an imperceptible residual visual and noise impact on the archaeological, architectural and cultural heritage resource.

14.10 References

Environmental Protection Agency (EPA). 2002. *Guidelines on the Information to be Contained in Environmental Impact Statements*. Dublin.

EPA. 2003. *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)*. Dublin.

EPA. 2015. *Draft Revised Guidelines on the Information to be Contained in Environmental Impact Statements*. Dublin.

Fingal County Council. 2011. *Fingal County Development Plan 2011 – 2017*.

Fingal County Council. 2016. *Draft Fingal County Development Plan 2017 – 2023*.

Internet Sources

www.archaeology.ie	National Monuments Service
www.bing.com/maps	Bing aerial photography
www.buildingsofireland.ie	National Inventory of Architectural Heritage
www.excavations.ie	Database of Irish Excavation Reports
www.maps.osi.ie	Ordnance Survey Ireland
www.fingal.ie	Fingal County Council

Cartographic Sources

Ordnance Survey	Historic 6 Inch (1829-1841) and 25 Inch (1897-1913) Map Editions
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VOLUME 2 – MAIN EIS

CHAPTER 15 – MATERIAL ASSETS

JANUARY 2017



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15 MATERIAL ASSETS

15.1 Introduction

This chapter examines existing material assets in the area of the development location. It predicts the impacts that may occur on these assets and the measures proposed to mitigate these effects.

15.2 Study Area

This assessment is based on material assets which have the potential to be directly impacted by the proposed development and therefore are those that occur within the immediate vicinity of the proposed development location.

15.3 Methodology

A desk-top study was undertaken to outline the material assets in the existing environment. In order to assess the impacts of the proposed development on material assets, a review of the proposed development to identify potential impacts on material assets was undertaken and the significance of these impacts assessed.

Impacts on transportation infrastructure, archaeology, ecology, architecture and cultural heritage and local settlements have been discussed in their relevant sections, and should be read in conjunction with this chapter.

15.4 Existing Environment

Material assets are outlined by the EPA in their *Advice Notes on Current Practice for the Preparation of Environmental Impact Statements (2002)* (and the 2015 Draft Revision to same) as “resources that are valued and that are intrinsic to specific places...they may be of human or natural origin and can be important for either economic or cultural reasons”.

A range of material assets are identified in these Advice Notes and assets potentially relevant to the proposed development and its location are presented in Table 15-1.

Table 15-1: Relevant Material Assets

Human Origin Assets		Natural Origin Assets
<ul style="list-style-type: none"> Transportation infrastructure (roads, railways, airports etc.) 	<ul style="list-style-type: none"> Cities, towns, villages & settlements 	<ul style="list-style-type: none"> Assimilative capacity of air & water
<ul style="list-style-type: none"> Utilities (water supplies, sewage, power systems etc.) 	<ul style="list-style-type: none"> Property 	<ul style="list-style-type: none"> Non-renewable resources (e.g. minerals, soils)
<ul style="list-style-type: none"> Agronomy 	<ul style="list-style-type: none"> Tourism and recreational infrastructure 	<ul style="list-style-type: none"> Renewable resources (hydraulic head, wind exposure)
<ul style="list-style-type: none"> Ownership and access 		

Natural Origin assets, in terms of assimilative capacities, have been discussed in Chapter 7 – Air Quality & Climate and Chapter 12 – Surface Water Quality & Drainage.

Human Origin assets such as transportation, infrastructure and settlements have been addressed in Chapter 8 – Roads, Traffic & Transportation, Chapter 2 – The Proposed Development and Chapter 6 – Human Environment, respectively. Agronomy has been discussed in broad, general terms in Chapter 11 – Soils, Geology & Hydrogeology, while potential impacts on property, in terms of nuisance related to the proposed works, have been addressed in Chapter 9 – Noise & Vibration and Chapter 7 – Air Quality & Climate. Tourism has been discussed in Chapter 6.

This section will therefore focus on remaining assets not addressed elsewhere in this EIS i.e. utilities, ownership and access, non-renewable resources and renewable resources.

15.4.1 Utilities Infrastructure

Utilities infrastructure is necessary to ensure that power (electricity/gas), water and amenity services, such as telecommunications and sewer collection, are provided to communities in a reliable consistent manner. Due to a community's dependency on such sources, any disruption to a utility supply can have a negative impact.

The Finglas–Ballycoolin 38 kV power line traverses the site, both overground and underground. As a result of the previous planning permission that related to the site, this powerline was diverted underground to facilitate the previously permitted development. As this proposed development comprises a larger site area, a 12 m tower is located right of centre on site. From this tower, the line runs overhead in an easterly direction over the adjacent Huntstown Quarry and runs westerly in a gradual arc underground to another tower located approximately 20m from the western site boundary, within the Millennium Business Park. A wayleave was granted to the ESB as part of the prior diversion. A medium voltage (MV) electricity supply line also transverses a small area of the site, at its south-east corner.

Underground medium voltage (10/20 kV) cables also run outside the western boundary within the Millennium Business Park to an existing sub-station, while an underground medium voltage cable also runs parallel to the southern boundary, along the Cappagh Road, that ties into the site, providing a connection point to the existing, disused residential dwelling on the site.

A medium pressure gas main also runs directly along the south boundary of the site, parallel to the Cappagh Road. A water main line runs parallel to the western boundary of the site to facilitate future water connection.

15.4.2 Ownership and Access

Thornton's Recycling has full ownership of the site area in which the proposed development is located.

Access to the site is via two existing entrances from the Cappagh Road and through the Millennium Business Park. The existing entrances are currently blocked off to prevent unauthorised access. Access to the site through the Millennium Business Park is via the unenclosed western portion of the site.

15.4.3 Non Renewable Resources

The Huntstown Quarry is located adjacent to the eastern boundary of the site. Bedrock geology at the site is dominated by limestones. The bedrock at the site is overlain by glacial till and is not exposed.

15.4.4 Renewable Resources

There are no wind energy facilities in proximity to the site and no assessment of the wind resource has been carried out at the site. Given its location, the proposed development location has a solar irradiation resource of approximately 2.8 kWh/m² per day, which is typical for Dublin.

15.5 Summary of Key Possible Impacts – Direct & Indirect

15.5.1 Property Values

There is a perception that property values will be depressed by the proximity of a waste facility. The potential impact on residential properties arises principally from a combination of visual, noise, air and traffic effects. These have been identified and their mitigation discussed in the preceding sections of this document.

As there are no residential properties located in the immediate vicinity of the proposed development and given the location of an existing waste management facility and quarry directly adjacent to the development site, direct or indirect impacts on property values in the wider locality due to the proposed development are not predicted.

15.5.2 Utilities Infrastructure

Direct impacts on electrical utilities resulting from the construction phase of the development will be temporary and slight and will be associated with works that will be undertaken by EBS Networks in relation to relocation of the existing 38 kV power line that transverses the site. Mitigation measures, in terms of prior notice to electricity users impacted by the powerline relocation, will be undertaken in ESB Networks.

No impact on electrical utilities are envisaged in the post-construction phase of the development while no direct or indirect impact are envisaged on any other utilities during the construction and operational phases.

15.5.3 Ownership and Access

There will be no direct or indirect impacts on ownership of the site as Thornton's Recycling will retain full ownership of the development site. A positive direct impact will result due to the upgraded site access.

15.5.4 Non-Renewable Resources

As there will be no winning of rock or stone onsite, no impact will result on mineral deposits at the site. There will be no additional requirements for non-renewable resources and no direct or indirect impacts on same.

15.5.5 Renewable Resources

The proposed development will not directly or indirectly impact potential future renewable resources in the vicinity of the site or within the site curtilage.

15.6 Mitigation Measures

There is no requirement for mitigation measures in relation to material assets as it is considered that the proposed development will not impact in any significant manner on the existing material assets in the surrounding environment.

15.7 Residual Impacts after Mitigation

Residual impacts on materials assets due to the proposed development are considered to be negligible.

15.8 Monitoring

There is no additional monitoring required for material assets onsite.

15.9 Conclusion & Summary

The development of a materials processing and transfer facility at the proposed development location is not predicted to impact significantly on material assets associated with the site. Impacts on property values are not predicted as a result of the proposed development.

A number of utility services were identified onsite and directly offsite and it is not considered that there will be any significant impact on utility infrastructure. A minor, short duration impact may result to electrical supply due to the relocation of existing ESB tower located onsite.

Thornton's Recycling retains full ownership of the site and access area. Therefore, no impacts on ownership and access to lands will result from this proposed development.

The proposed development will not impact existing potential future renewable or non-renewable resources surrounding the site or within the site curtilage.

15.10 References

EPA, *Advice Notes on Current Practice for the Preparation of Environmental Impact Statements* (2002).



ENVIRONMENTAL BALANCE IN DESIGN AND CONSTRUCTION

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THORNTONS RECYCLING

ENVIRONMENTAL IMPACT STATEMENT FOR PROPOSED DEVELOPMENT AT MILLENNIUM PARK

VOLUME 2 – MAIN EIS

CHAPTER 16 – INTER-RELATIONSHIPS AND INTERACTIONS

JANUARY 2017



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16 INTER-RELATIONSHIPS & INTERACTIONS

16.1 Introduction

The previous sections have described the potential impact of the development under a variety of different topic headings. The purpose of this section is to take a more holistic view. This ensures that there is adequate coverage in this EIS of the potential for the development to cause overall effects and cumulative impacts. This process also examines whether interactions between the different effects themselves may cause impacts that are greater than those alluded to when the relevant topics were discussed individually. As such, this section responds to the requirement of the legislation governing the EIA process for the cumulative effects and the inter-relationship or interaction between the various topics to be fully considered and described.

16.2 Impact Summary

The proposed development to develop a materials processing and transfer facility for the acceptance, processing and transfer of up to 170,000 tonnes per annum of residual municipal solid waste (MSW), source separated organic material i.e. 'brown bin' waste, waste wood and green waste, from both domestic and commercial sources, has the potential to cause both positive and negative impacts on the environment.

Based on an assessment of the potential impacts identified in the previous sections, the project team have identified the potential impact resulting from the proposed development (prior to mitigation) and these are identified as follows:

Potential Negative Effects

- increased noise levels during Construction phase
- increased noise levels during Operational phase
- increased traffic levels during Construction phase
- increased traffic levels during Operational phase
- potential for dust generation during Construction phase
- potential for odour generation during Operational phase
- impact on existing ecology of the site during Construction phase
- potential impact on surface water quality during Construction phase
- potential impacts on surface water quality during Operational phase

Potential Positive Effects

- provision of appropriate waste management infrastructure to support national and regional waste management policy and the concepts of self-sufficiency, proximity and the waste hierarchy
- employment provision & demand for good and services

Although separate and unrelated to the proposed development, the other existing developments in the locality, outlined in Chapter 1, Section 1.6 could have the potential to impact on the environment on greater scale than the proposed materials processing and transfer facility alone, when considered in combination with this development.

These potential combined cumulative effects have been considered in a number of sections in the EIS, particularly:

- Chapter 7: Air quality & Climate
- Chapter 8: Roads, Traffic & Transportation
- Chapter 9: Noise & Vibration
- Chapter 12: Surfacewater & Drainage

Table 16.1 summarises the impacts of the proposed development on each environmental aspect. Any adverse impacts are primarily localised in their extent and that their significance can be described as slight.

16.3 Interaction of effects including the adjacent Developments

Table 16.2 outlines the interactions between the proposed development and the other development identified in Chapter 1, Section 1.6, when considered under the topics of air quality, noise, traffic, hydrology and water quality.

16.3.1 Cumulative Effects

In the context of an EIS, cumulative effects can relate to two different aspects of a development. Firstly, the various impacts of a particular project can interact in a manner which causes additional effects, which when taken together are greater than they appear when documented under separate topic headings. Secondly, a project may magnify impacts associated with other built development, which is existing or is proposed for development. This may mean that, when a development is proposed at a greenfield location which is devoid of other significant built development, its impact is acceptable; by contrast, where it is proposed in conjunction with other development, the cumulative effect may be much greater. In some cases, the impacts of these multiple developments collectively may exceed that which is tolerable.

In relation to the issue of cumulative effects between the proposed materials processing and transfer facility development and other projects, Chapter 1, Section 1.6 identified a number of proposed developments in the wider vicinity of Millennium Business Park, which could have potential to have wider cumulative impact when considered in combination with the materials processing and transfer facility development.

An analysis of the relevant cumulative effects is set out in the Table 16.2.

Table 16-1: Summary of Relative Significance of Impacts with and without Mitigation

Topic Area	Description of Impact	Geographical Scale					Potential Impact	Duration	Significance Without Mitigation	Significance With Mitigation
		I	N	R	C	L				
Human Beings	Landuse					x	Neutral	Pe		-
	Employment generation				x	x	Positive	St – Mt	Slight	Slight
	Amenity and Tourism				x	x	Neutral	Lt	-	-
Transportation	Construction Phase Traffic					x	Adverse	Tp	Moderate	Slight
	Operational Phase Traffic					x	Adverse	Mt	Moderate	Slight
Noise	Construction phase noise					x	Adverse	Tp	Moderate	Slight
	Operational phase noise					x	Adverse	Mt	Moderate	Slight
Ecology	Impacts on designated areas			x	x	x	Neutral	St – Mt	Imperceptible	Imperceptible
	Impacts on flora and fauna onsite					x	Adverse	St – Mt	Slight	Slight
Geology/Hydrogeology	Soil and geology impacts					x	Neutral	St – Mt	Imperceptible	Imperceptible
	Groundwater impacts					x	Neutral	St - Mt	Imperceptible	Imperceptible
Hydrology/Surface water	Surface water quality impacts					x	Adverse	St - Mt	Slight	Imperceptible
	Hydrological impacts					x	Adverse	Mt - Lt	Imperceptible	Imperceptible
	Flood risk impacts					x	Adverse	Mt - Lt	Slight	Imperceptible
Air & climate	Dust emissions					x	Adverse	St – Mt	Slight	Imperceptible
	Odour emissions					x	Adverse	St - Mt	Moderate	Imperceptible
	Climate impacts			x	x	x	Adverse	St – Mt	Imperceptible	Imperceptible
Landscape/Visual	Visual Impact of operations					x	Adverse	St - Mt	Slight	Slight
Cultural Heritage	Construction & post construction impacts					x	Neutral	Pe	-	-
Material Assets	Impacts on material assets					x	Neutral	St - Mt	-	-

Scale		Duration		Significance
I -	International	Tp -	Temporary (<1 yr)	Imperceptible
N -	National	St -	Short term (1-7 yrs)	Slight
R -	Regional	Mt -	Medium term (7-15 yrs)	Moderate
C -	County	Lt -	Long Term (15-60 yrs)	Significant
L -	Local	Pe -	Permanent (60+ yrs)	Profound

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Table 16-2: Summary of Cumulative Impacts of the Proposed Development with other developments

Environmental Topic	Cumulative Impact with proposed development with other developments	Significance of Cumulative Impact	Scale of Cumulative Impact	Comment
Human Beings	Landuse, employment, amenity & tourism	Neutral	Localised	Proposed development will generate some increased employment in the locality during the construction and operational phases to augment that which may be provided as part of other development
Traffic	Additional traffic	Slight (negative)	Localised	Proposed development will increase traffic volumes above the existing, potential for additional slight, negative impact in combination with one or more of the identified developments, should haulage routes be the same; however, road network considered to have sufficient capacity
Noise	Additional noise from proposed development during the Construction and Operational phases above the existing	Slight (negative)	Localised	Application of noise limits to be imposed by required facility Industrial Emission licence, as well as heavy industry zoning of the locality, ensure ability to adsorb any cumulative impact
Air Quality	Dust generation during construction and operational phases	Slight (negative)	Localised	Application of dust limits to be imposed by required facility Industrial Emission licence, as well as heavy industry zoning of the locality, ensure ability to adsorb any cumulative impact
	Odour generation during operational phase	Slight (negative)	Localised	Modelling identified no cumulative odour impacts from the proposed development when consider with the 2 no. existing waste management facilities in the wider locality
Flora & Fauna	Impacts on designated areas	Imperceptible	Localised	None of the other identified developments are considered to impact on designated sites in combination with the proposed development
	Impact on flora and fauna	Slight	Localised within development site	Impacts on flora and fauna as a result of the proposed development will be limited to the Pretty Bush site; the other sites are existing industrial sites of no ecological value and are removed from the development location.

Environmental Topic	Cumulative Impact with proposed development with other developments	Significance of Cumulative Impact	Scale of Cumulative Impact	Comment
Soils, Geology and Hydrogeology	Soil and geology impacts	Imperceptible	Localised within development site	There will be limited excavations required as part of the proposed development and no cumulative impacts will occur
	Groundwater impacts	Imperceptible	Localised	Low groundwater table in locality allied to limited excavations will not result in any impacts; lack of interaction with hydrogeology of other development sites ensures no cumulative impact
Hydrology/ Surface Water	Hydrological, water quality, and flood risk impacts	Slight	Localised	Mitigation measures included for surface water run-off and attenuation will ensure impacts associated with the proposed development are minimal; separation from other development sites ensures no cumulative impacts
Landscape and Visual	Cumulative visual effect on landscape and visual amenity	Slight	Localised	No significant impacts are envisaged on the landscape and visual amenity of the locality as a result of the proposed development; the nature of the existing landscape ensures the ability to adsorb the proposed development and therefore no cumulative impacts will occur.

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16.4 Conclusion of the Development and its impacts in context

The proposed development at the Millennium Business Park site will provide waste management infrastructure for the management and treatment of up to 170,000 tonnes per annum of municipal wastes, in adherence with national, regional and local waste management policy.

The previous sections of this EIS have dealt with any potential impacts from the proposed development – where potential negative impacts are expected in some instance, mitigation measures have been proposed to minimise or eliminate these impacts.

With the successful application of the mitigating measures presented and best practice techniques implemented during construction and operation, the proposed development at the Millennium Business Park site is not anticipated to have any significant, long term, negative impacts on the local environment.

When considered in parallel with other existing and potential developments in the wider locality, it is concluded that the proposed development will not result in greater cumulative impacts than those identified for the proposed development alone.

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