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Cork County Council

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Progressive Commercial Construction Ltd.,
C/O Aiden O'Neill,
Coakley O'Neill Town Planning Ltd.,
NSC Campus,
Mahon,
Cork.
T12 H7AA

3rd March, 2023

REF: D/207/23
LOCATION: Wallingstown, Little Island, Co. Cork.

RE: DECLARATION OF EXEMPTED DEVELOPMENT UNDER SECTION 5 OF THE PLANNING & DEVELOPMENT ACT 2000 - 2010.

Dear Sir,

The proposed works and operation of generators as detailed in the documentation submitted on 2nd February, 2023 with the Section 5 Declaration are considered to be development. Having regard to the details submitted, including the drawings and details of the generators, the Construction, Environmental & Waste Management Plan, the Air Quality Impact Assessment incorporating an air dispersion model, the Technical Report (Noise Assessment), the Environmental Impact Assessment Screening report and the report to inform Screening for Appropriate Assessment, and subject to the permission under 17/5895 (as extended by 22/6358) being given effect (in accordance with the permission) and in particular:

a) The works are completed in accordance with planning permission (Ref: 17/5895, as extended by 22/6358),
b) The noise levels emanating from the development complying with Condition 14 of planning permission 17/5895,
c) The operation of the 10 number gas generators is undertaken as detailed in the air dispersion model set out in the Air Quality Assessment Report completed by Axis Environmental and received by the Planning Authority on 2nd February, 2023.

Then the amendments proposed consisting of the continuous use of 10 number gas generators and associated 18m high stacks may be considered exempt under Section 4(1)(h) of the Planning and Development Act 2000 (as amended).

This exemption does NOT itself empower a person to carry out a development unless that person is legally entitled to do so.

Please note that under Section 5 Subsection 3(a) where a declaration is issued under this section, any person issued with a declaration under subsection 2(a) may, on payment to the Board of such fee as may be prescribed, refer a declaration for review by the Board within 4 weeks of the date of the issuing of the declaration.

Yours faithfully,

KEVIN O'REGAN,
SENIOR EXECUTIVE OFFICER,
PLANNING DEPARTMENT.

In order to process your query, it may be necessary for Cork County Council to collect Personal information from you. Such information will be processed in line with our privacy statement which is available to view at https://www.corkcoco.ie/privacy-statement-cork-county-council

D/207/23 – Section 5 Declaration

1. Introduction

A Section 5 declaration is sought by Progressive Commercial Construction Ltd in respect of the continuous operation of generators permitted as part of a permitted data centre development under construction at Wallingstown, Little Island, Co. Cork.

2. Site Description

The site is located within the settlement boundary for Little Island. The site is located to the south of the R623 and east of the L7075. Construction works relating to the construction of one of the two permitted data centre buildings are ongoing at this site.

3. Question subject of the Section 5

On the basis of the information submitted the question to be addressed under this request is as follows:

> *"Whether or not the continuous operation of generators permitted as part of a permitted data centre development under construction is or is not development and is or is not exempted development".*

4. Planning History

The following planning history pertains to this site and adjoining sites:

Planning Ref.	Development Description	Decision
17/5895	2 no. data centre buildings on a site formerly occupied by Mitsui Denman. The proposed development provides for the construction of 2 no. data centre buildings as stand alone units (to be built in phases) including ancillary offices with associated structures including a substation building, waste compound, telecoms cabinet (PoP Cabinet) new access off the R623 to provide for independent access, car park, external generator & transformer areas to the west of the proposed data centre and all ancillary works. The proposal will modify part of permission granted under 16/5011, for a data centre development changing the permitted data centre building DC3 from 1 permitted building to 2 no. buildings and associated works.	Granted
22/6358	2 no. data centre buildings on a site formerly occupied by Mitsui Denman. The proposed development provides for the construction of 2 no. data centre buildings as stand alone units (to be built in phases) including ancillary offices with associated structures including a substation building, waste compound, telecoms cabinet (PoP Cabinet) new access off the R623 to provide for independent access, car park, external generator & transformer areas to the west of the proposed data	Extension of Duration Granted

	centre and all ancillary works. The proposal will modify part of permission granted under 16/5011, for a data centre development changing the permitted data centre building DC3 from 1 permitted building to 2 no. buildings and associated works. Extension of Duration to Permission granted under Planning Ref. No. 17/5895	
17/6980	The proposed development includes 1 no. data centre building with ancillary offices, car parking, waste compound, generators, landscaping, lighting, provision of an access off the R623, the provision of back-up accesses connecting the proposal to the data centre development permitted under 17/5895 and associated boundary alterations and all ancillary site works. The proposal will modify part of an existing consent, 16/5011 for data centre development, modifying that part and also superseding an existing consent for office development under 07/12475.	Granted
16/5011	Data centre development on a site formerly occupied by Mitsui Denman. The proposed development provides for the construction of 3 no. data centre buildings as one development or in phases. The proposal will modify an existing consent for 3 no. office buildings and access infrastructure at the site consented under 07/12475, as extended under 15/5450, so that one permitted office building is omitted and the permitted access off the R623 is also omitted in favour of a priority junction at the R623 with the permitted remaining offices accessed off the proposed internal access road. The proposed development also includes demolition of existing structures, ancillary services and site works, connections to permitted infrastructure, landscaping and associated boundary treatments, provision of ancillary structures including 3 no. security buildings, 3 no. waste compounds, a utility building, water tank and fencing, ground works with associated localised level changes and car parking	Granted
21/5226	Data centre development on a site formerly occupied by Mitsui Denman. The proposed development provides for the construction of 3 no. data centre buildings as one development or in phases. The proposal will modify an existing consent for 3 no. office buildings and access infrastructure at the site consented under 07/12475,	Extension of Duration Granted

	as extended under 15/5450, so that one permitted office building is omitted and the permitted access off the R623 is also omitted in favour of a priority junction at the R623 with the permitted remaining offices accessed off the proposed internal access road. The proposed development also includes demolition of existing structures, ancillary services and site works, connections to permitted infrastructure, landscaping and associated boundary treatments, provision of ancillary structures including 3 no. security buildings, 3 no. waste compounds, a utility building, water tank and fencing, ground works with associated localised level changes and car parking. - Extension of duration of permission granted under planning reference: 16/5011.	
07/12475	Demolition of existing structures on site and construction of Phase 1 of a Business Park development to include 4 no. office based industry/enterprise buildings of 2 to 3 storey's with associated roads and access infrastructure, car parking, landscaping, site level changes, services and ancillary works, construction of 2 no. roundabouts at access points off the R623 and construction of 4 no. electricity substations	Granted
15/5450	Demolition of existing structures on site and construction of Phase 1 of a Business Park development to include 4 no. office based industry/enterprise buildings of 2 to 3 storey's with associated roads and access infrastructure, car parking, landscaping, site level changes, services and ancillary works, construction of 2 no. roundabouts at access points off the R623 and construction of 4 no. electricity substations - Extension of duration of permission granted under planning ref: 07/12475	Extension of Duration Granted

5. Relevant Section 5 Declarations

D/223/22 relates to the adjoining site to the west:

D/223/22 The proposed works and operation of generators as detailed in the documentation submitted on 13th April, 12th July and 12th September 2022, with the Section 5 Declaration are considered to be development. Having regard to the details submitted, including the drawings and details of the generators, the Construction, Environmental & Waste Management Plan, the Air Quality Impact Assessment incorporating an air dispersion model, the Noise Assessment, the report to inform EIAR screening and the report to inform AA Screening, and subject to the

permissions under 17/6980 and 17/5895 being given effect (in accordance with those permissions) and in particular:

a) The works are completed in accordance with planning permission (Ref: 17/6980),
b) The permission for the adjoining development within Progressive Commercial Construction ownership, i.e. the phase 1 data centre under planning reference 17/5895 is given effect, including the installation of the solid noise barrier,
c) The noise levels emanating from the development complying with Condition 15 of planning permission 17/6980,
d) The operation of the 16 gas generators and the 2 diesel generators is undertaken as detailed in the air dispersion model completed by Axis Environmental and received by the Planning Authority on 12th September 2022.

Then the amendments proposed consisting of 24 generators (the continuous use of 16 gas generators and 2 diesel generators) and 6 no. back up diesel generators only to be used during periods of maintenance or breakdown and associated 18m high stacks may be considered exempt under Section 4(1)(h) of the Planning and Development Act 2000 (as amended).

6. Relevant Planning Legislation

Planning and Development Act 2000 (as amended)

Section 2(1) of the Planning and Development Act 2000 (as amended) states:

In this Act, except where the context otherwise requires –

"alteration" includes—
(a) plastering or painting or the removal of plaster or stucco, or
(b) the replacement of a door, window or roof,
that materially alters the external appearance of a structure so as to render the appearance inconsistent with the character of the structure or neighbouring structures;

"land" includes any structure and any land covered with water (whether inland or coastal);

"structure" means any building, structure, excavation, or other thing constructed or made on, in or under any land, or any part of a structure so defined, and—
(a) where the context so admits, includes the land on, in or under which the structure is situate, and
(b) in relation to a protected structure or proposed protected structure, includes—
(i) the interior of the structure,
(ii) the land lying within the curtilage of the structure,
(iii) any other structures lying within that curtilage and their interiors, and
(iv) all fixtures and features which form part of the interior or exterior of any structure or structures referred to in subparagraph (i) or (iii);

"works" includes any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal and, in relation to a protected structure or proposed protected structure, includes any act or operation involving the application or removal of plaster, paint, wallpaper, tiles or other material to or from the surfaces of the interior or exterior of a structure.

Section 3(1) of the Planning and Development Act 2000 (as amended) states:

In this Act, "development" means, except where the context otherwise requires, the carrying out of any works on, in, over or under land or the making of any material change in the use of any structures or other land.

Section 4(1)(h) of the Planning and Development Act 2000 (as amended) states:

(1) The following shall be exempted development for the purposes of this Act –

(h) development consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works which affect only the interior of the structure or which do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or of neighbouring structures

Section 4(4) of the Planning and Development Act 2000 (as amended) states:

Notwithstanding paragraphs (a), (i), (ia) and (l) of subsection (1) and any regulations under subsection (2), development shall not be exempted development if an environmental impact assessment or an appropriate assessment of the development is required.

7. Consultees

Ecology – The continuous operation of generators at this site does not pose a risk of giving rise to significant negative effects on any EU site, accordingly, it is determined that there is no requirement for Appropriate Assessment.

Environment – No objection. The noise and air reports conclude that the noise and air emissions will be within regulated limits and therefore it is acceptable.

8. Assessment

As outlined above permission was granted via 17/5895 for the construction of 2 no. data centre buildings on this site. This permission included an associated external generator and transformer area to the west of the buildings. The submitted plans indicated that a total of 10 no. generators would be provided on the site – 5 no. to the west of each proposed building. The documents submitted with this application indicated that the generators were "emergency generators".

Permission was granted via 22/6358 to extend the duration of 17/5895 until 19th October 2025. Construction works are ongoing at the site on foot of these permissions. At the time of a site visit carried out on 23rd February 2023 construction of the generators had not commenced on site.

This Section 5 seeks to determine whether or not the continuous operation of 10 no. gas generators permitted as part of a permitted data centre development under construction is or is not development and is or is not exempted development.

Is it development?
Having regard to the definition of 'works' as set out under Section 2(1) of the Planning and Development Act 2000 (as amended) and the definition of 'development' as set out under Section 3(1) of the Act the continuous operation of 10 no. back-up generators is considered development. This is accepted by the referrer in their submission. The key issue, therefore, is whether the continuous operation of 10 no. gas generators is or is not exempted development.

Is it exempted development?
The referrer submits that the continuous operation of 10 no. back-up generators is exempted development having regard to Section 4(1)(h) of the Planning and Development Act 2000 (as amended) which states:

> *"development consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works which affect only the interior of the structure or which do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or of neighbouring structures".*

The referrers case is as follows:

- The public notices for 17/5898 does not distinguish between back-up/emergency generators and continuously operating generators.
- The continuously operating 10 no. gas generators are solely required to facilitate an electrical grid connection to service the primary land use that is the permitted data centre.
- There is no change to the location of the permitted generators.
- The generators will be housed in container enclosures as is the case with the permitted generators.
- No condition attached to 17/5895 will be contravened and there are no conditions which limit the operating hours of the generators.
- No visual impact will arise with respect to the continuously operating generators or the proposed stacks having regard to their nature and scale as ancillary plant. This was accepted in the Section 5 Declaration issued under D/223/22.
- A Noise Assessment has been prepared which confirms that:
    - noise levels are expected to be within the criteria of condition 14 of 17/5895;
    - no significant noise impact is expected on adjacent noise sensitive receptors or area of the Cork Harbour SPA during construction and operation phases; and
    - noise emissions from external mechanical plant of both Phase 1 (17/5895, extended under 22/6358) and Phase 2 (17/6980) permitted data centres will be within established criteria limits at the nearest noise sensitive receptors and the Cork Harbour SPA.
- An Air Quality Impact Assessment has been prepared which predicts that, assuming emissions from the generators will be operating at full load using

natural gas, releasing at mass emissions and with worst case meteorological data for dispersions, the ground level concentrations at the nearest sensitive receptors would be below defined air quality standards. The same conclusion is reached for the cumulative air quality assessment for both the Phase 1 and Phase 2 permitted data centres.

- An EIA Screening Report has been prepared. The proposed works of themselves are not a class of development that requires mandatory EIA. The proposed development has been assessed against Schedule 7 and 7A and is considered unlikely to have significant effects on the environment.
- An Appropriate Assessment Screening Report has been submitted which concludes that there is no likelihood of significant effects on any European Sites arising from the proposed development, either alone or in combination with other plans and projects and Appropriate Assessment is therefore not required.
- No cooling of generators is required.
- The continuous operation of the 10 no. generators permitted as part of the data centre development under construction is consistent with the development permitted under 17/5895 (as extended) and having regard to the Section 5 Declaration issued under D/223/22 can be considered exempted development in the context of Section 4(1)(h) of the Planning and Development Act 2000 (as amended).

In assessing the amendments proposed under D/223/22 the Planning Authority noted that the proposal related to the modification of an unimplemented permission, i.e. a structure that did not yet exist, and that it was unusual for a declaration under Section 4(1)(h) to raise such a question. It was considered that if the permissions for the data centres on the subject site and adjoining site were given effect the amendments subject of the Section 5 Declaration could be deemed exempt as they would not then materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or neighbouring structures.

It was, therefore, accepted under D/223/22 that the continuous operation of generators on an adjoining site may be considered exempted development under Section 4(1)(h) of the Planning and Development Act 2000 (as amended) provided:

a) The works are completed in accordance with planning permission (Ref: 17/6980),
b) The permission for the adjoining development within Progressive Commercial Construction ownership, i.e. the phase 1 data centre under planning reference 17/5895 is given effect, including the installation of the solid noise barrier,
c) The noise levels emanating from the development complying with Condition 15 of planning permission 17/6980,
d) The operation of the 16 gas generators and the 2 diesel generators is undertaken as detailed in the air dispersion model completed by Axis Environmental and received by the Planning Authority on 12th September 2022.

As such the continuous operation of generators at this site can be also given consideration under Section 4(1)(h) even though the generator structures themselves have not yet been constructed on site and the overall permission pertaining to this site has not been fully implemented, i.e., building 1 is under construction and construction of building 2 has not commenced.

A key issue for consideration is whether the continuous operation of 10 no. gas generators at this site is materially different to the development which has been permitted on site.

Under 17/5895 10 no. generators were permitted – 5 no. to the west of each of the proposed data centre buildings. The drawings submitted with this Section 5 Declaration indicate that 5 no. generators will still be located to the west of each of the data centre buildings but sited in a different arrangement. The submitted plans indicate that each generator will now incorporate an 18m high stack which will be colour basalt to match the upper-level cladding of the permitted data centre buildings. The stacks will not extend beyond the parapet of the buildings. Having regard to the nature and scale of the amendments proposed to the generator structures and the industrial context of the site and its surroundings it is considered that the alterations proposed to the would not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or of neighbouring structures.

An Air Quality Impact Assessment has been submitted which considers the impact of operating the 10 no. gas generators on a continuous basis as well as the cumulative impact of running the 10 no. generators and the generators on the adjoining site. The Assessment predicts that, assuming emissions from the generators will be operating at full load using natural gas, releasing at mass emissions and with worst case meteorological data for dispersions, the ground level concentrations at the nearest sensitive receptors would be below defined air quality standards. The cumulative impacts would also be below defined air quality standards. The Environment Officer accepts the findings of this report.

A Technical Report (Noise Assessment) has been submitted which concludes that noise levels from the external plant associated with this site (including the continuous operation of 10 no. gas generators) are expected to comply with the requirements of Condition 14 of 17/5895 at all nearby noise sensitive receptors and the Cork Harbour SPA, noise emission levels were below the ambient noise levels measured in the vicinity of the nearby noise sensitive receptors and provision of selected plant will ensure that there is no significant noise impact from the development on any of the nearest noise sensitive receptors or Cork Harbour SPA. The report also indicates that the cumulative noise levels from this site and the adjoining site subject of a Section 5 declaration under D/223/22 will be within established criteria limits at the nearest noise sensitive receptors and Cork Harbour SPA. The Environment Officer accepts the findings of this report.

Section 4(4) of the Planning and Development Act 2000 (as amended) sets out development to which Section 4 applies shall not be exempted development if an environmental impact assessment or an appropriate assessment of the development is required.

An EIA Screening Report has been submitted. Having regard to the nature, scale and location of the proposed development there is no real likelihood of significant effects on the environment arising from the proposed development and EIA is not required having regard to the provisions for mandatory and sub-threshold EIA as set out under Schedule 5 and 7 of the Planning and Development Regulations (2001, as amended).

A Report to Inform Screening for Appropriate Assessment has also been submitted. This has been reviewed by the Council's Ecologist. On the basis of all the information which has been submitted the Ecologist is satisfied that the continuous operation of generators at this site does not pose a risk of causing significant negative effects for any EU site. This assessment is based on the following:

- There is no spatial overlap with any EU site. No direct impacts on any such site are predicted;
- No discharges to surface water are proposed or required;
- The development site does not support habitat which is used by species which are qualifying interests of any EU site within the potential zone of impact of the data centre (Cork Harbour SPA), therefore no ex situ impacts on populations of such species is predicted;
- Air dispersion modelling indicates that emissions to air will remain within legally required limits and no impacts to terrestrial or coastal habitats or to water associated with the deposition of N or S oxides are predicted (this accounts for all generators Phase 1 and Phase 2). The modelling has been accepted by the Environment Officer;
- Noise modelling indicates that the continuous operation of the data centres will remain within levels which are not predicted to cause disturbance to birds at feeding and roosting habitats/sites within the Cork Harbour SPA. The noise modelling assessment has been accepted by the Environment Officer.
- No other potential impacts to the Cork Harbour SPA or to the Great Island Channel SAC have been identified.

The Ecologist is satisfied that the continuous operation of generators at this site does not pose a risk of giving rise to significant negative effects on any EU site, accordingly, it is determined that there is no requirement for Appropriate Assessment.

9. Conclusion and Recommendation

Having regard to the above assessment and the determination reached by the Planning Authority in relation to D/223/22 it is considered that if the permission (17/5895, as extended by 22/6358) for the data centre buildings on the subject site is given effect, the amendments subject of this Section 5 Declaration could be deemed exempt as they would not then materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or neighbouring structures.

It is therefore recommended that a Declaration issues as follows:

The proposed works and operation of generators as detailed in the documentation submitted on 2nd February 2023, with the Section 5 Declaration are considered to be development. Having regard to the details submitted, including the drawings and details of the generators, the Construction, Environmental & Waste Management Plan, the Air Quality Impact Assessment incorporating an air dispersion model, the Technical Report (Noise Assessment), the Environmental Impact Assessment Screening report and the report to inform Screening for Appropriate Assessment, and subject to the permission under 17/5895 (as extended by 22/6358) being given effect (in accordance with the permission) and in particular:

a) The works are completed in accordance with planning permission (Ref: 17/5895, as extended by 22/6358),
b) The noise levels emanating from the development complying with Condition 14 of planning permission 17/5895,
c) The operation of the 10 no. gas generators is undertaken as detailed in the air dispersion model set out in the Air Quality Assessment Report completed by Axis Environmental and received by the Planning Authority on 2nd February 2023.

Then the amendments proposed consisting of the continuous use of 10 no. gas generators and associated 18m high stacks may be considered exempt under Section 4(1)(h) of the Planning and Development Act 2000 (as amended).

_____
Marie Down
Executive Planner
01/03/2023

D/207/23 S5 Progressive Commercial Construction Ltd Little Island Co. Cork

D/207/23: Application to determine whether the continuous operation of 10 no. gas generators permitted as part of a permitted data centre development is or is not development and is or is not exempted development. Development of data centre was permitted under 17/5895 and duration of permission extended under 22/6358. It is understood that the development is currently under construction.

Assessment:

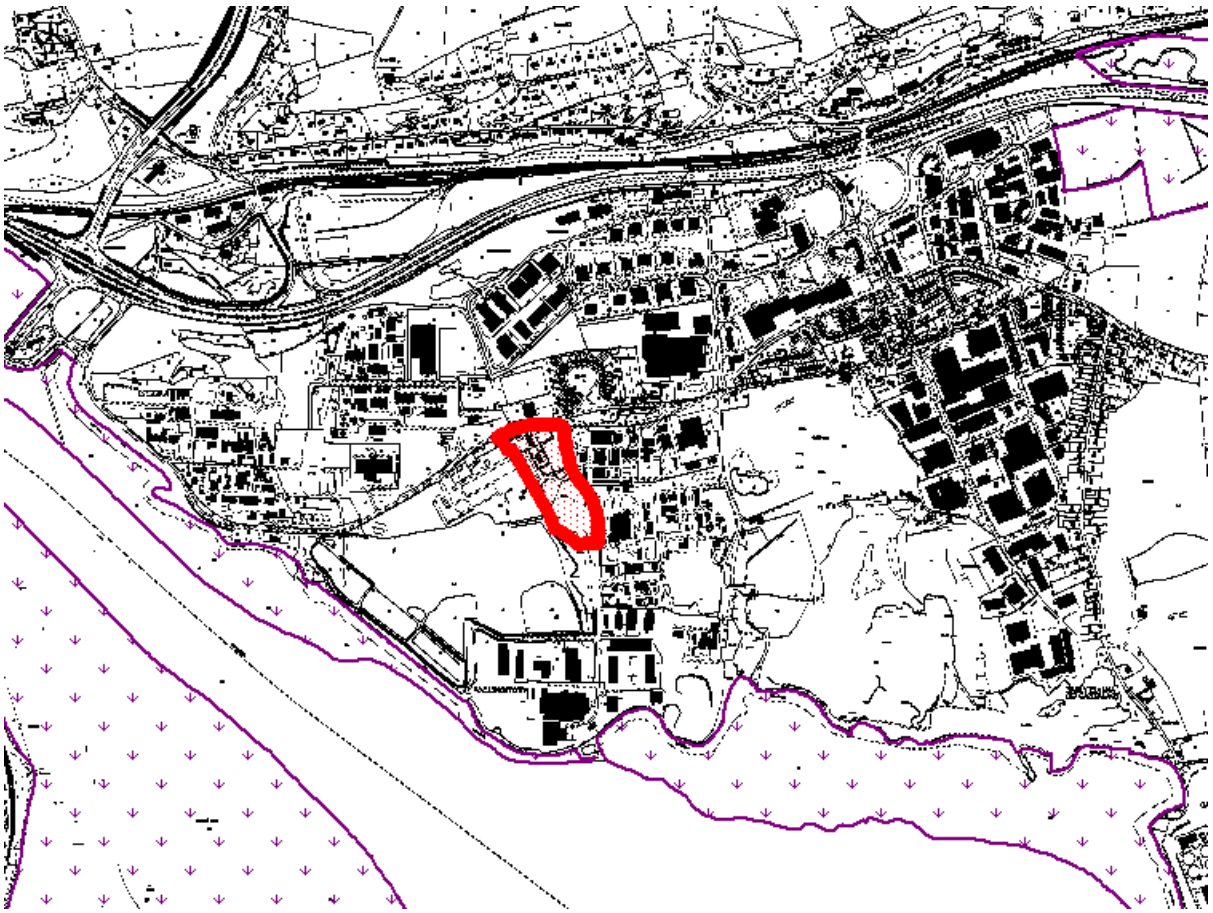
I have reviewed the documents and in particular the noise and air reports are subject to a maximum of 10 **gas** generators operating continuously. The reports conclude that the noise and air emissions will be within regulated limits and therefore it is acceptable. This is similar to the application for 22/5746 which I also assessed, and the same conclusion was reached.

Signed By: Miriam Kiely, EE

D/207/23: Application to determine whether the continuous operation of 10 no. gas generators permitted as part of a permitted data centre development is or is not development and is or is not exempted development. Development of data centre was permitted under 17/5895 and duration of permission extended under 22/6358. It is understood that the development is currently under construction.

Date: 01/03/2023

Site: Wallingstown, Little Island.



Context: Request is grounded in requirements by EirGrid and the Commission for Regulation of Utilities that large energy users such as data centres may be required to generate energy for prolonged periods, and which may be made available to the electrical grid to offset the energy usage of the data centre development. Applicants contention is that the continuous operation of 10 no. back-up generators could constitute an alteration to the permitted generators which could be considered to be development, but that this alteration has the benefit of an exemption under section 4(1)(h) of the Planning and Development Act. Section 4(1)(h) applies an exemption as follows:

> *4(1)(h) development consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works that affect only the interior of the structure or do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or neighbouring structures.*

It is further contended that section 4(4) of the Act, which disapplies exemptions where either AA or EIA is deemed to be required, does not apply in this case, as, in the opinion of the applicants, neither AA nor EIA is required. The applicants have submitted both an AA Screening Report and an EIA Screening Report in support of their S5 Application.

I note that a similar question has been asked and answered in respect of a permitted data centre adjoining this site (permitted under 17/6980, extended under 21/5225 and modified under 22/5746)[1], and that it was accepted in that case, that an alteration to allow the continuous operation of generators originally permitted as back-up generators:

- is development; and
- can have the benefit of an exemption under section 4(1)(h) of the Planning and Development Act provided that neither EIA nor AA was required.

Further to the acceptance of those principles, screening for AA and EIA was completed by the Planning Authority, and it was determined that neither of those processes was deemed to be required in respect of that application. Accordingly, it was determined in that case, that an alteration allowing for the continuous operation of the generators did not require planning permission. The generators in question for permission 17/6980 and 21/5225 (Phase 2) comprised 16 gas generator and 2 diesel generators).

Appropriate Assessment Screening Report

An AA Screening Report has been submitted with this S5 Declaration request. The report includes a description of the current condition of the site, its flood risk status and water quality conditions in surrounding water bodies. The report identifies a potential source-pathway-receptor linkage between the site which is the subject of this application and two EU sites, being the Cork Harbour SPA, which is located 600m from the data centre site and the Great Island Channel SAC which is located in the north channel of Cork Harbour approximately 2km from the data centre site. The nearest recorded wetland bird roost sites are 2km from the data centre site. Mudflats which form part of the SPA within 600m of the data centre site are likely to be used by feeding wetland birds at low tide. No potential pathway for impact was identified linking the data centre site to any other EU site.

The report considers potential impacts associated with both the construction and operation of the generators at this site. The construction of the generators is already permitted and so is not of relevance to this application. Of particular relevance to the S5 application, are the assessments relating to increased levels and duration of noise and increased levels and duration of emissions to air which could arise from the continuous use of permitted generators on EU sites.

Noise Disturbance: Increased levels and/or duration of noise could have the potential to impact negatively on species which are qualifying interests of the Cork Harbour SPA if they were at levels which could cause disturbance in areas known to be of importance to wetland birds for which the Cork Harbour SPA is of importance and designated. This includes important feeding sites and roosting areas. A Noise Assessment has been undertaken and submitted with this application. It predicts likely

[1] These are linked developments with the data centre permitted under 17/5895 which is the subject of this S5 application forming Phase 1 of the permitted development and the data centre permitted under 17/6980 forming Phase 2.

noise levels associated with the operation of the site to be 44dB at the nearest points of the Cork Harbour SPA to the data centre. Noise emissions will be continuous, not sudden or irregular and will not exceed ambient noise levels either alone or when assessed in combination with noise which will be generated by the operation of the other Data Centre (Phase 2). On this basis, and having regard also to the distance of the site from known roost sites for wetland birds (min 2km), it is concluded in AA screening report, that there is no risk of activities associated with the continued use of the generators causing noise related disturbance to wetland birds which are qualifying interest species of the Cork Harbour SPA.

Gaseous Emissions: Atmospheric nitrogen and sulphur oxides can deposit in water, soils and vegetation resulting in changes to plant and animal communities of natural ecosystems including coastal habitats upon which qualifying interest bird species for which the Cork Harbour SPA is designated and those for which the Great Island Channel SAC is designated(Salt marsh and Mudflats). The extended duration of operation of the generators at this facility could have the potential to impact negatively on estuarine habitats including those which are qualifying interests of the Great Island Channel SAC as well as wetland habitats upon which qualifying interest species for which the Cork Harbour SPA is designated if this gave rise to increased deposition of atmospheric pollutants to the marine environment. An Air Dispersion model which has been submitted with the application indicates that air emissions will remain in compliance with established required limits for the protection of human health when assessed in their own right and when assessed in combination with emissions which may be generated by the adjoining data centre. It is concluded in the submitted screening report that there will be no significant adverse effects on the qualifying interest bird species for which the Cork Harbour SPA is designated.

Assessment

Having regard to the principles accepted in the previous case, this report is confined to the completion of screening to determine whether the continuous operation of the generators at this location triggers a requirement for Appropriate Assessment. I have had regard to the AA Screening Report as submitted, to the site location and to the details of PP's 17/5895 and 22/6358 in the completion of this assessment. I have also considered the adjoining site with a permitted data centre together with its generators, whose continuous use might also be required when considering potential for in combination effects. I note that no alterations in physical layout, appearance or scale of development are proposed and no alterations in proposals for surface, process or waste water are proposed or required.

Per the submitted AA Screening Report, I concur that the sites of relevance which require screening are the Cork Harbour SPA and the Great Island Channel SAC. Given the distance of this site to any other EU sites, I am satisfied that there is no risk of impact to same.

As no activities are proposed within any EU site, there is no risk that the project will cause direct loss of or damage within any such site. Furthermore, the data centre site itself does not support habitats which have the potential to be used by species for which the Cork Harbour SPA is designated. Therefore, I am satisfied that there is no risk of ex-situ disturbance to species which are qualifying interests of the Cork Harbour SPA arises. The data centre site is located over 600m from the Cork Harbour SPA and is well screened from the SPA. I am satisfied therefore, that there is no risk that activities associated with the operation of the generators will give rise to visual disturbance impacts

to qualifying interest species for which the Cork Harbour SPA is designated. No additional discharges of surface, waste or process water are proposed or required to facilitate the continuous operation of the generators. Accordingly, I am satisfied that there is no risk of impact to water quality associated with emissions to water.

I consider the primary issues of concern to relate to

- potential for the continuous operation of the generators to cause increased noise and/or emissions to air over longer periods of time than was originally envisaged, and the likelihood of same giving rise to significant negative effects on European sites; and
- potential for the continuous operation of the generators to result in increased emissions of air pollutants to air which could, at elevated levels, negatively impact on coastal ecosystems and on water quality and thereby have the potential to give rise to significant negative effects on the Cork Harbour SPA and on the Great Island Channel SAC.

It is noted that the application incudes details of a Noise Impact Assessment and an Air Dispersion Impact Assessment. The Noise Impact Assessment, which incorporates all generators permitted under Phase 1 and Phase 2, and other noise which will be generated at the site indicates that noise levels will remain with levels which do not pose any risk of causing disturbance related impacts to birds within the Cork Harbour SPA. The Air Dispersion Impact Assessment indicates that the combined air emissions will remain within allowed limits which will ensure the avoidance of impact on habitats and on water quality. It is noted also that the conclusions of these assessments in relation to the predicted extent of noise and air emissions has been assessed and accepted by the environment officer in the context of Planning Application 22/6358.

On the basis of all of the information which has been provided, I am satisfied that the continuous operation of generators at this site does not pose a risk of causing significant negative effects for any EU site. This assessment is based on the following:

- there is no spatial overlap with any EU site. No direct impacts on any such site are predicted;
- no discharges to surface water are proposed or required;
- the development site does not support habitat which is used by species which are qualifying interests of any EU site within the potential zone of impact of the data centre (Cork Harbour SPA), therefore no ex situ impacts on populations of such species is predicted;
- air dispersion modelling indicates that emissions to air will remain within legally required limits and no impacts to terrestrial or coastal habitats or to water associated with the deposition of N or S oxides are predicted (this accounts for all generators Phase 1 and Phase 2). The modelling has been accepted by the Environment Officer;
- noise modelling indicates that the continuous operation of the data centres will remain within levels which are not predicted to cause disturbance to birds at feeding and roosting habitats/sites within the Cork Harbour SPA. The noise modelling assessment has been accepted by the Environment Officer.
- no other potential impacts to the Cork Harbour SPA or to the Great Island Channel SAC have been identified.

I am satisfied that the continuous operation of generators at this site does not pose a risk of giving rise to significant negative effects on any EU site, accordingly, it is my determination that there is no requirement for Appropriate Assessment.

Sharon Casey

CORK COUNTY COUNCIL APPLICATION FOR SECTION 5 DECLARATION OF EXEMPTION

APPLICANT CHECKLIST	***(Please tick √)***
4 No. Copies of Application Form:	✔
1 No. Copy of Contact Details:	✔
4 No. Copies 6" O.S. Maps:	✔
4 No. Copies 25" O.S. Maps:	✔
4 No. Copies of Site Layout Plan:	✔
4 No. Copies Scaled Drawings of Development:	✔
€80 Application Fee:	✔

FOR OFFICE USE ONLY

Receipt No.	
Cash/Cheque/ Credit Card	
Date	
Declaration Ref. No.	

DATE STAMP HERE

You should make sure that you are satisfied that any information/documentation that you submit is appropriate to be viewed by the public. Please do not submit any information that you do not want 3rd parties to view.

In the case of a Declaration of Exemption for Land Reclamation, the following additional information is required:

- A copy of the details submitted to the Council's Environment Department (Inniscarra) for a Waste Licence Permit
- Correspondence from Teagasc (detailing how the land reclamation would benefit the land in question for agricultural purposes)
- Details of existing and proposed levels
- Details of fill material and duration of fill.

DATA PROTECTION

The planning process is an open and public one. In that context, all applications for Declarations of Exemption are made available for public inspection.

Personal information collected by Cork County Council is done so in order for us to process your application for a Section 5 Declaration of Exemption. Legally we can process this information as it is necessary for us to comply with our statutory/legal obligations. The protection of our personal data is a key priority for the Council and your data will be processed in line with our Privacy policy which is available at http://www.corkcoco.ie/Privacy-Policy or hardcopy from our offices at County Hall, Carrigrohane Road, Cork, Ireland. Should you have any questions about our privacy policy or the information we hold about you, please contact us by email to dpo@corkcoco.ie or write to us at Data Protection Officer, Cork County Council, County Hall, Carrigrohane Road, Cork, Ireland.

1. NAME OF APPLICANT: (ADDRESS TO BE SUPPLIED AT QUESTION A – CONTACT DETAILS)

Progressive Commercial Construction Limited

2. POSTAL ADDRESS OF LAND OR STRUCTURE FOR WHICH DECLARATION OF EXEMPTION IS SOUGHT:

Wallingstown, Little Island, Co. Cork

3. QUESTION/DECLARATION DETAILS:

Please state the specific question for which a Declaration of Exemption is sought
Note: Only works listed and described under this section will be assessed under the Section 5 Declaration of Exemption

Whether the continuous operation of generators permitted as part of a permitted data centre development, under construction, at Wallingstown, Little Island, Co. Cork is or is not development or is or is not exempted development

4. APPLICATION DETAILS:

Answer the following if applicable. Note: Floor areas are measured from the inside of the external walls and should be indicated in square metres (m^2)

(a) Floor area of existing/proposed structure(s):	N/A
(b) If a domestic extension is proposed, have any previous extensions/structures been erected at this location after 1st October, 1964 (including those for which planning permission has been obtained):	Yes ☐ No ☐ If yes, please provide floor areas (m^2) and previous planning reference(s) where applicable: N/A
(c) If a change of use of land and/or building(s) is proposed, please state the following: Existing/previous use N/A	Proposed use N/A
(d) Are you aware of any enforcement proceedings connected to this site?	Yes ☐ No ☑ If yes, please state relevant reference number(s): N/A

5. LEGAL INTEREST OF APPLICANT IN THE LAND/STRUCTURE:

Please tick appropriate box to show applicant's legal interest in the land or structure:	**A. Owner** ☐	**B. Other** ☑
Where legal interest is **"Other",** please state your interest in the land/structure:	Applicant is part of the JCD Group, as is the owner.	
If you are not the legal owner, please state the name of the owner/s (address to be supplied at Question C in Contact Details):	Eastmont Developments Ltd - letter of consent enclosed	

6. PROTECTED STRUCTURE DETAILS / ARCHITECTURAL CONSERVATION AREA:

Is this a Protected Structure/Proposed Protected Structure or within the curtilage of a Protected Structure: Yes ☐ No ☑

If yes, has a Declaration under Section 57 of the Planning & Development Act 2000 been requested or issued for the property by the Planning Authority: Yes ☐ No ☐

If yes, please state relevant reference No. N/A

Is this site located within an Architectural Conservation Area (ACA), as designated in the County Development Plan? Yes ☐ No ☑

7. APPROPRIATE ASSESSMENT:

Would the proposed development require an appropriate assessment because it would be likely to have a significant effect on the integrity of a European site (SAC, SPA etc)? Yes ☐ No ☑

8. DATA PROTECTION DECLARATION:

In order for the Planning Authority to process the personal data you have provided, your consent is required. By ticking the box below, you consent to the Planning Authority processing the personal data provided by you in line with the terms of Cork County Council's Privacy Policy available at http://www.corkcoco.ie/privacy-statement-cork-county-council or in hardcopy from any Council office; and to having your information processed for the following purposes:

Processing of your Declaration of Exemption application by the Planning Authority

☑ *I give permission for my personal information to be processed for the purpose stated above*

Signed (By Applicant Only)	
Date	01-Feb-2023

GDPR Special Categories of data / Sensitive Personal data - Explicit Consent

Where Special Categories of personal data / sensitive personal data are provided as part of / in support of a declaration application, **explicit consent** to the processing of the special categories of data must be given by the person to whom the data refers, namely the Data Subject.

Special Categories of data / Sensitive Personal data include:

- Race
- Ethnic origin
- Political opinions
- Religion
- Philosophical beliefs
- Trade union membership
- Genetic data
- Biometric data
- Health data
- Concerning a natural person's sex life
- Sexual orientation

In order for the Planning Authority to process the sensitive personal data you have provided, your consent is required. By ticking the box below, you consent to the Planning Authority processing the personal data provided by you in line with the terms of Cork County Council's Privacy Policy available at https://www.corkcoco.ie/privacy-statement-cork-county-council or in hardcopy from any Council office; and to having your information processed for the following purposes:

Sensitive personal data being submitted in support of Declaration of Exemption Application

☐ *I give permission for my sensitive personal data submitted to the Planning Authority to be processed for the purpose stated above.*

Signed	N/A
Date	

You have the right to withdraw your consent by contacting the Planning Department, Ground Floor, County Hall, Carrigrohane Road, Cork. Tel: (021) 4276891 Email: planninginfo@corkcoco.ie or by contacting the Planning Department, Norton House, Cork Road, Skibbereen, Co. Cork. Tel: (028) 40340 Email: westcorkplanninginfo@corkcoco.ie
However if consent to the use of personal data is withdrawn during the declaration of exemption decision-making process this information cannot be considered as part of the decision making process. Once a decision has been made, an applicant is not entitled to withdraw consent, as the right of erasure does not apply to a situation where processing is required for compliance with a legal obligation or for the performance of a task carried out in the public interest.

Please note that all information / supporting documentation submitted will be available publicly to view at the Planning Authority offices.

ADVISORY NOTES:

The application must be accompanied by the required fee of €80
The application must be accompanied by a site location map which is based on the Ordnance Survey map for the area, is a scale not less than 1:1000 and it shall clearly identify the site in question.
Sufficient information should be submitted to enable the Planning Authority to make a decision. If applicable, any plans submitted should be to scale and based on an accurate survey of the lands/structure in question.
The application should be sent to the following address:
The Planning Department, Cork County Council, Floor 2, Co. Hall, Carrigrohane Road, Cork, T12 R2NC; or for applications related to the Western Division, The Planning Department, Cork County Council, Norton House, Cork Road, Skibbereen, Co. Cork, P81 AT28.

- The Planning Authority may require further information to be submitted to enable the authority to issue a decision on the Declaration of Exemption application.
- The Planning Authority may request other person(s), other than the applicant; to submit information on the question which has arisen and on which the Declaration of Exemption is sought.
- Any person issued with a Declaration of Exemption may on payment to An Bord Pleanála refer a Declaration of Exemption for review by the Board within 4 weeks of the date of the issuing of the Declaration of Exemption decision.
- In the event that no Declaration of Exemption is issued by the Planning Authority, any person who made a request may on payment to the Board of such a fee as may be prescribed, refer the question for decision to the Board within 4 weeks of the date that a Declaration of Exemption was due to be issued by the Planning Authority.

The application form and advisory notes are non-statutory documents prepared by Cork County Council for the purpose of advising the type of information which is normally required to enable the Planning Authority to issue a Declaration of Exemption under Section 5. This document does not purport to be a legal interpretation of the statutory legislation nor does it state to be a legal requirement under the Planning and Development Act 2000 as amended, or Planning and Development Regulations, 2001, as amended.

9. I hereby declare that, to the best of my knowledge and belief, the information given in this form is correct, accurate and fully compliant with the Planning and Development Acts 2000, as amended and the Regulations made thereunder:

Signed (Applicant or Agent as appropriate)	Aiden O'Neill, Coakley O'Neill Town Planning Ltd, NSC Campus, Mahon, Cork (agent for the applicant)
Date	01-Feb-2023

Planning and Development
Floor 2
Cork County Council
County Hall
Carrigrohane Road
Cork
T12 R2NC

2nd February, 2023

Dear Sir/Madam

RE: SECTION 5 DECLARATION OF EXEMPTED DEVELOPMENT

WHETHER THE CONTINUOUS OPERATION OF GENERATORS PERMITTED AS PART OF A PERMITTED DATA CENTRE DEVELOPMENT, UNDER CONSTRUCTION, AT WALLINGSTOWN, LITTLE ISLAND, CO. CORK IS OR IS NOT DEVELOPMENT OR IS OR IS NOT EXEMPTED DEVELOPMENT

We, Coakley O'Neill Town Planning Ltd, NSC Campus, Mahon, Cork, are instructed by the applicant, Progressive Commercial Construction Ltd, to submit this Section 5 Declaration in respect of a data centre development on a site of c. 0.33ha at Wallingstown, Little Island, Co. Cork permitted by Cork County Council under application register reference 17/5895, as extended under 22/06358.

This Section 5 Declaration includes the following details:

(a) A pack containing:
    a. 1no. copy of the application contact details
    b. 1no. copy of a letter of consent from East
    c. Cheque for the fee of €80
(b) 4no. copies of this cover letter
(c) 4no. copies of the completed Section 5 Declaration application form
(d) 4no. copies of the Site Location Maps at 1:10,560 and 1:2,500
(e) 4no. copies of the Proposed Site Layout Plan (drawing no. 2354-P-002 Rev 00 (1:1,000 @A1)) and Proposed Sections A-A and B-B (drawing no. 2354-P-004 Rev 00 (1:200 @A1)).
(f) 4no. copies of a Screening Report for EIA prepared by Greenleaf Ecology
(g) 4no. copies of a Screening Report for AA prepared by Greenleaf Ecology
(h) 4no. copies of a Noise Assessment prepared by CLV Consulting
(i) 4no. copies of an Air Quality Assessment prepared by Axis Environmental Services
(j) 4no. copies of a Construction, Environmental & Waste Management Plan prepared by MMOS Consulting Engineers
(k) 4no. copies of the permission to extend the duration of 17/5895 under application register reference 22/06358, and

(l) 4no.copies of a Section 5 Declaration, reference D/223/22 dated 6th October, 2022, on the continuous operation of generators permitted as part of an adjacent permitted data centre development (17/6980) at Wallingstown, Little Island, Co. Cork

The relevant planning permission subject to this Section 5 declaration request is application register reference 17/5895. The development description is as follows: 2 no. data centre buildings on a site formerly occupied by Mitsui Denman. The proposed development provides for the construction of 2 no. data centre buildings as stand alone units (to be built in phases) including ancillary offices with associated structures including a substation building, waste compound, telecoms cabinet (PoP Cabinet) new access off the R623 to provide for independent access, car park, external generator & transformer areas to the west of the proposed data centre and all ancillary works. The proposal will modify part of permission granted under 16/5011, for a data centre development changing the permitted data centre building DC3 from 1 permitted building to 2 no. buildings and associated works.

Permission to extend the duration of 17/5895 for a further 3 years to 19th October, 2025 on the basis of substantial works was permitted on 26th January, 2023 under application register reference 22/06358. The permitted data centre development commenced construction on 21st September, 2022, and construction is at an advanced stage.

This request for a Section 5 Declaration seeks to establish whether the continuous operation of 10no. gas generators permitted as part of a permitted data centre development, under construction, at Wallingstown, Little Island, Co. Cork is or is not development or is or is not exempted development.

This request for a Section 5 Declaration stems from the requirements by EirGrid and the Commission for Regulation of Utilities (CRU) that large energy users such as the data centre development permitted under 17/5895 (as extended under 22/06358) may be required to generate energy for prolonged periods, and which may be made available to the electrical grid to offset the energy usage of the data centre development.

This follows a similar request for a Section 5 Declaration, reference D/223/22, on whether the continuous operation of generators permitted as part of an adjacent permitted data centre development (17/6980) at Wallingstown, Little Island, Co. Cork is or is not development or is or is not exempted development.

In that case, Cork County Council issued a Declaration on 6th October, 2022 that the continuous use of 16no. gas generators and 2no. diesel generators and 6no. back up diesel generators, and associated 18m high stacks, may be considered to be exempt under Section 4(1)(h) of the Planning and Development Act, 2000, as amended.

In planning legislation terms, Section 2(1) of the Planning and Development Act, 2000, as amended, defines works as including any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal.

Section 3(1) of the Act defines development as meaning, except where the context otherwise requires, the carrying out of any works on, in, over or under land or the making of any material change in the use of any structures or other land.

In this context, the continuous operation of 10no. back-up generators permitted as part of a permitted data centre development at Wallingstown, Little Island, Co. Cork could be considered to constitute an alteration to the permitted generators, and could therefore be considered to be development.

Eastmont
Developments Ltd.

31st January 2022

To whom it concerns,

RE: Declaration

I write in relation to this declaration being submitted, and as the owner of the landholding included within the subject site, and having regard to Article 22(2)(g) of the planning and Development Regulations, 2006, as amended, which states that 'where the applicant is not the legal owner of the land or structure concerned, the written consent of the owner to make the application', I wish to give my consent to the making of this declaration.

I hope this is to your satisfaction.

Your Sincerely,

On behalf of Eastmont Developments

Registered Address: 1104 City Gate, Mahon, Cork, T12 W7CV Ireland
T +353 (0)21 461 4726 F +353 (0)21 461 4725
Company Registration No. 576572 Vat No. 3403734WH
Directors: John Cleary, Michael Murnane

In determining whether the continuous operation of generators permitted as part of a permitted data centre development at Wallingstown, Little Island, Co. could be considered to be exempted development or not exempted development, Section 4(1) of the Act states the following shall be exempted development for the purposes of the Act:

> *(h) development consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works that affect only the interior of the structure or do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or neighbouring structures.*

In considering this question, we point out the following:

- The public notices under 17/5895 and on which permission was granted do not distinguish between back-up/emergency generators and continually operating generators.

- The continually operating 10no. gas generators are solely required to facilitate an electrical grid connection to service the primary land use that is the permitted data centre.

- There is no change to the location of the permitted generators, i.e., they remain located to the west of the permitted date centre.

- The generators will be housed in container enclosures as is the case with the permitted generators.

- No condition attached to application register reference 17/5895 is contravened.

- From a visual impact perspective, and consistent with the generators the subject of the S5 Declaration issued under D/223/22, the 10no. continuously operating gas generators are located externally along the western elevation of the permitted data centre, in the same location as the permitted generators (Plates 1 and 2). In addition, the proposed stacks that serve the generators (Plate 3) will not extend beyond the parapet of the data centre building and will be coloured to match the upper level wall cladding system of the data centre building.

  It was accepted in the S5 Declaration issued under D/223/22 that no visual impact arose with respect to the continuously operating generators and their associated stacks, having regard to their nature and scale as ancillary plant, and which are designed to read as part of the permitted data centre building. It is submitted that the same conclusion can also be reached in this instance.

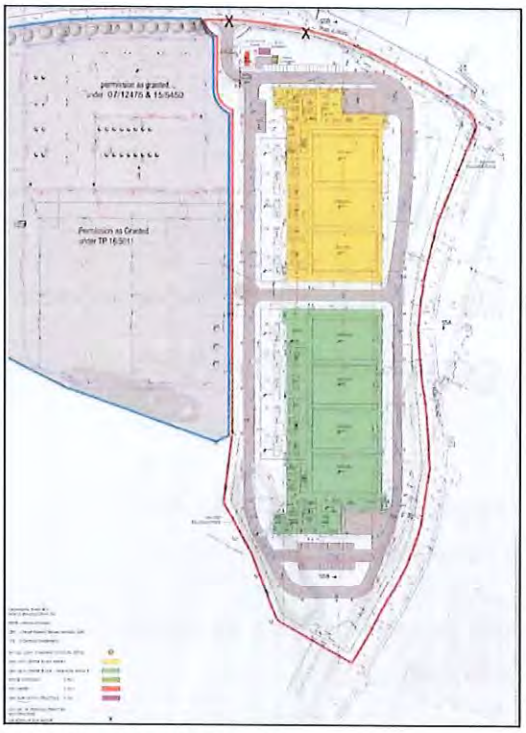


Plate 1: Permitted Site Layout Plan

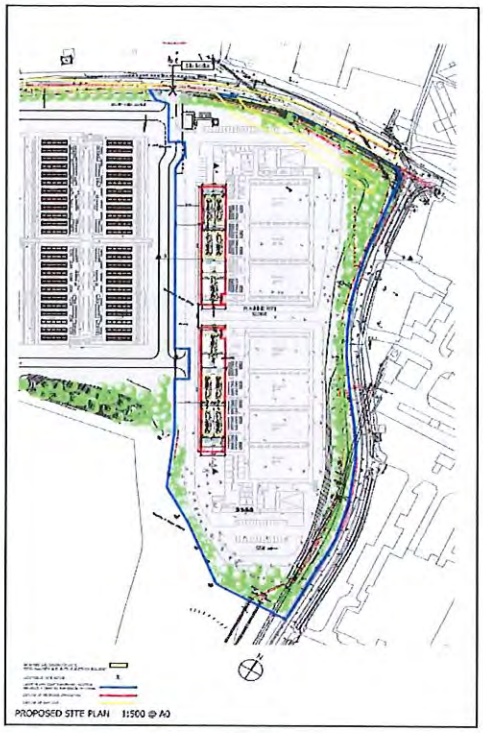


Plate 2: Section 5 Site Layout Plan

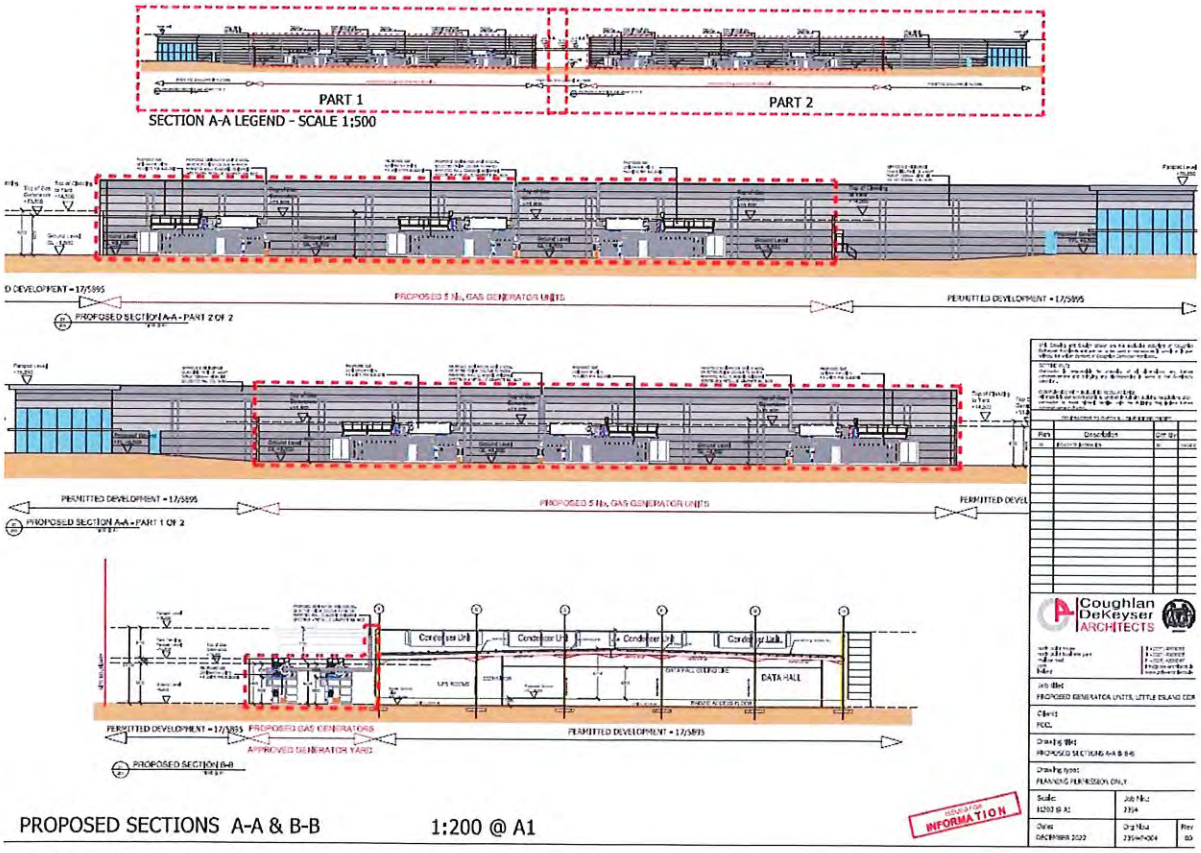


Plate 3: Section 5 Elevations

The permission issued under 17/5895 (as extended) also does not contain any conditions limiting the operating hours of the generators.

- In relation to noise, the relevant condition is condition no. 14 of 17/5895 (as extended) which states the following:

> *Noise levels emanating from the proposed development when measured at noise sensitive receptors shall not exceed 55 dBA (30 minute LAR) between 0700 hours and 1900 hours, 50 dBA (30 minute LAR) between 1900 and 2300 hours and 45 dBA (15 minute Leq) between 2300 and 0700 hours*

CLV Consulting were retained to prepare a noise assessment on the continuous operation of the 10no. gas generators, and this noise assessment confirms that noise levels are expected to be within the criteria of condition no. 14 attached to the grant of permission under 17/5895 (as extended)[1] at all nearby Noise Sensitive Receptors during the relevant periods of operation.

Furthermore, noise emission levels are also below the ambient noise levels measured in the vicinity of the nearby Noise Sensitive Receptors.

The noise assessment also considers the potential for noise emissions on the Cork SPA using the IECS Waterbird Disturbance Mitigation Toolkit.

Although the development is not technically located within 500m of the Cork SPA, the recommended threshold of < 55dB(A) has been adopted in order to ensure that any potential noise emission from the proposed development would be in the low noise level effects range.

The report notes that no significant noise impact is expected on any adjacent noise sensitive receptors or areas of the Cork Harbour SPA during the construction phase of the proposed development.

The report also notes that operational noise emission would be within the established criteria limits at the nearest Noise Sensitive Receptors as well as Cork Harbour SPA.

From an in combination perspective, the report also confirms that noise emission results from the external mechanical plant of both the Phase 1 (17/5895, as extended under 22/06358) and Phase 2 (17/6980) permitted data centres will be within the established criteria limits at the nearest Noise Sensitive Receptors as well as the Cork Harbour SPA.

In addition, the predicted levels of noise emission are also below the ambient noise levels measured at each of the nearest noise sensitive receptors. In relation to the Cork Harbour SPA, the noise emissions associated with the 10no. gas generators will be both continuous and steady state in nature which will further minimise any potential noise impact on Cork SPA wildlife.

This same conclusion on noise emissions was also reached and accepted in the S5 Declaration issued under D/223/22.

[1] Note that a solid noise barrier was permitted as part of the Phase 1 data centre development under application register reference 17/5895 (as extended).

- The enclosed Air Quality Impact Assessment prepared by Axis Environmental Services has predicted that, assuming the emissions from the 10no. generators operating at full load using natural gas, releasing at mass emissions, and with worst case meteorological data for dispersion (taking 5 years of met data into account), the ground level concentrations at the nearest sensitive receptors would be below defined air quality standards. The same conclusion is reached for the cumulative air quality assessment for both the Phase 1 (17/5895, as extended under 22/06358) and Phase 2 (17/6980) permitted data centres. Oxides of nitrogen are also compliant for the Cork Harbour Special Protection Area in line with annual limits outlined in 2008/50/EC.

  This same conclusion on air quality was also reached and accepted in the S5 Declaration issued under D/223/22.

- From an environmental impact perspective, the enclosed Screening Report for EIA prepared by Greenleaf Ecology concludes that the proposed works of themselves are not a class of development that will require mandatory EIA. The proposed development has been assessed against the Schedule 7 and 7A criteria and is considered unlikely to have significant effects on the environment. There is no change to the nature of the permitted development. There is no change to the permitted principal land use on the site. There are no issues arising with respect to the use of natural resources, the scale of emissions or the production of waste that warrant environmental impact assessment, and the cumulation of the construction and operation of the permitted generators with other permitted and proposed developments is not significant having regard to their scale and nature.

- Equally, given their location relative to the Cork Harbour SPA and Great Island SAC and to their scale and nature in the context of the permitted data centre development, the enclosed Screening Report for AA prepared by Greenleaf Ecology concludes that there is no likelihood of any significant effects on any European sites, arising from the proposed development, either alone or in combination with other plans or projects, and therefore Appropriate Assessment is not required.

  The Waterbird Disturbance Mitigation Toolkit indicates that for some species, behavioural responses to visual disturbance during feeding may commence at around 300m distance (e.g. Curlew), whilst for others, a range of 150m to 100m is the response threshold (e.g. Dunlin). For roost sites, a generic response threshold radius of c. 300m has been derived, based around the approach distance for the most sensitive species. In view of these findings, and the distance of the proposed site from the shoreline of Cork Harbour (0.6km), and that the closest mapped roost site is located c.2km to the west, no significant effects on SCI species for Cork Harbour SPA as a result of visual disturbance are expected to arise from the proposed development.

  The Screening Report states that it is considered that disturbance/ displacement or ex-situ impacts to the SCI for Cork Harbour SPA as a result of the proposed development are not likely.

  No new mitigation measures are either proposed or required in respect of the generators that are the subject of this S5 declaration.

- As is the case with the generators the subject of the S5 Declaration issued under D/223/22, no cooling of generators in respect of this S5 Declaration is required.

In conclusion, it is considered that the continuous operation of the 10no. generators permitted as part of the data centre development, under construction, at Wallingstown, Little Island, Co. Cork is considered to be consistent with the permitted development under 17/5895 (as extended), and, having regard to the S5 Declaration issued under D/223/22, can be considered exempted development in the context of section 4(1)(h) of the Planning and Development Act, 2000, as amended.

We look forward to your determination in due course.

Yours sincerely

Aden O'Neill

Aiden O'Neill
Director
Coakley O'Neill Town Planning Ltd

Report to Inform Screening for Appropriate Assessment

Proposed Generators

Little Island

Cork

Report prepared for Progressive Commercial Construction Ltd

By Karen Banks MCIEEM

1st February 2023

Greenleaf Ecology

West End
Knocknagree
Mallow
Co. Cork
Tel: 0834218641
Email: greenleafecology@outlook.com

Contents

Appendices

List of Figures

List of Tables

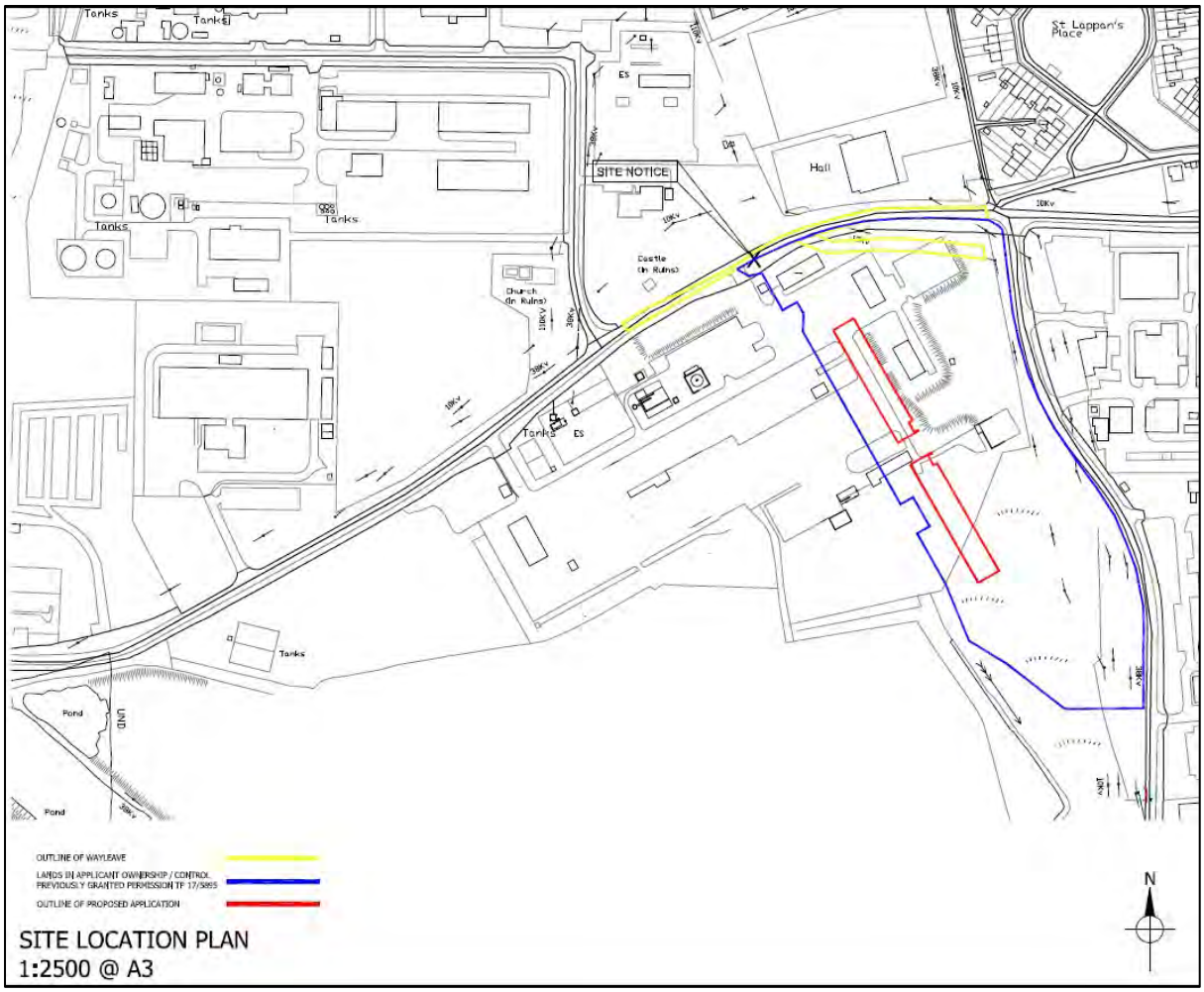
1 Introduction

This report has been prepared by Greenleaf Ecology on behalf of Progressive Commercial Construction Ltd. The purpose of this report is to inform screening for Appropriate Assessment for the proposed Generators, Little Island, Cork (hereinafter referred to as 'the proposed development').

This report comprises information in support of screening for AA to be undertaken by the competent authority in line with the requirements of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora; the Planning and Development Act (as amended), and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) as amended.

The location of the generators is illustrated in Figure 1-1.

Figure 1-1: Site Location



1.1 Statement of Authority

This AA Screening was carried out by Karen Banks, MCIEEM. Karen is an ecologist with Greenleaf Ecology and has 16 years' experience in the field of ecological assessment. Karen has extensive experience in the production of reports to inform AAs and Natura Impact Statements including those for transport infrastructure, small to large scale housing and mixed-use developments, flood alleviation schemes, solar farms and wind farms.

1.2 Legislative Context for Appropriate Assessment

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000.

The Habitats Directive has been transposed into Irish law by Part XAB of the Planning and Development Act (as amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011) as amended. In the context of the proposed development, the governing legislation is the Birds and Habitats Regulations. This Screening has been prepared on behalf of Progressive Commercial Construction Ltd. Cork County Council is the Competent Authority responsible for undertaking the Screening for AA for the proposed development.

Articles 6(3) of the Habitats Directive set out the decision-making tests for plans and projects likely to adversely affect the integrity of European sites (Annex 1.1). Article 6(3) establishes the requirement for AA:

Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Natura 2000 sites are defined under the Habitats Directive (Article 3) as a coherent European ecological network of special areas of conservation, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range. In Ireland, these sites are designated as European sites and include Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

The competent authority is obliged to consider, in view of best scientific knowledge, whether the proposed development is likely to have a significant effect either individually or in combination with other plans and projects. If screening determines that there is likely to be significant effects on a European site, then AA must be carried out for the proposed development at Little Island, including the compilation of a Natura Impact Statement (NIS) to inform the decision making.

2 Methodology

2.1 Stages of Appropriate Assessment

The Department of the Environment, Heritage and Local Government guidelines (DELHG, 2009, rev. 2010) outlines the European Commission's methodological guidance (EC, 2002) promoting a four-stage process to complete the AA and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four stages are summarised diagrammatically in Figure 2-1. Stages 1-2 deal with the main requirements for assessment under Article 6(3) and Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended. Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

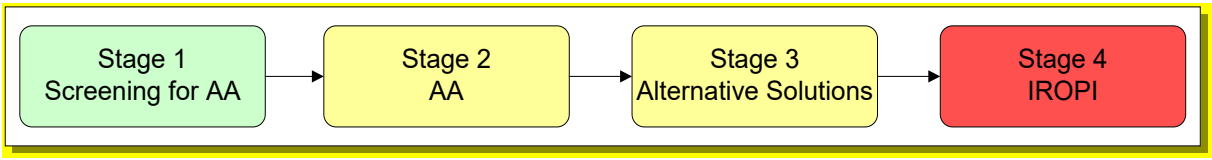


Figure 2-1: Stages of Appropriate Assessment - Taken from Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (2010)

Stage 1 - Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

i. whether a plan or project (in this instance the proposed project) is directly connected to or necessary for the management of the European sites, and

ii. whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on the European sites in view of their conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). This report fulfils the information necessary to enable the competent authority to screen the proposal for the requirement to prepare an AA.

This report forms Stage 1 of the AA process and sets out the following information:

- Description of the proposed works;
- Characteristics of the proximal European sites; and
- Assessment of significance of the proposed works on the European sites in question.

The methodology followed in relation to this assessment has had regard to the following guidance and legislation:

- European Union Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora 92/43/EEC;
- Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (DOEHLG 2009, rev 2010);
- The Planning and Development Act (as amended);
- Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg (EC, 2018);
- European Commission Notice Brussels C (2021) 6913 final 'Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (EC, 2021);

- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission 2013;
- The European Union (Environmental Impact Assessment and Habitats) Regulations 2011; and
- The European Communities (Birds and Natural Habitats) Regulations, S.I. No. 477 of 2011 (as amended).

2.2 Information consulted for this report

The Screening assessment had regard to the following sources of data and information:

- Information on the location, nature and design of the proposed project;
- Department of Housing, Planning, and Local Government – online land use mapping www.myplan.ie/en/index.html;
- Department of Housing, Planning, and Local Government- EIA Portal https://www.housing.gov.ie/planning/environmental-assessment/environmental-impact-assessment-eia/eia-portal
- Environmental Protection Agency (EPA) – Water Quality www.epa.ie, http://gis.epa.ie/Envision;
- Geological Survey of Ireland – Geology, soils and Hydrogeology www.gsi.ie;
- Water Framework Directive website – www.catchments.ie;
- National Parks and Wildlife Service – online European site network information, including site conservation objectives www.npws.ie;
- National Parks and Wildlife Service – Information on the status of EU protected habitats in Ireland (NPWS 2019a, 2019b);
- National Biodiversity Data Centre – www.biodiversityireland.ie;
- Ordnance Survey of Ireland – Mapping and Aerial photography www.osi.ie; and
- Site walkover survey, undertaken on 23rd May 2022 by Ms K. Banks (see Section 3.2).

2.3 Screening Protocol

The sequence of events when completing the AA Screening process is provided below:

- Ascertain whether the plan or project is necessary for the management of the European site;
- Description of the plan or project;
- Definition of the likely zone of influence for the proposed development;
- Identification of the European sites that are situated (in their entirety or partially or downstream) within the zone of influence of the proposed works;
- Identification of the most up-to-date QIs and SCIs for each European site within the zone of influence;
- Identification of the environmental conditions that maintain the QIs/SCIs at the desired target of Favourable Conservation Status;
- Identification of the threats/impacts – actual or potential that could negatively impact the environmental conditions of the QIs/SCIs within the European sites;
- Highlighting the activities of the proposed works that could give rise to significant negative impacts; and
- Identification of other plans or projects, for which in-combination impacts would likely have significant effects.

2.3.1 Screening Determination

In accordance with Regulation 42(7) of the Birds and Natural Habitats Regulations 2011 (S.I. No. 477/2011) as amended, the competent authority (Cork County Council), shall:

> *"determine that an Appropriate Assessment of a plan or project is not required where the plan or project is not directly connected with or necessary to the management of the site as a European site and if it can be excluded on the basis of objective scientific information following screening*

under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site".

Further, under Regulation 42(8) (a):

Where, in relation to a plan or project for which an application for consent has been received, a public authority makes a determination that an Appropriate Assessment is required, the public authority shall give notice of the determination, including reasons for the determination of the public authority, to the following—

the applicant,

if appropriate, any person who made submissions or observations in relation to the application to the public authority, or

if appropriate, any party to an appeal or referral.

(b*) Where a public authority has determined that an Appropriate Assessment is required in respect of a proposed development it may direct in the notice issued under subparagraph (a) that a Natura Impact Statement is required.*

2.3.2 Zone of Influence

In accordance with EC (2021) *Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, identification of the European sites that may be affected should be done by taking into consideration all aspects of the plan or project that could have potential effects on any European sites located within the zone of influence of the plan or project. This should take into account all of the designating features (species, habitat types) that are significantly present on the sites and their conservation objectives.

In particular, it should identify:

- Any European sites geographically overlapping with any of the actions or aspects of the plan or project in any of its phases, or adjacent to them;
- Any European sites within the likely zone of influence of the plan or project. Natura 2000 sites located in the surroundings of the plan or project (or at some distance) that could still be indirectly affected by aspects of the project, including as regards the use of natural resources (e.g. water) and various types of waste, discharge or emissions of substances or energy;
- European sites in the surroundings of the plan or project (or at some distance) which host fauna that can move to the project area and then suffer mortality or other impacts (e.g. loss of feeding areas, reduction of home range);
- European sites whose connectivity or ecological continuity can be affected by the plan or project.
- The range of European sites to be assessed, i.e. the zone in which impacts from the plan or project may arise, will depend on the nature of the plan or project and the distance at which effects may occur.

2.3.3 Likely Significant Effects

The threshold for a likely significant effect is treated in the screening exercise as being above a *de minimis* level[1]. The opinion of the Advocate General in CJEU case C-258/11 outlines:

"the requirement that the effect in question be 'significant' exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on a European site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill."

In this report, therefore, 'relevant' European sites are those within the potential zone of influence of the construction and / or operation of the proposed development, and to which likely significant effect pathways were identified through the source-pathway-receptor model.

[1] *Sweetman v. An Bord Pleanála* (Court of Justice of the EU, case C-285/11). A de minimis effect is a level of risk that is too small to be concerned with when considering ecological requirements of an Annex I habitat or a population of Annex II species present on a European site necessary to ensure their favourable conservation condition. If low level effects on habitats or individuals of species are judged to be in this order of magnitude and that judgment has been made in the absence of reasonable scientific doubt, then those effects are not considered to be likely significant effects.

3 Project Description

3.1 Description of the Project

Whether the continuous operation of 10no. gas generators at the permitted Phase 1 data centre development (17/5895, as extended under 22/06358) at Wallingstown, Little Island, Co. Cork, is development which is exempted development.

3.1.1 Flood Risk

Office of Public Works (OPW) mapping (http://www.floodinfo.ie/map/floodmaps/) indicates the CFRAM flood extents and instances of historic flooding from the transitional waterbody of Lough Mahon in the vicinity of the proposed site. As illustrated in Figure 3-1, the flood extents do not reach the proposed site.

Figure 3-1: OPW flood risk mapping of the proposed site and its environs

3.2 Existing Environment

3.2.1 Site Survey

The proposed site is located on a brownfield site and consists of buildings and artificial surfaces (BL3) and recolonising bare ground (ED3).

There are no active drainage ditches, watercourses or waterbodies present within the subject area of the proposed site.

No Annex I habitats were recorded within the proposed site.

Species recorded at the proposed site and its environs were limited to a range of birds that are widespread and typical of the habitats present at the proposed site. No Annex I bird species or Qualifying Interest species for Cork Harbour SPA were recorded during the survey of the proposed site. The habitats present within the proposed site do not provide suitable foraging or roosting habitat for waterbirds.

No invasive plant species were recorded at the proposed site.

3.2.2 Surface Water

3.2.2.1 Water Bodies

The proposed site is located within the Tibbotstown_SC_10 WFD Sub-catchment and the Lee, Cork Harbour and Youghal Bay WFD Catchment. The Lough Mahon transitional water body is situated c.0.5km to the south of the proposed site boundary and c.0.53km from the development footprint. Lough Mahon forms part of Cork Harbour SPA c.0.53km to the south of the proposed development footprint.

The proposed development overlies the Industrial Facility ground waterbody (GWB).

The EPA waterbody codes for the proposed site and its environs are included in Table 3-1.

Table 3-1: EPA Waterbody Codes

EPA Waterbody Name	Waterbody Type	EPA Code	EPA Waterbody Code
Lough Mahon	Transitional	n/a	IE_SW_060_0750
Industrial Facility	Groundwater	n/a	IE_SW_G_089

3.2.2.2 Surface Water Quality and Risk Characterisation

The WFD status for Lough Mahon is 'Moderate' and the water quality is 'Eutrophic under the 2018-2020 WFD round. The WFD risk status of the Industrial Facility ground waterbody is 'Good' (EPA Maps).

3.2.3 Soils, Geology and Hydrogeology

The Geological Survey of Ireland (GSI) online database (was consulted for available edaphic, geological and hydrological information of the proposed site and its environs. The proposed site is overlaid by Made Ground. In terms of bedrock geology the Waulsortian Limestones formation, composed of massive unbedded lime-mudstone underlie the proposed site. The proposed site is mapped by the GSI as part of a Regionally important aquifer- karstified (diffuse). Groundwater vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease at which groundwater may be contaminated. The study area is of 'high' groundwater vulnerability. There are no karst features located in the vicinity of the proposed site.

3.3 Description of the European Sites

This stage of the screening for AA process describes European sites within the likely zone of influence of the works. The methodology for establishing the likely zone of influence is described in Section 2.3.2.

Connectivity between the proposed development and European sites has been reviewed. Connectivity is identified via the potential source-pathway-receptor model which identifies the potential impact pathways such as land, air, hydrological, hydrogeological pathways etc. which may support direct or indirect connectivity of the proposed development to European sites and/or their qualifying features.

In view of the location of the proposed development in relation to European sites (see Figure 3-2), the characteristics of the proposed development (see Section 3) and the source, pathway and receptors of potential impacts, a 15km radius is considered an appropriate zone of influence to screen all likely significant effects that might impact upon the European sites. The establishment of the likely zone of influence is in line with EC (2021) *Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC*.

The European sites located within 15km of the proposed development are outlined in Table 3-2 and Figure 3-2**.** There are 2 European sites located within 15km of the proposed development:

1. Great Island Channel SAC (Site Code: 001058); and
2. Cork Harbour SPA (Site Code: 004030).

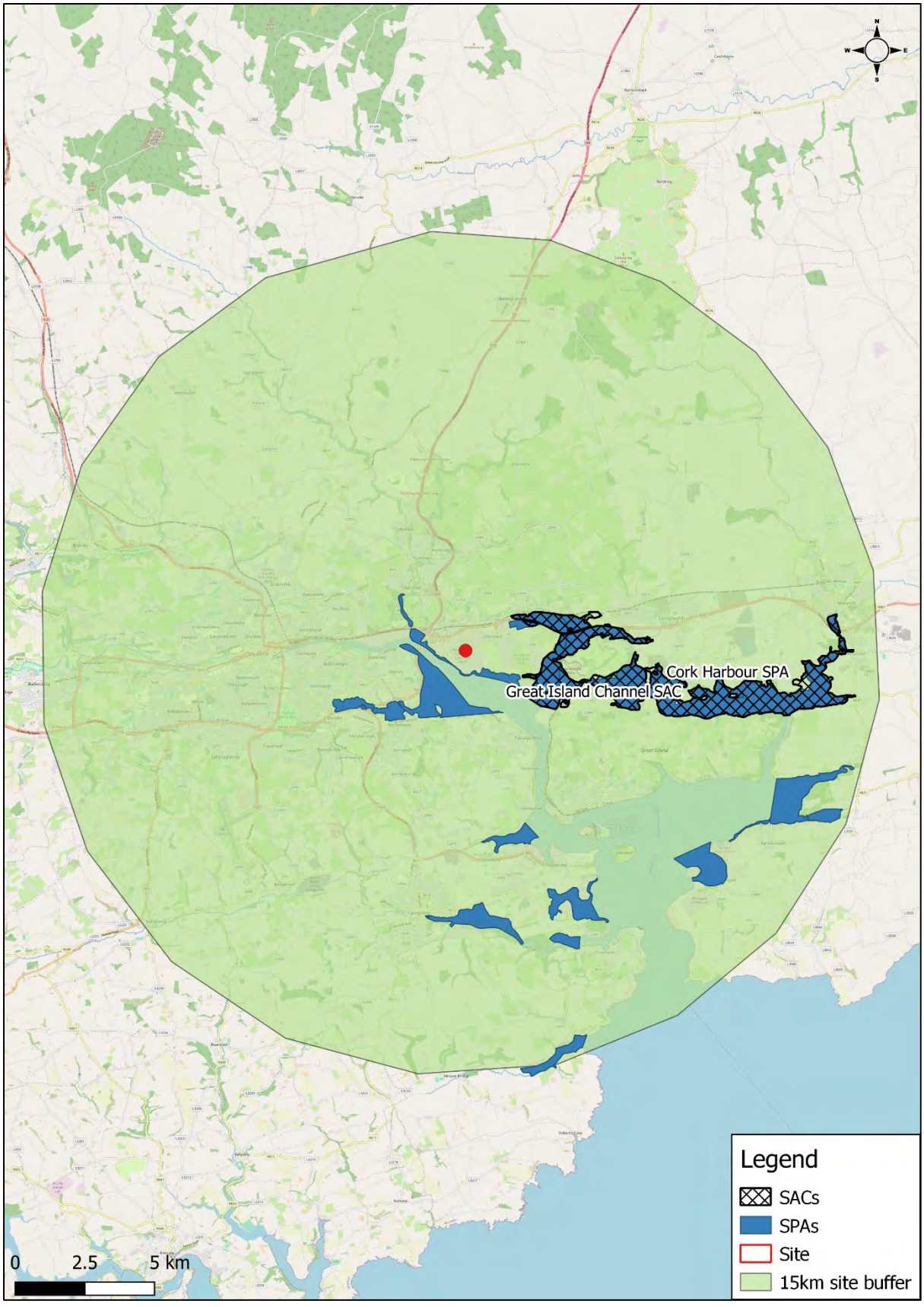
Table 3-2: European Sites within 15km of the Proposed Site

Site Name and Site Code	**Qualifying Interests**	**Distance from Proposed Site (km)[2]**	**Connectivity**
Great Island Channel SAC (001058)	**Annex I Habitats** Mudflats and sandflats not covered by seawater at low tide (1140) Atlantic salt meadows (Glauco-Puccinellietalia maritimae) (1330)	2.0km	There is no connectivity via surface water, groundwater or any other pathway.
Cork Harbour SPA (004030)	Bird Species: Little grebe (*Tachybaptus ruficollis*) [wintering] Great crested Grebe (*Podiceps cristatus*) [wintering] Cormorant (*Phalacrocorax carbo*) [wintering] Grey heron (*Ardea cinerea*) [wintering] Shelduck (*Tadorna tadorna*) [wintering] Wigeon (*Anas penelope*) [wintering] Teal (*Anas crecca*) [wintering] Pintail (*Anas acuta*) [wintering] Shoveler (*Anas clypeata*) [wintering] Red-breasted Merganser (*Mergus serrator*) [wintering] Oystercatcher (*Haematopus ostralegus*) [wintering] Golden Plover (*Pluvialis apricaria*) [wintering] Grey Plover (*Pluvialis squatarola*) [wintering] Lapwing (*Vanellus vanellus*) [wintering] Dunlin (*Calidris alpina*) [wintering] Black-tailed Godwit (*Limosa limosa*) [wintering] Bar-tailed Godwit (*Limosa lapponica*) [wintering] Curlew (*Numenius arquata*) [wintering] Redshank (*Tringa totanus*) [wintering] Black-headed Gull (*Chroicocephalus ridibundus*) [wintering] Common Gull (*Larus canus*) [wintering] Lesser Black-backed Gull (*Larus fuscus*) [wintering]	0.6km	There is no connectivity via surface water, groundwater or any other pathway. The proposed site and this SPA are in relatively close proximity.

[2] Distance measured "as the crow flies"

Site Name and Site Code	Qualifying Interests	Distance from Proposed Site (km)[2]	Connectivity
	Common Tern (*Sterna hirundo*) [breeding] Wetlands		

Figure 3-2: European Sites within 15km of the Proposed Site



3.3.1 Conservation Objectives of European Sites

The integrity of a European site (referred to in Article 6.3 of the EU Habitats Directive) involves its ecological functions. The decision as to whether it is adversely affected therefore focuses on, and is limited to, conservation objectives set for a particular site (EC, 2018).

European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status areas designated as SAC and SPA. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The qualifying features for each site have been obtained through a review of the conservation objectives available from the NPWS: http://www.npws.ie/protected-sites. Site specific conservation objectives are available for Great Island Channel SAC and Cork Harbour SPA; these were accessed in December 2022. For brevity, the site specific Conservation Objectives (CO's) are summarised thus:

- To maintain or restore the favourable conservation condition of Annex I habitats for which the SAC has been selected; and
- To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for the SPA.

3.3.2 European Site Description

3.3.2.1 Great Island Channel SAC

Site Description

According to the Standard Data Form for Great Island Channel SAC (available at N2K IE0001058 dataforms (europa.eu)), this site comprises the north-eastern part of Cork Harbour. It includes all of the Great Island Channel, the intertidal areas between Fota Island and Little Island, and also the estuary of the Dungourney and Owennacurra Rivers as far as Midleton. The North Channel is on average 1 km wide but extends for about 9 km from east to west. The area is well sheltered and the intertidal sediments are predominantly fine muds. In addition to the estuarine habitats, the site includes some wet grassland areas which are used by roosting birds, as well as some broad-leaved woodland at Fota Island. Compared to the rest of Cork Harbour, the Great Island Channel is relatively undisturbed, with aquaculture the main activity. The site is of ecological importance for its examples of intertidal mud and sand flats and Atlantic salt meadows of the estuarine type. Both habitats are fairly extensive in area and of moderate to good quality. Site has high ornithological importance, supporting regularly c.50% of the wintering waterfowl of Cork Harbour. Significant proportions of the internationally important populations of *Limosa limosa* and *Tringa totanus* which winter in Cork Harbour utilise the site and it supports nationally important populations of a further 12 species, including *Pluvialis apricaria* and *Limosa lapponica*, both listed on Annex I of the EU Birds Directive.

Qualifying Interests

The qualifying interests for Great Island Channel SAC are listed in Table 3-2**.** Threats and impacts for European Sites are presented in the Standard Data Form for each site. Threats and impacts to Annex I habitats and Annex II species protected under the EU Habitats Directive are also outlined in the Article 17 Habitats and Species Conservation Assessment (NPWS, 2019) available at: Article 17 Reports 2019 | National Parks & Wildlife Service (npws.ie).

Table 3-3 presents the main threats, pressures and negative impact activities for Great Island Channel SAC, as quoted on the Standard Data Form for this European Site.

Table 3-3: Threats, Pressures and Impact Activities to Great Island Channel SAC

European Site	Threat Code[3]	Threat Type	Rank [4]	i (inside) / o (outside)/ b (both)[5]
Great Island Channel SAC	E01	Urbanised areas, human habitation	H	o
	D01.02	Roads, motorways	H	i
	F01	Marine and freshwater aquaculture	H	i
	A08	Fertilisation	M	o
	A04	Grazing	M	i
	K02.03	Eutrophication (natural)	M	i
	J02.01.02	Reclamation of land from sea, estuary or marsh	H	i
	I01	Invasive non-native species	M	i

3.3.2.2 Cork Harbour SPA

Site Description

According to the Standard Data Form for Cork Harbour SPA (available at N2K IE0004030 dataforms (europa.eu)), Cork Harbour is a large, sheltered bay system, with several river estuaries – principally those of the Rivers Lee, Douglas, Owenboy and Owenacurra. The site comprises the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy Estuary, Whitegate Bay and the Rostellan inlet. Owing to the sheltered conditions, the intertidal flats are often muddy in character. Salt marshes are scattered through the site and these provide high tide roosts for the birds. Otherwise, birds roost on stony shorelines and in some areas fields adjacent to the shore. Some shallow bay water is included in the site. Cork Harbour is adjacent to a major urban centre and a major industrial centre.

Cork Harbour is an internationally important wetland site, regularly supporting in excess of 20,000 wintering waterfowl, for which it is amongst the top five sites in the country. It supports an internationally important population of *Tringa totanus*. A further 15 species have populations of national importance, with particularly notable numbers of *Tadorna tadorna* (9.6% of national total), *Anas clypeata* (4.5% of total), *Anas acuta* (4.2% of total) and *Phalacrocorax carbo* (4.1% of total) occurring. It has regionally important populations of *Pluvialis apricaria* and *Limosa lapponica*. Passage waders are regular, including *Philomachus pugnax* and *Tringa erythropus*. It is an important site for gulls in winter and autumn, especially *Larus canus* and *Larus fuscus*. The site provides both feeding and roosting areas for the waterfowl species. The quality of most of the estuarine habitats is good. The wintering birds have been well-monitored since the 1970s. The site has a breeding colony of *Sterna hirundo* which is of national importance. The colony is monitored annually and the chicks ringed.

[3] Threat code follows reference list provided on threats, pressures and activities for European sites
[4] Threat, pressure and impact ranking H – High, M – Medium, L - Low
[5] Inside (i),outside (o) or both (b) of European site

Qualifying Interests

The SCI found within the Cork Harbour SPA are listed in Table 3-2. The main threats, pressures and negative impact activities for Cork Harbour SPA are outlined in Table 3-4 below.

Table 3-4: Threats, Pressures and Impact Activities to Cork Harbour SPA

European Site	Threat Code[6]	Threat Type	Rank[7]	i (inside) / o (outside)/ b (both)[8]
Cork Harbour SPA	E01.03	Dispersed habitation	L	o
	D01.02	Roads, motorways	H	o
	G01.02	Walking, horseriding and non-motorised vehicles	M	i
	F02.03	Leisure fishing	M	i
	D03.01	Port areas	H	o
	A08	Fertilisation	M	o
	F01	Marine and Freshwater Aquaculture	H	i
	G01.01	Nautical sports	M	i
	E01	Urbanised areas, human habitation	H	o
	E02	Industrial or commercial areas	H	o
	D03.02	Shipping lanes	M	i

The broad habitat types present to the south of the proposed site are intertidal and sub-tidal. The habitats present along the shoreline to the south and south-west of the proposed site include muddy sand shores (Fossitt Code LS3) and shingle and gravel shores (LS1) (see Maps - Biodiversity Maps (biodiversityireland.ie)).

The section of Cork Harbour SPA most relevant to the proposed project is that occurring on the shoreline to the south and south-west of the site. Cork Harbour SPA is divided into waterbird count subsites as part of the Irish Wetland Bird Survey (I-WeBS). The area to the south and south-west of the proposed site is divided into two low-tide subsites (0L539 and 0L540), which were counted as part of NPWS 2010/2011 Waterbird Survey Programme.

Cork Harbour SPA Conservation Objectives Supporting Document (NPWS, 2014) provides baseline data on the range and distribution of waterbirds within the SPA, including the location of waterbird roosting sites. The results of surveys undertaken to inform the Cork Harbour SPA Conservation Objectives Supporting Document indicate that the area of the SPA located to the south and south-west of the proposed site is not an important area for roosting waterbirds and does not support roosting waterbird sites. The closest mapped roost site to the proposed site is located c.2km to the west, as illustrated in Figure 3-3.

[6] Threat code follows reference list provided on threats, pressures and activities for European sites
[7] Threat, pressure and impact ranking H – High, M – Medium, L - Low
[8] Inside (i)outside (o) or both (b) of European site

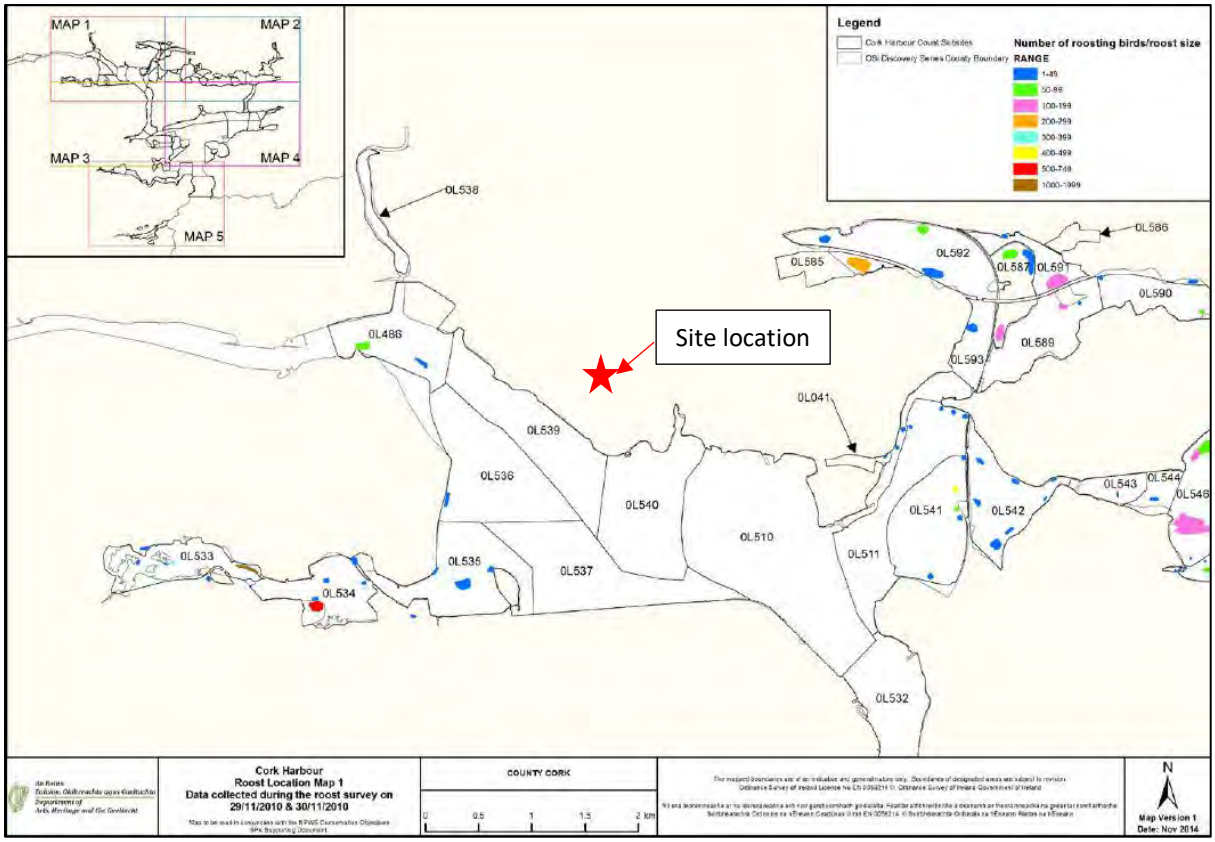


Figure 3-3: Roost location map, reproduced from Cork Harbour SPA Conservation Objectives Supporting Document, p133

The Cork Harbour SPA Conservation Objectives Supporting Document also provides a list of waterbirds supported by each subsite. The relative importance of each subsite for waterbird species has been ranked as very high (V), high (H), moderate (M), and low (L). The waterbirds and ranking at subsite 0L539 and 0L540 are detailed in Table 3-5. Of the twenty three SCI species for Cork Harbour SPA, seventeen have been recorded in subsite 0L539 and subsite 0L540. Four species have been recorded in high numbers, eight in moderate numbers and five in low numbers at these subsites (Table 3-5).

Table 3-5: Waterbird number rankings at low tide subsites 0L539 and 0L540

Species	Subsite	
	0L539	0L540
Shelduck (SU)	-	L
Wigeon (WN)	L	L
Teal (T)	-	M
Pintail (PT)	-	-
Shoveler (SV)	-	-
Red-breasted Merganser (RM)	-	-
Little Grebe (LG)	-	-
Great Crested Grebe (GG)	H	L
Cormorant (CA)	M	L
Grey Heron (H)	M	-
Oystercatcher (OC)	L	M
Golden Plover (GP)	-	-
Grey Plover (GV)	-	L
Lapwing (L)	-	L
Dunlin (DN)	-	H
Black-tailed Godwit (BW)	M	M
Bar-tailed Godwit (BA)	-	-
Curlew (CU)	M	M
Redshank (RK)	L	H
Black-headed Gull (BH)	M	H
Common Gull (CM)	L	L
Lesser Black-backed Gull (LB)	M	M

4 Screening Assessment Criteria

4.1 Management of European Sites

AA Screening is not required where the proposed development is connected with, or necessary to, the management of any European site. In this case, the proposed development is not directly connected with, or necessary to, the management of any European site(s).

4.2 Direct, Indirect or Secondary Impacts

Table 3-3 lists the European sites within 15km of the proposed generators at Little Island. There are two sites in all, one SAC and one SPA. The proposed development is not situated within any SACs or SPAs, therefore no direct impacts will occur through land take or fragmentation of habitats.

Disturbance Impacts

Ex-Situ Impacts

Cork Harbour SPA is of special conservation interest for wetlands and waterbirds. The proposed site is located within a brownfield site comprising buildings and artificial surfaces and recolonising bare ground; there are no waterbodies within the proposed site. As such, the proposed site would not be favoured by the Qualifying Interests of Cork Harbour SPA and ex-situ visual or noise disturbance/ displacement impacts to the qualifying interests of Cork Harbour SPA as a result of the proposed development are extremely unlikely. The qualifying interests of Great Island Channel are habitats, not species, therefore ex-situ disturbance impacts are not relevant to this European site.

Noise Disturbance

The Waterbird Disturbance Mitigation Toolkit[9] has been developed for the purpose of defining disturbance impacts to avifauna from construction type operations on or adjacent to intertidal areas. Within this toolkit, noise tolerances are presented as thresholds which should not be exceeded when measured at the bird (i.e. the receptor). An overview table detailing the standard distance decay rates for noise and the observed responses of waterbirds to noise stimuli has been developed, as detailed in Table 4-1 below (reproduced from page 12 of the Waterbird Disturbance Mitigation Toolkit). In Table 4-1, acceptable 'dose' levels (e.g. to 70dB(A)) are shaded green with dark green unlikely to have any affect whilst the pale green might occasionally induce a low level behavioural response such as a 'heads-up'; yellow to orange shading is where a response is likely but mitigation may be effective in reducing the disturbance risk; pale red where mitigation is necessary and might be of value, but with a remaining risk of effect; dark red where a flight response is almost certain to occur.

In accordance with the Waterbird Disturbance Mitigation Toolkit, '*low level noise is classed as that which is unlikely to cause response in birds using a fronting intertidal area. These effects are likely to be masked by background inputs in all but the least disturbed areas and thus would not disturb the birds close by. Noise between 55 - 72dB(A) in some highly disturbed areas e.g. industrial or urban areas and adjacent to roads, may feature a low level of disturbance provided the noise level was regular as birds will often habituate to a constant noise level*'.

Applying the precautionary principle, an acceptable 'dose level' of, 55dB(A) has been adopted for this assessment of likely significant effects.

[9] Available at: Slide 1 (divio-media.org), accessed on 31st August 2022

Table 4-1: Noise disturbance effects matrix, sourced from Cutts et al (2013)

Metres from Source	dB(A)										
0.67	120	110	100	95	90	85	80	75	70	65	60
1.33	114	104	94	89	84	79	74	69	64	59	54
2.67	108	98	88	83	78	73	68	63	58	53	48
5.33	102	92	82	77	72	67	62	57	52	47	42
10.67	96	86	76	71	66	61	56	51	46	41	36
20.67	90	80	70	65	60	55	50	45	40	35	30
42.67	84	74	64	59	54	49	44	39	34	29	24
85.33	78	68	58	53	48	43	38	33	28	23	
170.67	72	62	52	47	42	37	32	27	22		
341.33	66	56	46	41	36	31	26	21			
682.66	60	50	40	35	30	25	20				
1365.32	54	44	34	29	24						

The proposed site is located c.0.6km to the north of Cork Harbour SPA. Waterbird species recorded at subsite 0L539 and subsite 0L540 to the south and south-west of the site are detailed in Table 3-5. The closest mapped roost site to the proposed site is located c.2km to the west, as illustrated in Figure 3-3.

Construction Phase

As detailed in the Noise Assessment undertaken for the proposed development (CLV Consulting, 2022), a variety of plant items will be in use during the construction phase, such as lifting equipment, dumper trucks and general construction plant items. There will be vehicular movements to and from the site that will make use of existing roads and will be a source of noise emissions. The predicted noise level at the shoreline of Cork Harbour SPA during the construction phase is between 37 and 40 dB, which is below the precautionary acceptable dose level of 55 dB.

Operational Phase

The Noise Assessment for the proposed development calculated the combined noise emissions from the condensing units and generators to be 44dB at Cork Harbour SPA, which is considered to be within the precautionary acceptable dose threshold level of 55 dB. It is further noted that noise emissions during the operational phase will be continuous, rather than sudden irregular noise. As noted previously, birds are more likely to become habituated to continuous background noise.

In view of these factors, the proposed project will not result in likely significant effects on the SCI species for Cork Harbour SPA as a result of noise disturbance during the construction or operational phase.

Visual Disturbance

As noted previously, the proposed site is located c.0.6km to the north of Cork Harbour SPA with a buffer of existing development at Little Island to the south and east of the proposed site. The Waterbird Disturbance Mitigation Toolkit indicates that for some species, behavioural responses to visual disturbance during feeding may commence at around 300m distance (e.g. Curlew), whilst for others, a range of 150m to 100m is the response threshold (e.g. Dunlin). For roost sites, a generic

response threshold radius of c. 300m has been derived, based around the approach distance for the most sensitive species. In view of these findings, and the distance of the proposed site from the shoreline of Cork Harbour (0.6km), no significant effects on SCI species for Cork Harbour SPA as a result of visual disturbance are expected to arise from the proposed development.

In consideration of the factors described above, it is considered that disturbance/ displacement or ex-situ impacts to the SCI for Cork Harbour SPA as a result of the proposed development are not likely.

Water Quality

Lough Mahon transitional waterbody is located c.0.6km to the south-west of the proposed site. Lough Mahon forms part of Cork Harbour SPA c.0.61km to the south-west of the proposed site and, in turn, Great Island Channel SAC c.2.0 km to the south-east of the proposed site (straight line distance). There are no watercourses or active drainage ditches present at the proposed site, therefore there is no connectivity via surface water between the proposed site and Lough Mahon. Lough Mahon is buffered from the proposed site by re-colonising bare ground and a line of scrub and an earth bank to the south of the proposed site. As such, any surface water generated during the construction of the proposed development will readily be contained within the footprint of the proposed site. No adverse effects on the water quality within Lough Mahon and in turn Cork Harbour SPA and Great Island Channel SAC as a result of deleterious substances within surface water run-off are expected to occur during the construction phase.

During the operational phase, foul water will discharge to the existing network in the R623 before treatment at Cork City Treatment Plant, which has sufficient capacity to cater for the proposed development. Stormwater runoff associated with the development will connect into the public storm water sewer.

In view of the factors described above, no adverse effects on the water quality of Cork Harbour SPA and in turn Great Island Channel SAC as a result of mobilisation of contaminants from the proposed site via surface or ground water during the construction or operational phase of the proposed development are anticipated.

Air Quality

The air dispersion model completed by Axis Environmental Services (2022) indicates that NO_2 emissions are predicted to be in compliance with Annex 3 criteria and Annex 11 2008/50/EC[10] ground level concentration limits for protection of human health for a one-hour average and an annual average over the modelled period at Cork Harbour SPA. In view of these findings, the proposed development is not expected to result in significant adverse effects on the SCI for Cork Harbour as a result of a reduction in air quality.

No significant effects on European sites are anticipated as a result of the proposed development at Little Island, Cork.

4.2.1 Cumulative Impacts with Other Plans and Projects in the Area

As part of the screening for an AA, in addition to the proposed development, other relevant projects and Plans in the area must also be considered at this stage. These Plans and projects are considered further in this respect in Table 4-1.

[10] Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

Table 4-2: Plans and projects which may contribute to cumulative or in-combination impacts

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
Cork County Development Plan 2022	The Cork County Development Plan includes the following Objectives of relevance to this report: **BE 15-2: Protect sites, habitats and species:** a) Protect all natural heritage sites which are designated or proposed for designation under European legislation, National legislation and International Agreements. Maintain and where possible enhance appropriate ecological linkages between these. This includes Special Areas of Conservation, Special Protection Areas, Marine Protected Areas, Natural Heritage Areas, proposed Natural Heritage Areas, Statutory Nature Reserves, Refuges for Fauna and Ramsar Sites. These sites are listed in Volume 2 of the Plan. b) Provide protection to species listed in the Flora Protection Order 2015, to Annexes of the Habitats and Birds Directives, and to animal species protected under the Wildlife Acts in accordance with relevant legal requirements. These species are listed in Volume 2 of the Plan. c) Protect and where possible enhance areas of local biodiversity value, ecological corridors and habitats that are features of the County's ecological network. This includes rivers, lakes, streams and ponds, peatland and other wetland habitats, woodlands, hedgerows, tree lines, veteran trees, natural and semi-natural grasslands as well as coastal and marine habitats. It particularly includes habitats of special conservation significance in Cork as listed in Volume 2 of the Plan. d) Recognise the value of protecting geological heritage sites of local and national interest, as they become notified to the local authority, and protect them from inappropriate development e) Encourage, pursuant to Article 10 of the Habitats Directive, the protection and enhancement of features of the landscape, such as traditional field boundaries, important for the ecological coherence of the Natura 2000 network and essential for the migration, dispersal and genetic exchange of wild species. **BE 15-6: Biodiversity and New Development:** Provide for the protection and enhancement of biodiversity in the development management process and when licensing or permitting other activities by: a) Providing ongoing support and guidance to developers on incorporating biodiversity considerations into new development through preplanning communications and the Council's guidance document 'Biodiversity and the Planning Process – guidance for developments on the management of biodiversity issues during the	Policies and objectives of the Cork County Development Plan 2022 ensure that local planning applications comply with proper planning and sustainability and with the requirements of relevant EU Directives and environmental considerations, there is no potential for adverse in-combination effects on European Sites.

	planning process' and any updated versions of this advice; b) Encouraging the retention and integration of existing trees, hedgerows and other features of high natural value within new developments; c) Requiring the incorporation of primarily native tree and other plant species, particularly pollinator friendly species in the landscaping of new developments; d) Fulfilling Appropriate Assessment and Environmental Impact Assessment obligations and carrying out Ecological Impact Assessment in relation to development and activities, as appropriate; e) Ensuring that an appropriate level of assessment is completed in relation to wetland habitats subject to proposals which would involve drainage or reclamation. This includes lakes and ponds, watercourses, springs and swamps, marshes, heath, peatlands, some woodlands as well as some coastal and marine habitats; f) Ensuring that the implementation of appropriate mitigation (including habitat enhancement, new planting or other habitat creation initiatives) is incorporated into new development, where the implementation of such development would result in unavoidable impacts on biodiversity - supporting the principle of biodiversity net gain.	
River Basin Management Plan 2018-2021	The project should comply with the environmental objectives of the Irish RBMP which are to be achieved generally by 2021. ▪ Ensure full compliance with relevant EU legislation. ▪ Prevent deterioration. ▪ Meeting the objectives for designated protected areas. ▪ Protect high status waters. ▪ Implement targeted actions and pilot schemes in focus sub-catchments aimed at: targeting water bodies close to meeting their objective and addressing more complex issues which will build knowledge for the third cycle.	The implementation and compliance with key environmental policies, issues and objectives of this management plan will result in positive in-combination effects to European sites. The implementation of this plan will have a positive impact for the biodiversity. It will not contribute to in-combination or cumulative impacts with the proposed development.
IPPC Programme	Tapella Limited (IPC no: P0103-02). License surrendered (licensable activities have ceased). Goldenville Limited (IPC no: P0389). Goldenville site is now closed: no activity. Punch Industries Ltd (IPC no: P0127). No AER available online. Corden Pharma Limited (t/a Corden PharmaChem) (IPC no: P0134). License surrendered.	Discharges from these facilities are governed by strict limits to ensure compliance with quality standards. No significant effects on European sites are anticipated as a result of the proposed generators, Little Island, Cork. In view of these factors, the long-term cumulative impact is predicted to be negligible.

Local Planning Applications[11]		
Aluminium Extrusion (Planning Ref: 217232).	Construction of a new single-storey building for the extrusion of aluminium sections including associated office and welfare facilities, parking, outdoor storage, underground services and associated site works at existing manufacturing facility.	The NIS completed for the development concluded that as a result of the proposed mitigation measures, the proposed works will not result on impacts on the integrity of Cork Harbour SPA or Great Island Channel SAC. There is no potential for significant adverse in-combination effects on European sites with the proposed development.
Application amendment (Planning Ref: 195995)	Revisions to existing building (warehouse and transport logistics with ancillary office use) Previously permitted under reg. ref. 15/4447 and 15/5254 to include, 1. Construction of a lobby extension, 2. Demolition of part of building, 3. Omission of previously permitted extension and dock levellers, 4. Alterations to roof heights, 5. Alterations to elevations and all associated works.	No HDA reporting was available online for this development. Adherence to the overarching policies and objectives of the Cork County Development Plan 2022 ensure that local planning applications and subsequent grant of planning comply with the core strategy of proper planning and sustainability and with the requirements of relevant EU Directives and environmental considerations, there is no potential for significant adverse in combination effects on European Sites.
Extension of an existing light industrial building (Planning Ref: 196222)	To carry out alterations and construct new extensions at existing light industrial building. The proposed works include: Demolition of existing plant rooms at northern side of building and construction of new single-storey extension for light industrial use with ancillary storage and plant rooms, together with alteration of roadway and underground services and associated site works to facilitate the extension, demolition of office area stairwell and canopy and office entrance canopy and construction of new two-storey office extension with elevational alterations to the existing two-storey office area at east elevation together with changes to car-parking layout and associated site works.	The NIS completed for the development concluded that significant impacts are unlikely to occur as a result of the proposed development. There is no potential for significant adverse in-combination effects on European sites with the proposed development.
Extension to existing facility at Leo Pharma, Little Island, Cork (Planning Ref: 184614)	Development of an extension to the existing pharmaceuticals manufacturing facility to include (i) a new part single-storey, part two-storey processing building (ii) 2no. single-storey link corridors to connect the proposed processing building with the existing facility (iii) all associated site development, drainage, landscaping and ancillary works, including the removal of existing external access stairs and an existing door, relocated roof access ladder, new covered external stairs and new external access door,	The AA screening report for this development concluded that potential impacts, direct and indirect, on Natura 2000 sites are not considered likely to occur as a result of the proposed extension of the existing Leo Pharma facility at Wexport Ltd. Therefore, the proposed development at Leo Pharma,

[11] Cork County Council Planning Enquiry database (Amharcóir Pleanála - Planning Viewer (arcgis.com)) was searched on 06/06/2022. The Local Planning Applications included in this potential in-combination impacts assessment support the following criteria: planning applications granted within the past five years that may contribute to potential cumulative impacts on European sites of concern.

	new roof top plant, including 3no. AHUs, roof equipment platform, and vent stacks. The proposed development also includes a two-storey extension and replacement external stairs to the existing two-storey utility building; a new roller shutter and door to the northern façade of the existing eluation building; and new roof top plant and 1no. AHU to the existing eluation building at the existing LEO Pharma facility, Wallingstown, Little Island, Co. Cork. This application relates to a development which comprises an activity for which an Industrial Emissions License under part IV of the Environment Protection Agency 1992 (as amended) is required.	Little Island, Cork is not likely t result in a significant effect on Cork Harbour SPA and Great Island Channel SAC. There is no potential for significant adverse in-combination effects on European sites with the proposed development.
Business Park Little Island (Planning Ref: 216427)	The demolition of an existing structure and existing hardstanding areas, and the construction of a business park comprising 5no. single-storey light industry /warehousing/distribution/logistics buildings (B1-B5) ranging in size from c.2,600.7m2 to c.7,602.8m2 (total c. 23,534.2m2) each to include a 2-storey internal ancillary office area, apart from building B3 where the 2-storey ancillary office area is external; external yard areas; dock levellers; 3no. substations; single-storey security hut (to include rooftop solar PV panels); car parking, cycle parking, motorcycle parking and truck parking; internal palisade fencing; tree protection fence; signage, including a stand-alone totem sign; 1no. new vehicular/pedestrian/cyclist access and 1no. new gated pedestrian and cycle access; closure of 2no. existing accesses; shared pedestrian/cycle path on the public road (L7078); and all site development, drainage, lighting, boundary treatment and landscaping works. A Natura Impact Statement will be submitted to the Planning Authority with the application.	The NIS undertaken for the proposed development concluded that the project will not, alone or in-combination with other plans or projects, result in significant adverse effects to the integrity and conservation status of European site in view of their conservation objectives and on the basis of best scientific evidence and there is no reasonable scientific doubt as to that conclusion. There is no potential for significant adverse in-combination effects on European sites with the proposed development.
Jansen: Two storey extension to the existing administration building (Planning Ref: 215819)	The construction of a new two storey extension to the existing administration building consisting of an infill first floor within the existing building, a new stairwell to the east along with modifications to the existing north, west and east elevations with associated ancillary works at the existing facility. The facility is subject to an Integrated Pollution Prevention and a Control License.	No HDA reporting was available online for this development. Adherence to the overarching policies and objectives of the Cork County Development Plan 2022 ensure that local planning applications and subsequent grant of planning comply with the core strategy of proper planning and sustainability and with the requirements of relevant EU Directives and environmental considerations, there is no potential for significant adverse in combination effects on European Sites.

Data centre (Planning Ref: 17/6890)	1 data centre building with ancillary offices, car parking, waste compound, generators, landscaping, lighting, provision of access off the R623, the provision of back up accesses connecting the proposal to the data centre development permitted under 17/5895 and associated boundary alterations and all ancillary site works.	The AA screening report completed for the development concluded that there is no possibility of any likely significant effects on any European Sites. The application for planning permission for the proposed development does not require a full Stage 2 Appropriate Assessment. There is no potential for significant adverse in combination effects on European Sites.
Modifications to Substation (Planning Ref: 22/5746)	The proposed development will consist of modifications to the 110 kV substation, as permitted under 16/5606 and extended under 21/5225. The modifications will consist of an increase in size of the permitted 2-storey Gas Insulated Switcher (GIS) 110/20kV substation building from 236.59m2 to 716.69m2; the provision of 1no. additional single-storey Gas Insulated Switchgear (GIS) 20kV substation building; 2no. externally located electrical transformers; an extension to the site boundary to the north and west to accommodate the proposed development; and all associated site development, boundary treatment and landscaping works, including extended perimeter fencing and 1no. additional gate, as well as modifications to the internal road network, on a site at Wallingstown, Little Island, Co. Cork.	The AA screening report completed for the development concluded that there is no possibility of any likely significant effects on any European Sites. The application for planning permission for the proposed development does not require a full Stage 2 Appropriate Assessment. There is no potential for significant adverse in combination effects on European Sites.
Extension of duration for Phase 1 data centre development (Planning Ref: 22/6358)	2 no. data centre buildings on a site formerly occupied by Mitsui Denman. The proposed development provides for the construction of 2 no. data centre buildings as stand alone units (to be built in phases) including ancillary offices with associated structures including a substation building, waste compound, telecoms cabinet (PoP Cabinet) new access off the R623 to provide for independent access, car park, external generator & transformer areas to the west of the proposed data centre and all ancillary works. The proposal will modify part of permission granted under 16/5011, for a data centre development changing the permitted data centre building DC3 from 1 permitted building to 2 no. buildings and associated works. Extension of Duration to Permission granted under Planning Ref. No. 17/5895	The AA screening report completed for the development concluded that there is no possibility of any likely significant effects on any European Sites. The application for planning permission for the proposed development does not require a full Stage 2 Appropriate Assessment. There is no potential for significant adverse in combination effects on European Sites.

4.2.2 Cumulative and In-combination Impact Assessment Conclusion

With regards to potential cumulative noise impacts of Phase 1 (ref 17/5895, as extended under 22/06358) and Phase 2 (ref 17/6980) of the proposed data centre development, the noise assessment for the proposals (CLV, 2022) found that the cumulative noise level at Cork Harbour SPA is predicted to be 45dB, which is below the acceptable dose threshold level of 55 dB.

All possible sources of effects from the proposed generators at Little Island and any other effects likely to arise from other proposed projects or Plans have been identified. No other pathway has been identified by which any Plan or project could have a significant cumulative or in combination effect on European sites. Therefore, no significant adverse cumulative or in-combination effects are anticipated to European sites.

4.3 Screening Assessment

Table 4-2 identifies the potential direct, indirect and secondary impacts of the proposed development on European sites within a 15 km radius.

Table 4-3: Potential significant effects on European Sites from the Proposed Development

Site Name	Direct Impacts	Indirect / Secondary Impacts	Resource Requirements	Emissions (Disposal to land, Water or Air)	Excavation Requirements
Great Island Channel SAC (001058)	No impact on QI	No impact on QI	No impact on QI	No impact on QI	No impact on QI
Cork Harbour SPA (004030)	No impact on QI	No impact on QI	No impact on QI	No impact on QI	No impact on QI

4.4 Likely Changes to the European Site(s)

The likely changes that could arise from the Proposed Generators, Little Island, Cork have been examined in the context of a number of factors that could have a significant effect on the relevant European sites (Table 4-3)

Table 4-4: Likely changes to European Sites

Site Name	Reduction of Habitat Area	Disturbance to Key Species	Habitat or Species fragmentation	Reduction in Species Density	Changes in Key Indicators of Conservation Value (Water Quality, etc.)	Climate Change
Great Island Channel SAC (001058)	None	None	None	None	None	None
Cork Harbour SPA (004030)	None	None	None	None	None	None

4.4.1 Elements of the Project where the Impacts are Likely to be Significant

No elements of the Proposed Generators, Little Island, Cork are likely to cause significant effects to the relevant European sites.

5 Conclusion

This AA screening report has been prepared to assess whether the proposed development, individually or in-combination with other plans or projects, and in view of best scientific knowledge, is likely to have a significant effect on any European site(s).

The screening exercise was completed in compliance with the relevant European Commission guidance, national guidance and case law. The potential impacts of the proposed development have been considered in the context of the European sites potentially affected, their qualifying interests or special conservation interests, and their conservation objectives.

Through an assessment of the source-pathway-receptor model, which considered the likely zone of influence of effects from the proposed development and the potential in-combination effects with other plans or projects, the following findings were reported:

- The Proposed Generators, Little Island, Cork, either alone or in-combination with other plans and/or projects, does not have the potential to significantly affect any European site, in light of their conservation objectives. Therefore, a Stage 2 Appropriate Assessment is deemed not to be required.

6 Bibliography

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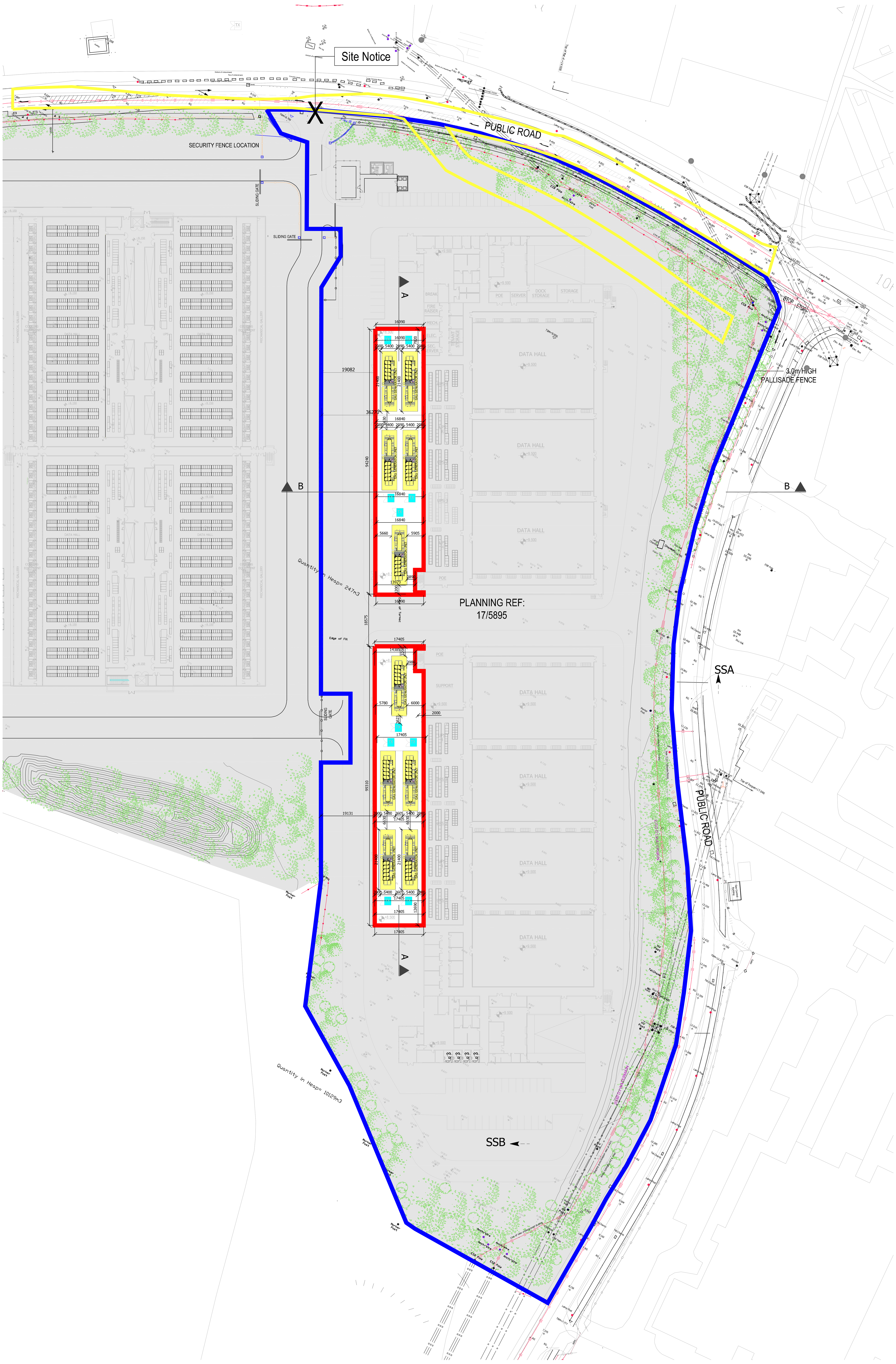
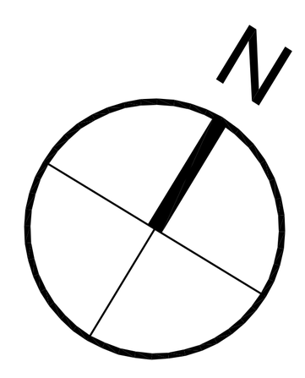
Appendix A Proposed Site Layout





PROPOSED GAS GENERATOR UNITS
TOTAL No. UNITS = 10 UNITS (5 UNITS PER BUILDING)

LOCATION OF SITE NOTICE X

LANDS IN APPLICANT OWNERSHIP / CONTROL
PREVIOUSLY GRANTED PERMISSION TP 17/5895

OUTLINE OF PROPOSED APPLICATION

OUTLINE OF WAYLEAVE

PROPOSED SITE PLAN 1:500 @ A0

ISSUED FOR INFORMATION

SETTING OUT:
Contractor is responsible for checking of all dimensions, etc, before commencement and bringing any discrepancies in same to the Architect's attention.

COMPLIANCE WITH BUILDING REGULATIONS:
All materials and workmanship to conform in full with Building Regulations 2001, contractor to make himself familiar with the Building Regulations before commencement of work.

CONTRACTOR TO CHECK ALL DIMENSIONS ON SITE

Rev	Description	Drn By	
00	ISSUED FOR INFORMATION	CD	19-12-2022

Coughlan DeKeyser ARCHITECTS

north point house
north point business park
mallow road
cork
ireland

T - (021) 4309299
T - (021) 4309306
F - (021) 4309247
info@cda-architects.ie
www.cda-architects.ie

Job title:
PROPOSED GENERATOR UNITS, LITTLE ISLAND CORK

Client:
PCCL

Drawing title:
PROPOSED SITE PLAN

Drawing type:
PLANNING PERMISSION ONLY

Scale:	Job No.:	
1:500 @ A0	2354	
Date:	Drg No.:	Rev.:
DECEMBER 2022	2354-P-003	00

Environmental Impact Assessment Screening

Proposed Generators

Little Island

Cork

Report prepared for Progressive Commercial Construction Ltd

By Karen Banks MCIEEM

1st February 2023

Greenleaf Ecology

West End
Knocknagree
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1 Introduction

Greenleaf Ecology was commissioned by Progressive Commercial Construction Ltd to prepare an Environmental Impact Assessment (EIA) Screening Report to accompany a Planning Application for the continuous operation of 10no. gas generators at the permitted Phase 1 data centre development (17/5895, as extended under 22/06358) at Wallingstown, Little Island, Co. Cork.

The purpose of this report is to ascertain the legal requirement or otherwise for an EIA for the project. As a first step this report sets out why the proposed development does not require mandatory EIA. Thereafter, the report considers whether the development as a sub-threshold class of development would require EIA. To this end, the report presents information consistent with the requirements of section 176A(3)(d) of the Planning and Development Act 2000 as Revised, including the information specified in schedule 7A of the Planning and Development Regulations 2001. It also presents an assessment of whether the development would, or would not, be likely to have significant effects on the environment, based on the criteria set out in schedule 7 of the Planning and Development Regulations 2001.

Whether a 'sub threshold' development should be subject to EIA is determined by the likelihood that the development would result in significant environmental effects. Significant effects may arise due to the nature of the development, its scale or extent and its location in relation to the characteristics of the receiving area, particularly sensitive environments.

This report documents the methodology employed to complete the screening exercise, having regard to relevant legislation and guidance documents. It also sets out a clear rationale for each decision made in the process.

The application is also accompanied by an "Article 6(3) Appropriate Assessment Screening Report", which was prepared by Greenleaf Ecology (2022).

The findings of all survey reports and assessments which accompany the application and the relevant site and desk studies are referenced where appropriate in this EIA Screening Report.

The location of the proposed works is shown in Figure 2-1 below.

1.1 Statement of Authority

This EIA Screening Report has been prepared by Karen Banks MCIEEM. Karen is an ecologist with Greenleaf Ecology and has 16 years' experience in the field of ecological assessment. Karen has worked on EIA Screenings, Habitat Directive Assessments and Ecological Impact Assessments for a wide range of small and large-scale projects.

2 Description of the Proposed Development

2.1 Site Location

The proposed site is located in the townland of Wallingstown, Little Island, Cork and covers an area of approximately 0.33 hectares.

The proposed development site a brownfield site that is currently unused. The proposed site was previously occupied by Mitsui Denman (Ireland) Ltd.

Figure 2-1 illustrates the location of the proposed generators.

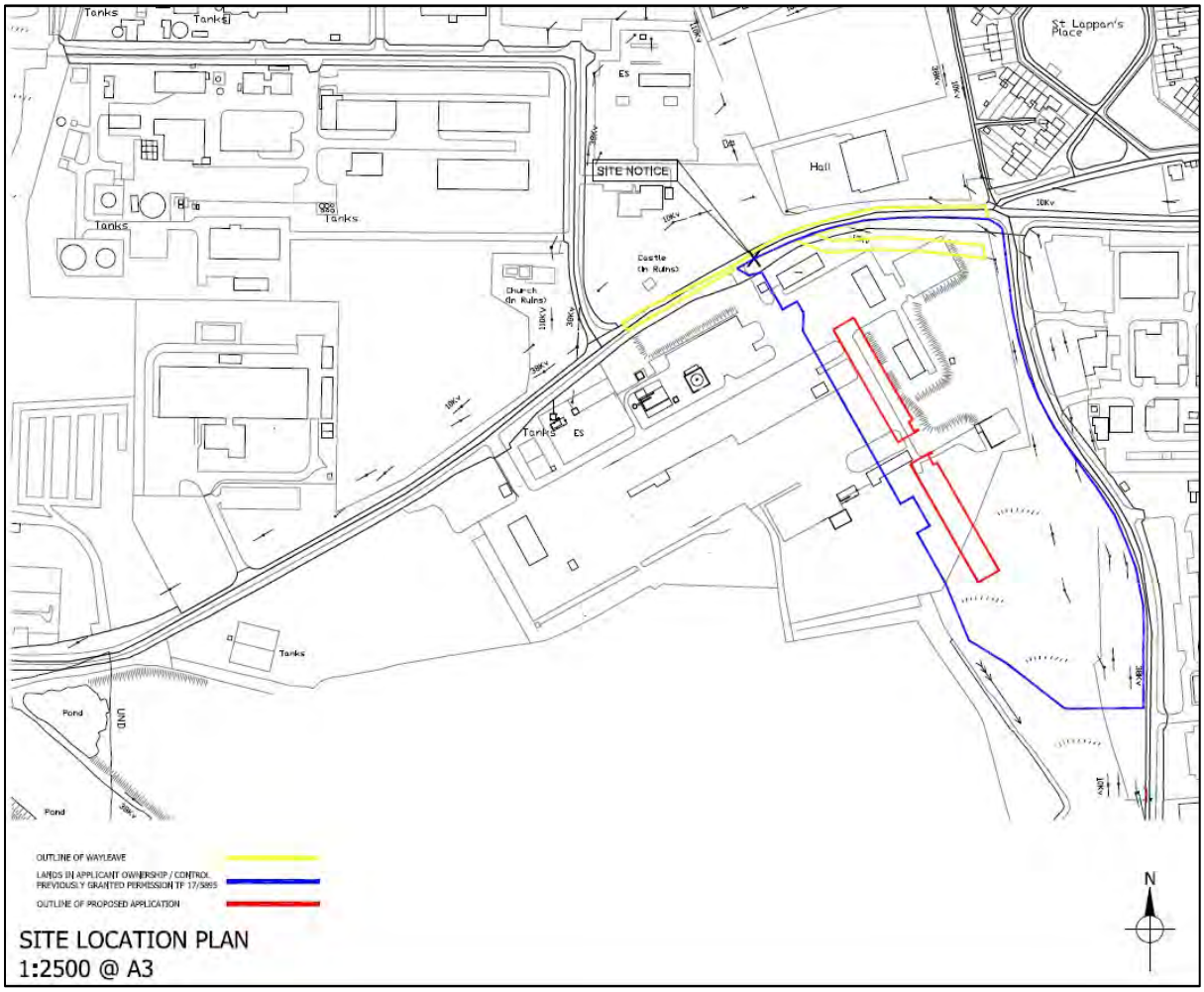


Figure 2-1: Site location

2.2 Development Description

Whether the continuous operation of 10no. gas generators at the permitted Phase 1 data centre development (17/5895, as extended under 22/06358) at Wallingstown, Little Island, Co. Cork, is development which is exempted development.

2.3 Surface Water

Stormwater runoff associated with the development will connect into the public storm water sewer.

2.4 Foul Water

Foul water will discharge to the existing foul network located on the R623 before treatment at Cork City Treatment Plant, which has sufficient capacity for the proposed development.

2.5 Construction Details

Included below are the main elements and tasks involved in the construction of the proposed development and the management process of same. Main tasks to be completed on site include:

- Site clearance including the removal of any existing scrub/vegetation that were not proposed to be retained as part of the development.
- Set up compound.
- Secure the construction site and erect signage.
- Excavation to formation level of site plots (storage of any excavated material for reuse on site).
- Storage of excavated soil for landscaping or removal of additional soil/rubble to a licensed/operator land fill.
- Provision of services (including stormwater attenuation tank, foul sewer connection and outfall).
- Construction of vehicular access to provide access to the proposed site.
- Construction of an industrial development and other ancillary works.

3 EIA Screening Exercise

3.1 Relevant EIA Legislation

Environmental Impact Assessment (EIA) requirements derive from Council Directive 85/337/EEC (as amended by Directives 97/11/EC, 2003/35/EC and 2009/31/EC) and as codified and replaced by Directive 2011/92/EU of the European Parliament and the Council on the assessment of the effects of certain public and private projects on the environment (and as amended in turn by Directive 2014/52/EU).

The consolidated European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the 'EIA Directive'), was transposed into Irish planning legislation by the Planning and Development Acts (as amended) and the Planning and Development Regulations 2001 to 2020 (the 'Regulations').The EIA Directive was amended by Directive 2014/52/EU which has been transposed into Irish law with the recent European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

The new legislation requires screening to be undertaken to determine whether or not specified public or private developments are likely to have significant effects on the environment and, as such, require EIA to be carried out prior to a decision on a development consent application being made.

3.2 Methodology

Screening is a process used to establish whether an EIA is required for a proposed development. There are a number of steps in the screening process.

The mandatory requirement for an EIA is generally based on the nature or scale of a proposed development, as set out in EU Directive.

These identify certain types and scales of development, generally based on thresholds of scale, for which EIA is mandatory. In the case of a sub-threshold development proposed by a local authority, the authority is required to carry out a preliminary examination of, at the least, the nature, size or location of the development. Where there is significant and realistic doubt in regard to the likelihood of significant effects on the environment arising from the proposed development, it shall prepare, or cause to be prepared, the information specified in Schedule 7A of the Planning and Development Regulations 2001 for the purposes of a screening determination.

The European Commission (2017) have published a Guidance on Screening document (Directive 2011/92/EU as amended 2014/52/EU) which summarises the need for an EIA based on specific measures and/or limits, according to predefined criteria such as the projects characteristics, location and/or certain project features such as a projects potential impacts.

In addition, there is sometimes a requirement for EIA 'sub-threshold' developments and, in this respect, it may be necessary to undertake a screening exercise to assess whether the proposed development requires the preparation of an EIAR.

A methodology was developed to formally screen the proposed development, which was based on Environmental Impact Assessment (EIA), Guidance for Consent Authorities regarding Sub-threshold Development (EPA, 2003) and the recent 2017 guidance issued by the EU. The screening exercise is divided into a section on Mandatory EIA and another on Sub-threshold or Discretionary EIA. In each section below a screening matrix is presented which examines the requirement for EIA according to the criteria set out in the relevant legislation. The rationale behind the responses within the matrix is provided at the end of each section.

3.3 Mandatory Environment Impact Assessment

Section 172 of the Planning & Development Act 2000, as amended, provides the legislative basis for mandatory EIA. It states the following:

"An environmental impact assessment shall be carried out by a planning authority or the Board, as the case may be, in respect of an application for consent for proposed development where either:

the proposed development would be of a class specified in –

(i) Part 1 of Schedule 5 of the Planning and Development Regulations 2001, and either

I. such development would exceed any relevant quantity, area or other limit specified in that Part, or

II. no quantity, area or other limit is specified in that Part in respect of the development concerned,

or

(ii) Part 2 of Schedule 5 of the Planning and Development Regulations 2001 and either –

such development would exceed any relevant quantity, area or other limit specified in that Part, or

II. no quantity, area or other limit is specified in that Part in respect of the development concerned,

or

(i) the proposed development would be of a class specified in Part 2 of Schedule 5 of the Planning and Development Regulations 2001 but does not exceed the relevant quantity, area or other limit specified in that Part, and

(ii) the planning authority or the Board, as the case may be, determines that the proposed development would be likely to have significant effects on the environment."

Under the provisions of Article 120 of the Planning and Development Regulations 2001 "Sub-threshold EIAR", where a local authority proposes to carry out sub-threshold development, the authority proposing shall carry out a preliminary examination of at least the size or location of the development. The obligations with regard sub-threshold are outlined in Section 3.4 below.

Further to the above, Schedule 5 of the Planning & Development Regulations 2001, as amended sets out a number of classes and scales of development that require EIA. In relation to the energy industry, Part 2 of Schedule 5, Item 3 (a) includes "*Industrial installations for the production of electricity, steam and hot water not included in Part 1 of this Schedule with a heat output of 300 megawatts or more*"; and Part 2 of Schedule 5, Item 3 (b) includes: "*Industrial installations for carrying gas, steam and hot water with a potential heat output of 300 megawatts or more, or transmission of electrical energy by overhead cables not included in Part 1 of this Schedule, where the voltage would be 200 kilovolts or more".*

The proposed development is for 10no. continually operating gas generators, which is below the threshold and therefore is not subject to EIA.

Item 10(b)(iv) sets out a requirement for EIA for developments on sites in areas other than business districts and urban areas with an area exceeding 20 hectares. The proposed site has an area of less than one hectare therefore this threshold will not be reached.

3.4 Sub-threshold Development

Section 172 of the Planning & Development Act 2000, as amended, also sets out the basis for EIA for developments which may not be of a scale included in Schedule 5 of the Planning & Development Regulations 2001, as amended. This allows a consenting authority to require EIA where it is of the opinion that a development (although sub-threshold) is likely to have significant effects on the

environment and therefore should be subject to EIA. In this context, the consideration of 'significant effect' should not be determined by reference to size only and the nature and location of a project must also be taken into account.

Class 15 of Schedule 5 provides for EIA/EIAR for developments under the relevant threshold, where the works would be likely to have significant effects on the environment. This states the following:

"Any project listed in this Part which does not exceed a quantity, area or other limit specified in this Part in respect of the relevant class of development but which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7."

It is considered that the type of project subject to EIA remains those listed in Schedule 5 of the Planning & Development Regulations 2001, as amended. The proposed development, as outlined in Section 2 above, is not a project type listed in either Part 1 or Part 2 of Schedule 5 of the Planning & Development Regulations 2001, as amended and therefore does not constitute a 'Project' that falls beneath any of the specified thresholds in Part 2.

As the proposed development is not a 'Project' listed in Part 1 or Part 2 of Schedule 5 of the Planning & Development Regulations 2001, as amended, EIA is not required.

Notwithstanding the above, an evaluation of the Schedule 7 criteria is provided below in the interests of completeness.

3.5 Sub-threshold Assessment

The 1997 amending Directive (97/11/EC) introduced guidance for Member States in terms of deciding whether or not a development is likely to have 'significant effects on the environment'. The criteria have been transposed in full into Irish legislation, in the Third Schedule to the EC EIA (Amendment) Regulations 1999 (S.I. No. 93 of 1999) and in Schedule 7 to the Planning and Development Regulations 2001 (S.I. No. 600 of 2001) as amended.

As required under Article 120 of the Planning and Development Regulations 2001 "Sub-threshold EIAR" Where there is significant and realistic doubt regarding the likelihood of significant effects on the environment arising from the proposed development, the local authority shall prepare, or cause to be prepared, the information specified in Schedule 7A for the purposes of a screening determination.

Schedule 7A of the Planning and Development Regulations 2001, as amended sets out the information to be provided by the applicant or developer for the purposes of screening sub-threshold development for environmental impact assessment.

1) A description of the proposed development, including in particular—
    a) a description of the physical characteristics of the whole proposed development and, where relevant, of demolition works, and
    b) a description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.
2) A description of the aspects of the environment likely to be significantly affected by the proposed development.
3) A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from—
    a) the expected residues and emissions and the production of waste, where relevant, and
    b) the use of natural resources, in particular soil, land, water and biodiversity.

The information required by the Schedule 7A has been set out in Section 2 above as well as the assessment of the criteria for Schedule 7 below. The assessment of the criteria set out on Schedule 7 provides the description and assessment of any likely significant effects from the proposed development

The Schedule 7 criteria are grouped under three headings as follows:

1) Characteristics of the Proposed Development
2) Location of Proposed Development
3) Characteristics of Potential Impacts

Each of the above groupings includes a number of criteria for consideration. The assessment of the likelihood of significant environmental effects is based on the overall consideration of all criteria and requires clear and rational judgment. The DoEHLG Guidance Document 'Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development' states that:

'those responsible for making the decision must exercise their best professional judgment, taking account of considerations such as the nature and size of the proposed development, the environmental sensitivity of the area and the nature of the potential effects of the development. In general, it is not intended that special studies or technical evaluations will be necessary for the purpose of making a decision.'

The Schedule 7 criteria to be reviewed are discussed in more detail, with reference to the proposed development, in the following subsections. The screening questions are based on the criteria listed under each grouped heading in Schedule 7.

In addition, the exercise takes account of updated or additional screening criteria as set out in EIA Directive 2014/52/EU.

Table 3-1: Characteristics of the proposed development

Characteristics of the Proposed Development – Screening Questions	**Comment**	**Significant- Yes/No**
Could the scale of the proposed works be considered significant?	The proposed works are considered small scale in nature as outlined in more detail in Section 2 above. Given the relatively small scale of the development, there is potential for only slight impacts.	No. The size or scale of the proposed works is not considered significant.
Considered cumulatively with other adjacent proposed developments, would the size of the proposed works be considered significant?	The online planning system for Cork County Council, was consulted on the 13th December 2022 for the townland of Wallingstown. A total of six complete applications with associated decisions made by the local authority were returned for the last 5 years: **Aluminium Extrusion (Planning Ref: 217232).** Construction of a new single-storey building for the extrusion of aluminium sections including associated office and welfare facilities, parking, outdoor storage, underground services and associated site works at existing manufacturing facility. **Application amendment (Planning Ref: 195995).** Revisions to existing building (warehouse and transport logistics with ancillary office use) Previously	These planning applications have been subject to either screening for Appropriate Assessment, Habitats Directive Assessment and/or EIA screening as appropriate. These assessments have found that, where required, construction phase measures and

	permitted under reg. ref. 15/4447 and 15/5254 to include, 1. Construction of a lobby extension, 2. Demolition of part of building, 3. Omission of previously permitted extension and dock levellers, 4. Alterations to roof heights, 5. Alterations to elevations and all associated works. **Extension of an existing light industrial building (Planning Ref: 196222).** To carry out alterations and construct new extensions at existing light industrial building. The proposed works include: Demolition of existing plant rooms at northern side of building and construction of new single-storey extension for light industrial use with ancillary storage and plant rooms, together with alteration of roadway and underground services and associated site works to facilitate the extension, demolition of office area stairwell and canopy and office entrance canopy and construction of new two-storey office extension with elevational alterations to the existing two-storey office area at east elevation together with changes to car-parking layout and associated site works. **Extension to existing facility at Leo Pharma, Little Island, Cork** **(Planning Ref: 184614).** Development of an extension to the existing pharmaceuticals manufacturing facility to include (i) a new part single-storey, part two-storey processing building (ii) 2no. single-storey link corridors to connect the proposed processing building with the existing facility (iii) all associated site development, drainage, landscaping and ancillary works, including the removal of existing external access stairs and an existing door, relocated roof access ladder, new covered external stairs and new external access door, new roof top plant, including 3no. AHUs, roof equipment platform, and vent stacks. The proposed development also includes a two-storey extension and replacement external stairs to the existing two-storey utility building; a new roller shutter and door to the northern façade of the existing eluation building; and new roof top plant and 1no. AHU to the existing eluation building at the existing LEO Pharma facility, Wallingstown, Little Island, Co. Cork. This application relates to a development which comprises an activity for which an Industrial Emissions License under part IV of the Environment Protection Agency 1992 (as amended) is required. **Business Park Little Island (Planning Ref: 216427).** The demolition of an existing structure and existing hardstanding areas, and the construction of a business park comprising 5no. single-storey light industry /warehousing/distribution/logistics buildings (B1-B5) ranging in size from c.2,600.7m2 to c.7,602.8m2 (total c. 23,534.2m2) each to include a 2-storey internal ancillary office area, apart from building B3 where the 2-storey ancillary office area is external; external yard areas; dock levellers; 3no.	operational designs will be implemented to avoid likely significant effects to the environment. Each of the assessments completed for these projects have concluded that the project will not have the potential to combine with other project to result in likely significant effects on the environment. In light of this, the proposed generators at Little Island does not have potential to result in in-combination or cumulative negative effects on the environment.

	substations; single-storey security hut (to include rooftop solar PV panels); car parking, cycle parking, motorcycle parking and truck parking; internal palisade fencing; tree protection fence; signage, including a stand-alone totem sign; 1no. new vehicular/pedestrian/cyclist access and 1no. new gated pedestrian and cycle access; closure of 2no. existing accesses; shared pedestrian/cycle path on the public road (L7078); and all site development, drainage, lighting, boundary treatment and landscaping works. A Natura Impact Statement will be submitted to the Planning Authority with the application. **Jansen: Two storey extension to the existing administration building (Planning Ref: 215819).** The construction of a new two storey extension to the existing administration building consisting of an infill first floor within the existing building, a new stairwell to the east along with modifications to the existing north, west and east elevations with associated ancillary works at the existing facility. The facility is subject to an Integrated Pollution Prevention and a Control License. **Little Island Data Centre applications:** **Data centre (Planning Ref: 17/6890).** 1 data centre building with ancillary offices, car parking, waste compound, generators, landscaping, lighting, provision of access off the R623, the provision of back up accesses connecting the proposal to the data centre development permitted under 17/5895 and associated boundary alterations and all ancillary site works. **Modifications to Substation (Planning Ref: 22/5746).** The proposed development will consist of modifications to the 110 kV substation, as permitted under 16/5606 and extended under 21/5225. The modifications will consist of an increase in size of the permitted 2-storey Gas Insulated Switcher (GIS) 110/20kV substation building from 236.59m2 to 716.69m2; the provision of 1no. additional single-storey Gas Insulated Switchgear (GIS) 20kV substation building; 2no. externally located electrical transformers; an extension to the site boundary to the north and west to accommodate the proposed development; and all associated site development, boundary treatment and landscaping works, including extended perimeter fencing and 1no. additional gate, as well as modifications to the internal road network, on a site at Wallingstown, Little Island, Co. Cork. **Extension of duration for Phase 1 data centre development (Planning Ref: 22/6358).** 2 no. data centre buildings on a site formerly occupied by Mitsui Denman. The proposed development provides for the construction of 2 no. data centre buildings as stand alone units (to be built in phases) including ancillary offices with associated structures including a	

	substation building, waste compound, telecoms cabinet (PoP Cabinet) new access off the R623 to provide for independent access, car park, external generator & transformer areas to the west of the proposed data centre and all ancillary works. The proposal will modify part of permission granted under 16/5011, for a data centre development changing the permitted data centre building DC3 from 1 permitted building to 2 no. buildings and associated works. Extension of Duration to Permission granted under Planning Ref. No. 17/5895. Industrial Facilities operating under Integrated Pollution Control (IPC) licences in the vicinity of the proposed site: Tapella Limited (IPC no: P0103-02). License surrendered (licensable activities have ceased). Goldenville Limited (IPC no: P0389). Goldenville site is now closed: no activity. Punch Industries Ltd (IPC no: P0127). No AER available online. Corden Pharma Limited (t/a Corden PharmaChem) (IPC no: P0134). License surrendered.	Discharges from IPC facilities are governed by strict limits to ensure compliance with quality standards. No. Not Significant.
Is the nature of the proposed works significant?	The proposed works consist of the continuous operation of 10no. gas generators at the permitted Phase 1 data centre development (17/5895, as extended under 22/06358) at Wallingstown, Little Island, Co. Cork. The duration is short (12-18 months).	No. Not Significant.
Will the proposed works utilise a significant quantity of natural resources?	The proposed works will utilise a small quantity of natural resources during construction. Land - The existing land where the development is to be carried out comprises a brownfield site. The proposed development is described in Section 2 and the proposal drawings accompanying this planning application. From a 'land' perspective, the impact of the proposed development is minor in terms of area of land required: the proposed site comprises 0.33ha for development and will replace the existing hardstanding of low ecological value. Therefore, no significant impact on land is predicted. Soil - The proposed development will result in earthworks requiring the excavation of a quantity of soils and subsoils. Surplus soil will be disposed of to an appropriately licensed soil recovery facility. Any effects on soils and geology would be localised and contained within the proposed development footprint. Therefore, no significant impacts on soil are predicted.	No. The use of natural resources during the construction phase will be small in nature, and the use of non-renewable sources are of those that are not deemed to be in short supply.
Will the proposed works produce a significant quantity of waste?	The proposed development will require the breaking of concrete and excavation of soil for construction of the generators. The excavated material will be reused on site if possible. Surplus excavated material will be disposed of off-site to a suitably authorised and licensed facility.	No. The construction phase will give rise to the production of waste, typical to that of a project of a similar scale and

	Fuels, lubricants, oils and hydraulic fluids will be used in machinery during construction and in any maintenance or repair work. Solvents, adhesives, sealants, oils, and paints will also be used during construction. The contractor will be required to manage any wastage in accordance with the relevant legislation. The use of spill kits will be a requirement on site. Sanitary waste and general construction waste will be managed in accordance with the Waste Management Act 1996 (as amended). The contractor will be required to dispose of the remains of the demolished structures to a licensed facility. Once operational, the project will not give rise to any additional production of waste and as such, no impact is envisaged.	nature and is not deemed significant.
Will the proposed works create a significant amount or type of pollution?	No hazardous, toxic or noxious substances will be released to air (Air Quality Impact Assessment, Axis Environmental Services, 2022). Potential impacts on aquatic habitats which can arise from this type of development during the construction phase include increased silt levels in surface water run-off and inadvertent spillages of hydrocarbons from fuel and hydraulic fluid. Elevated silt levels could theoretically, if of sufficient magnitude, result in changes in the ecology of nearby waters. The transitional waterbody Lough Mahon is located c.0.6km to the south-west of the proposed site. There are no watercourses or active drainage ditches within the proposed site. A Construction Environmental and Waste Management Plan (CEWMP) has been prepared for the proposed development, which includes measures for the control of surface water pollution during the construction phase. During the operational phase, stormwater runoff will connect to the public stormwater sewer. Given the scale of the proposed development, the lack of surface water connectivity to Lough Mahon, the loss risk of significant contamination and the surface water management proposed for the construction and operational phases, no impact from excess solids in surface water run-off during construction will occur. The construction and operational stage of the proposed development will not impact on surface water quality and will not have an effect on surface water, groundwater, sea water or coastal waters. For more details on surface water and groundwater see the Appropriate Assessment screening report and CEWMP.	No. Not Significant.
Will the proposed works create a significant amount of nuisance?	Noise arising from the construction phase will be limited principally to plant operations and traffic movements to and from the proposed site. Worst-case construction noise levels will be within the required threshold limits included in British Standard 5228:2009 and the National Roads Authority	No. Not significant

	Guidelines for the Treatment of Noise and Vibration (2004). The results of an assessment of noise emissions from the proposed development expansion (CLV Consulting, 2022) concluded that noise levels are expected to be within the planning condition criteria requirements, contain no tonal or impulsive components and be completely inaudible at all nearby noise sensitive receptors based on current plant selections during all time periods. No potential for significant noise production is identified. Given the duration of the works these impacts will be slight negative, short term in nature and not significant. The AA screening report prepared for the application concluded that there is no potential for significant effects to European sites as a result of noise during the construction or operational phase of the development.	
Will there be a risk of accidents, having regard to substances or technologies used?	No. The proposed works and construction methodologies are well established and will be subject to safety statements and risk assessments. There are no Seveso sites or existing EPA licensed sites within the immediate environs of the proposed development (IPC sites in the wider environs of the proposed site are detailed above). There is not considered to be a significant impact on the vulnerability to major accidents.	No. Not significant
Would any combination of the above factors be considered likely to have significant effects on the environment?	No in combination effects have been identified.	No. Not Significant

Conclusions:

It is concluded that the nature of the proposed development is not considered to have likely significant effects on the environment.

Reasoning:

The scale of the proposed works, when viewed individually and cumulatively, is small in the context of both the EIA threshold criteria and types of projects listed in the regulations which require EIA. The proposed works will involve the continuous operation of 10no. gas generators at the permitted Phase 1 data centre development (17/5895, as extended under 22/06358) at Wallingstown, Little Island, Co. Cork. The works will be undertaken according to construction methodologies designed to reduce or eliminate the potential for environmental impacts as summarised in Section 2 above and within all survey reports and assessment which accompany the application. In summary, the works involve the continuous operation of 10no. gas generators at the permitted Phase 1 data centre development (17/5895, as extended under 22/06358) at Wallingstown, Little Island, Co. Cork. The proposed works will be restricted to the existing 0.33 hectare site.

Any waste arising on site will be taken from the site for reuse or disposal, subject to normal statutory controls. Any noise and nuisance associated with the proposed works will be short-term and subject to appropriate best practice procedures.

3.5.1 Location of the Proposed Development

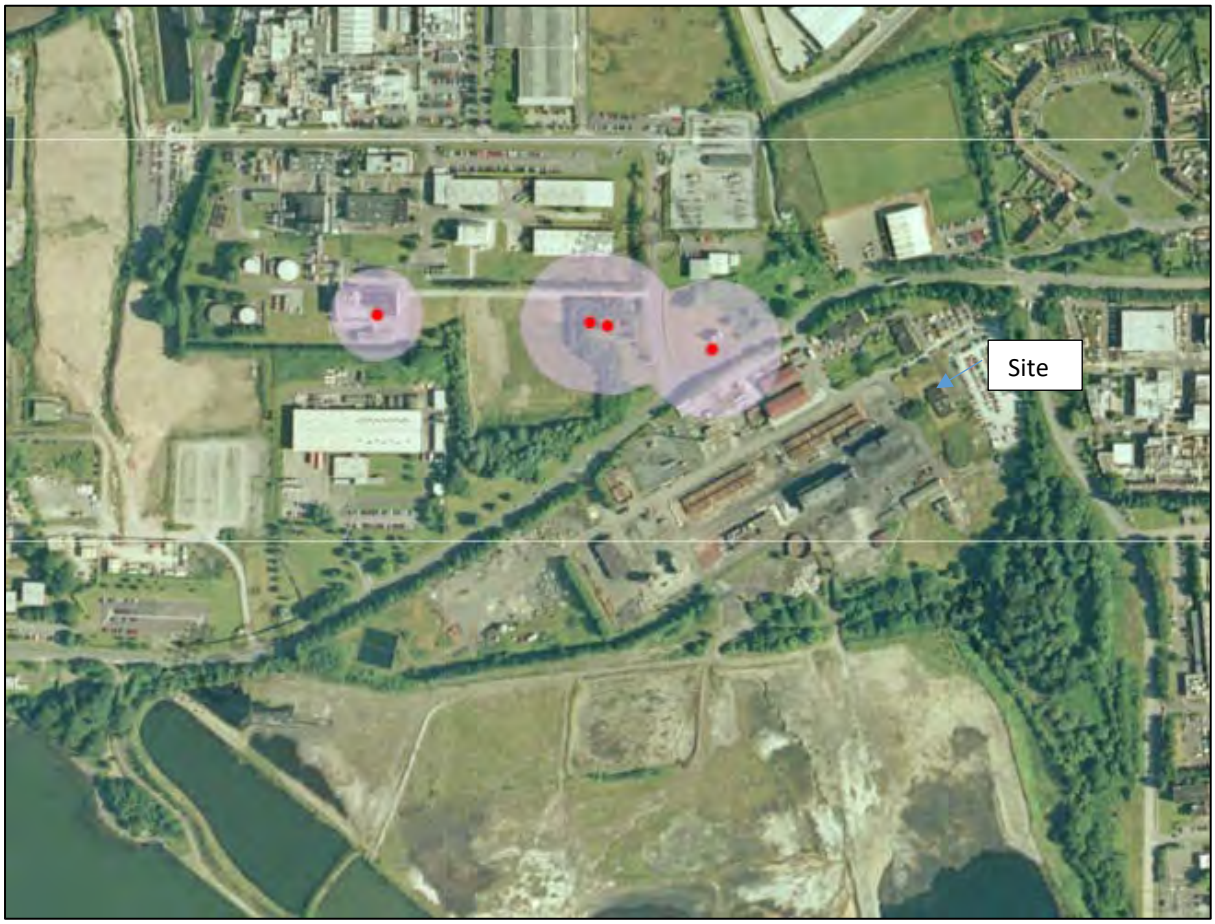
Table 3-2: Location of the proposed development matrix

Location of the Proposed Development – Screening Questions	**Comment**	**Significant- Yes/ No**
Have the proposed works the potential to impact directly or indirectly on any site designated for conservation interest (e.g. SAC, SPA, pNHA)?	The screening for Appropriate Assessment (AA) Report for this development concluded there will not be a significant impact on qualifying interests and conservation objectives for Natura 2000 sites, and that the integrity of these sites will not be adversely affected. No significant direct, indirect or cumulative impacts on Natura 2000 sites have been identified. There are no NHAs within a 5km radius of the proposed site. There are five pNHAs within a 5km radius of the proposed site: Rockfarm Quarry, Little Island pNHA, Douglas River Estuary pNHA, Glanmire Wood pNHA, Dunkettle Shore pNHA and Great Island Channel pNHA. There is no hydrological or hydrogeological connectivity between the proposed site and these nationally designated sites. For more details on potential impacts on Natura 2000 sites see the Appropriate Assessment Screening Report.	No. Not significant
Has the proposed development the potential to impact directly or indirectly on any habitats listed as Annex I in the EU Habitats Directive?	None of the habitats recorded within the proposed works area correspond with Annex I habitats of the Habitats Directive. The habitats recorded within the proposed development site are considered to be of negligible to low conservation value. Therefore, there will be no direct or indirect impacts on Priority Annex I habitats.	No. Not significant
Has the proposed development the potential to impact directly or indirectly on any habitats listed as Priority Annex I in the EU Habitats Directive?	None of the habitats recorded within the proposed works area correspond with Priority Annex I habitats of the Habitats Directive. The habitats recorded within the proposed development site are considered to be of negligible to low conservation value. Therefore, there will be no direct or indirect impacts on Priority Annex I habitats.	No. Not significant
Has the proposed development the potential to impact directly or indirectly on any species listed as Annex II in the EU Habitats Directive?	No Annex II species were recorded within proposed development site and no habitat suitable for Annex II species is present within the proposed development site.	No. Not significant
Has the proposed development the potential to impact directly or indirectly on any species listed as Annex IV in the EU Habitats Directive?	No mammals or signs of mammals were recorded at the proposed site and no habitat suitable for Annex IV species is present within the proposed development site.	No. Not significant

Has the proposed development the potential to impact directly or indirectly on any species listed as Annex I of the EU Birds Directive?	No Annex I bird species were recorded and no habitat suitable for Annex I bird species is present within the proposed development site. The AA screening report prepared for the application concluded that there is no potential for significant effects to the SCI species for Cork Harbour SPA as a result of the proposed development.	No. Not significant
Has the proposed development the potential to impact directly or indirectly on the breeding places of any species protected under the Wildlife Act?	The proposed site comprises existing hardstanding and is not suitable to support protected species. Therefore, the development will not directly impact protected species. Potential impacts are limited to temporary/ short-term indirect disturbance to birds that may be foraging or nesting within the treelines to the north and east of the proposed site or scrub located to the south-west of the proposed site, outside the proposed site boundary.	No. Not significant.
Has the proposed development the potential to impact directly or indirectly on existing land use?	The proposed development is located on a brownfield site. The land use at the proposed site will change as a result of the proposed development. No impacts on the use of surrounding lands for industrial purposes are expected.	No. Not significant
Has the proposed development the potential to impact directly or indirectly on any protected structures or Recorded Monuments and Places of Archaeological Interest?	The National Monuments Service is a database of archaeological monuments which is available on the website www.archaeology.ie. There are four (4) archaeological monuments recorded within the vicinity of the proposed development site. A castle-tower house (CO075-021) located c.0.2km north of the proposed development site. The zone of notification for this monument is 50m. A church (CO075-020) and graveyard are located c.0.3km to the north-west of the proposed site. The zone of notification for these sites is 50m. A water mill (CO075-052) is located c.0.4km to the north-west of the proposed site. The zone of notification for this site is 40m. These sites are identified by means of a red dot on Figure 3-1. There are no structures identified on the National Inventory of Architectural Heritage in the vicinity of the proposed site. Given the small scale of the development there will be no impact on Recorded Monuments or Places of Archaeological Interest. The Cork County Development Plan 2022 includes Wallingstown Tower House (00491), Little Island Church (In Ruins) (00495) and a Lodge (00501) in the townland of	No. Not significant

	Wallingstown. Objectives HE16-2, HE16-4 of the CDP relate to the protection of archaeological sites and the zone of notification (as detailed above).	
Has the proposed development the potential to impact directly or indirectly on listed or scenic views or protected landscapes as outlined in the County Development Plan?	The Cork County Development Plan 2022 map viewer[1] illustrates scenic routes and high value landscapes. The subject site is located within a High Value Landscape. However, the proposed site currently comprises a brownfield site within an industrial area, which will be screened from the adjacent R623 road by an existing treeline. As such, the proposed works will have a neutral visual impact on the landscape.	No. Not significant

Figure 3-1: Protected structures and places of archaeological interest (Archaeology.ie)



Conclusion:

It can be concluded that there will be no significant direct or indirect impacts by virtue of the location of the proposed development on the receiving environment.

[1] Plean Forbartha Contae Chorcaí 2022 - Cork County Development Plan 2022 (arcgis.com)

Reasoning:

The European Communities (Natural Habitats) Regulations, 1997 requires that an Article 6(3) assessment be carried out where it is considered that a development is likely to have a significant effect on Natura 2000 sites (SAC/SPA). In this regard a Screening for Appropriate Assessment Report has been completed for the proposed works. This report concludes that the proposed generators, Little Island, Cork. either alone or in-combination with other plans and/or projects, does not have the potential to significantly affect any European Site, in light of their conservation objectives.

Indirect impacts, which may potentially affect any other designated sites have been discounted due to the absence of connecting pathways between the proposed site and any designated site. The risk of any significant negative impacts on any European or nationally designated sites can be excluded.

The site survey undertaken to inform the AA screening report indicates that no sensitive habitats considered to qualify as Annex I habitats under the EU Habitats Directive will be affected by the proposed development. No EU Habitats Directive Annex II species will be affected by the proposed development. In terms of land use, the proposed development will be confined to the 0.33 hectare site on which it is proposed. There will be no significant impact on land use.

Potential impacts on protected species are limited to temporary/ short-term disturbance impacts on birds that may be foraging or nesting within the treelines to the north and east of the proposed site or scrub located to the south-west of the proposed site, outside the proposed site boundary. The receiving environment of the proposed works can accommodate the development without significant impact.

3.5.2 Characteristics of Potential Impacts

A further screening exercise was completed to assess the most significant potential impacts, as outlined in Table 3-3 below. These are the sections that would be covered in any EIA as specified in the EU Directive 85/337/EEC (as amended by Directive 97/11/EC).

Table 3-3: Significance of impact

EIA Section	Brief Assessment of Impacts	Significant- Yes/ No
Human Beings	Impacts associated with the construction of the generators may include a short-term increase in background noise levels through operation of plant machinery. However, no potential for significant noise production is identified. Given the duration of the works these impacts will be slight negative, short term in nature and not significant. No potential for significant noise production during the operational phase has been identified. There will be limited dust emissions during the construction stage, these will be controlled through the Construction Environmental and Waste Management Plan (CEWMP) prepared by MMOS (2022). Best practice and implementation of a Health and Safety Plan will be required to ensure no risks to the population working on the site or working adjacent to the site during construction. Implementation of measures set out in the CEWMP will avoid and minimise impacts of noise and dust on human health and the population during the construction stage. No significant impacts for the operational phase are envisaged in terms of traffic, noise, air quality or climate.	**Construction** Slight negative, short term in nature and not significant impacts from noise. **Operation** No significant impacts.

	Drainage measures proposed will ensure that there is no runoff to surface water during the construction or operation phase therefore avoiding the potential for any significant impacts to humans.	
Biodiversity	The proposed generator development is situated in a brownfield site comprising buildings and artificial surfaces and recolonising bare ground habitats which are considered of negligible to low ecological value. No Annex I habitat, Annex II, Annex IV or Annex I bird species were recorded at the proposed site and its environs during the site visit by the ecologist. The assessments concluded that there is no potential for significant impacts to Annex I habitats, Annex II and Annex IV species or Annex I bird species. The proposed site is not suitable to support protected species; potential impacts are limited to temporary/ short-term disturbance impacts on birds within treelines and scrub located to the north, east and south-west of the proposed site, outside the proposed site boundary. In view of the factors detailed above, no potential significant threats to species or habitats of conservation concern during the construction or operational phase were identified. The AA screening report prepared for the application concluded that there is no potential for significant effects to European sites as a result of the proposal.	Construction – no significant effects. Operation – No Significant effects
Soils & Geology	Land – the proposed development is located on a brownfield site comprising buildings and artificial surfaces and recolonising bare ground habitats. The proposed development is described in Section 2. From a 'land' perspective, the impact of the proposed development is relatively minor in terms of area of land required (0.33ha) for development and replacing the existing built land of negligible to low ecological value. Therefore, no significant impact on land is predicted. Soil - The proposed development will result in earthworks requiring the excavation of a quantity of soils and subsoils. Where possible surplus soil will be reused for landscaping purposes on site. In the event that any excess excavated material is generated onsite during the course of the construction works, it will be disposed of off-site to a suitably authorised and licensed facility. Any effects on soils and geology would be localised and contained within the proposed development footprint. Therefore, no significant impacts on soil are predicted.	Construction – No Significant Effects Operation – No Significant effects
Water	Water and Groundwater. During the construction phase there is potential for the emission of silt, grit, fuels, oils or known soil contaminants to the surrounding environment. However, there are no watercourses or active drainage ditches within the proposed site and its immediate environs. The transitional waterbody of Lough Mahon is located c.0.6km to the south-west of the proposed site. A buffer of hardstanding and recolonising bare ground is located to the south and west of the site and a vegetated earth bank is located c.45m to the south-west of the proposed site. During the construction phase, any surface water run-off that is generated during excavation shall be prevented from entering Lough Mahon by the earth bank and scrub to the	Construction – No Significant Effects Operation – No Significant effects

	south of the site boundary. Further, surface water management measures for both the construction and operational phases have been provided for in the CEWMP accompanying the planning application. During the construction & operational stage, wastewater/foul effluent from the proposed development will be discharged to the public sewer. During the operational phase, stormwater runoff will connect to the public stormwater sewer. Removal of soil and/or subsoil for development could lead to an alteration to groundwater movements in the area or alteration of the pathway of the groundwater flow through other materials. In terms of groundwater recharge, there would be no change in recharge from the proposed development. Therefore, there is not considered to be a likely significant impact on water and groundwater. An AA Screening report has been prepared and concluded that the proposed works will not result in significant impacts to any European site.	
Air & Climate	Air and Climate - During construction there may be slight adverse effects on air quality, including generation of dust, as a result of construction related machinery. Effects are anticipated to be localised, slight and short-term in nature and can be mitigated against through best practice. During the operational phase, the ground level concentrations of emissions at the nearest sensitive receptors would be below defined air quality standards (Air Quality Impact Assessment, Axis Environmental Services, 2022). Noise - In terms of noise, the construction phase may lead to a short-term increase in background noise levels through operation of plant machinery. The closest potentially sensitive use is St. Lappan's Place Dwellings, located 170m to the north-east of the proposed site (Figure 3-2). The proposed development will have a neutral visual impact from the existing brownfield site located within an industrial area and screened from the road by an existing treeline. Therefore, significant adverse landscape and visual impacts are deemed not likely. Given the location of the proposed development and the nature of the works occurring, it is concluded that any construction related noise will be slight negative, short term in nature and not significant. Operational noise will not lead to any significant change over background noise levels. Therefore, there is not considered to be a likely significant impact on air quality and noise. The AA screening report prepared for the application concluded that there is no potential for significant effects to European sites as a result of noise or air pollution or visual disturbance during the construction or operational phase of the development.	Construction – slight adverse short-term increase in noise and dust deemed not significant Operation -No Significant impacts are predicted.
Material Assets	The main impact in respect of material assets is potential impact of traffic generated from the construction works on the condition/surfacing of the existing surrounding road network. The construction of the development will give rise to a temporary increase in construction related traffic on the local roadways. The extent of construction traffic will not be excessive and will have a relatively small impact given the	Construction – No Significant Effects Operation – No Significant effects

	existing quantity of traffic on the local road network. The extent of impact on the condition of the road network is considered to be slight and temporary. The area where any excavations are planned will be surveyed and all existing services will be identified. No diversions or interruptions to services will be required. There is not considered to be a likely significant impact on material assets.	
Cultural Heritage and Landscape	The Cork County Development Plan 2022 designates the county into different Landscape Character Types. The subject site falls within the area identified as "City Harbour and Estuary". The Cobh Municipal District Local Area Plan (2017) identifies the following main vision for Little Island: *"to promote a high quality work place environment for the existing and future workforce population and limited residential expansion"* The Project is located in an area that will help facilitate this aim. As noted above no areas of archaeological interest or scenic views will be impacted by the Project. Therefore, there will be no significant impact on the cultural heritage or landscape.	No
Interaction of Foregoing	On the basis of the assessment of the above it is not considered that any environmental impacts resulting from the cumulative interaction of the above assessment impacts would be significant.	No

Figure 3-2: Nearest sensitive receptors to the proposed site as identified in the Noise and Vibration Impact Assessment (CLV Consulting, 2022)

Characteristics of Potential Impacts – Screening Questions	**Responses**	**Significant- Yes/ No**
Would a large geographical area be impacted as a result of the proposed development?	No, the proposed site covers an area of 0.33 ha.	No
Would a large population of people be affected as a result of the proposed development?	No, the proposed development may have a slight negative short-term impact on a relatively small population of people during the construction phase due to an increase in noise. No significant impacts are expected during the operational phase.	**Construction** Slight negative, short term in nature and not significant impacts from noise on small population. **Operation** No.
Are any transboundary impacts likely to arise as a result of the proposed development?	No transboundary impacts are likely.	
Would the magnitude of impacts associated with the proposed	No, the magnitude of impacts is not considered to be significant.	No

development be considered significant?		
In considering the various aspects of the environment, would the impacts of the proposed development be considered complex?	No, the proposed development is small scale and is not considered to be complex.	No
Is there a high probability that the effects will occur?	No: short term slight impacts as a result of noise and dust are anticipated, however, these are no expected to be significant.	No
Will the effects continue for a long time?	No, any effects will be temporary.	No
Will the effects be permanent rather than temporary?	No	No
Will the impacts be irreversible?	No	No
Will it be difficult to avoid, or reduce or repair or compensate for the effects?	No	No

Conclusion:

It is concluded that the characteristics of the potential impacts are not considered significant. There are no long-term negative impacts which can be associated with the project. Potential impacts during the construction phase will be short term and effectively managed through best practice measures provided in the CEWMP prepared for the proposed development. No impact interactions have been identified. No likely significant long-term or permanent negative environmental impacts have been identified in the course of the screening process.

Reasoning:

All works will be confined to the proposed 0.33 hectare site. With the successful implementation of measures provided within the CEWMP, the potential for any direct or indirect impact on habitats and protected species is low and the likelihood of any significant effects occurring as a result of the works can be excluded.

4 Conclusions and Recommendations

The proposed works are not a development for which EIAR is mandatory. It is also considered that the proposed development is not a sub-threshold development that requires an EIAR, however it was assessed against the relevant criteria and is considered unlikely to have 'significant effects on the environment'.

The relevant legislation requires EIAR for a number of classes of project that could potentially relate to the proposed development, however none were specific to a project such as the proposed continuous operation of 10no. gas generators at the permitted Phase 1 data centre development (17/5895, as extended under 22/06358) at Wallingstown, Little Island, Co. Cork.

An EIA Screening exercise was however carried out to determine the potential for the proposed development to have significant environmental effects or not. This exercise has been informed by the Screening for Appropriate Assessment Report completed for the proposed development.

The nature or characteristics of the proposed development are not considered likely to have significant effects on the environment. The geographic extent of the proposed development is small and there will be no long-term impacts.

All works will be confined to the 0.33 hectare site on which it is proposed. There are no watercourses within the proposed site. The proposed works have been reviewed in the Screening for Appropriate Assessment Report which has concluded that that there will be no likelihood of significant effects on any European sites during the construction or operation of the proposed development. The characteristics of the potential impacts are not considered significant and standard best practice measures provided in the CEMP will be adopted. The overall conclusion of this screening exercise is that there is no specific requirement for an Environmental Impact Assessment Report of the proposed works.

Data Centre Gas & Diesel Generator Area, Wallingstown, Little Island, Co. Cork.

Construction, Environmental & Waste Management Plan

Prepared For:

JCD Group

Prepared By:

MMOS
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CONSULTING CIVIL & STRUCTURAL ENGINEERS

Table of Contents

1 Overview

The Construction, Environmental and Waste management Plant (CEWMP) will be a dynamic document and will be an everyday reference guide site personnel will use it to avoid, reduce and or compensate for the adverse impacts of the project work.

The CEWMP will firstly examine the existing site along with the developments that are proposed for this location. The CEWMP will incorporate a Construction Environmental Management Plan as well as the Construction Traffic Management Plan.
This Construction Traffic Management Plan should include:

- Proposed timescale and scheduling of works including schedule of truck movements.
- An agreed protocol to be followed by HGV drivers.
- Allowable operational times for the HGV's on the road network

The CEWMP should include measures for controlling pollutants and dealing with surface water runoff during the construction works. The CEWMP will also outline the details in relation to sustainable/environmental measures to be implemented on site to prevent any adverse impacts on the surrounding environment. Accordingly, this CEWMP identifies the main objectives for the managed procedures which are required to ensure the construction and demolition related activities on the subject site are executed in a safe and controlled manner and to minimise disruption and impacts on the amenities in the area.

The Noise, Dust and Vibration monitoring outlined in this document is to ensure the construction environment is monitored and managed to minimise any impact to the development's neighbours.

2 Introduction

2.1 Site location

The site is located in Wallingstown, Little Island, Cork. The proposed development consists of a data centre with ancillary offices. The site forms part of a brownfield site, which was formerly occupied by Mitsui Denman. The location of this development can be seen outlined in red below.

Figure 1 – Site Layout

2.2 Existing site

The Subject site is located in Wallingstown, Little Island, Co. Cork. The lands immediately adjoining the site are as follows:

- R623 road to the north
- Wallingstown Industrial Estate Road to the East.
- Site for proposed future development to the West.
- The site is bounded by Former Mitsui Denam processing area to the south and Lough Mahon beyond.

2.3 Proposed Works

The Proposed works include:

Modifications on the 84,00 and 96,000 data centre buildings on the eastern side of the site there are modifications to change the 5-no. diesel back-up generators to 5-no. gas generators generator for each building (10 no. total), to serve the data centre permitted under 17/5895 on a site at Wallingstown, Little Island, Co. Cork.

2.4 Construction details

The main objective of this CEWMP is to minimize the impact of the construction process on the receiving environment and ensure all associated construction/demolition waste is minimised and reused, recycled, or removed to an authorised waste facility. Included below are the main elements and tasks involved in the construction of the site and the management process of same.

Main tasks to be completed on site include:

- Site clearance including the removal of any existing scrub/vegetation that were not proposed to be retained as part of the development.
- Set up compound.
- Secure the construction site and erect signage.
- Excavation to formation level of site plots (storage of any excavated material for reuse on site).
- Storage of excavated soil for landscaping or removal of additional soil/rubble to a licensed/operator land fill.
- Provision of services (including stormwater attenuation tank, foul sewer connection and outfall).
- Construction of vehicular access to provide access to the site.

- Construction of an industrial development and other ancillary works.

3 General Construction Management Details

The following works are required to be undertaken prior to the commencement of construction works:

1. All documentation relating to Health & Safety to be submitted to PSDP for approval.
2. The identification of existing services on site and the diversion / protection or removal of same
3. The Provision of Hoarding, Site Access, Security and Welfare Facilities.

3.1 Health & Safety

The contractor shall submit a health and safety method statement for the project prior to commencement on site.

It is envisaged that the contractor will act as Project Supervisor Construction Stage. A Project Supervision for the Design process will be appointed by the client. MMOS Engineers are the Project Engineers. All temporary works designs will need to be submitted to MMOS so that they can be co-ordinated to the PSDP.

3.2 Existing Services

The contractor shall identify all existing services above and below ground.

The Contractor shall carry out a detailed site survey to determine the full extent and exact locations of services within the construction area.

The Contractor shall protect drains, manholes, gullies, vent pipes and fittings still in use and ensure that they are kept free from debris at all times. He shall make good any damage arising from demolition works and leave them clean and in working order at completion.

The Contractor and all persons performing work shall comply with all safety rules and regulations and shall take all necessary precautions to assure safe working conditions during the works. The Contractor shall use all necessary surveying equipment to locate underground cables and carry out necessary precautions when digging around existing live cables.

3.3 Hours of work

To moderate impacts on the surrounding area and in order to mitigate noise levels emanating from the site, Site development and building works shall be carried out only between the hours of 08.00 to 18.00 Mondays to Fridays inclusive, between 08.00 TO 16.00 hours on Saturdays and not at all on Sundays and public holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the planning authority.

3.4 Construction Traffic Management

3.4.1 Site access and parking

All construction traffic travelling to the site shall approach from the west near the tunnel and all construction traffic leaving the site shall travel west toward the tunnel. No construction traffic shall use Island Cross

As this road at the western side of the site is used throughout the day, access / egress to the site will need to be carefully coordinated and managed with the local residents and Cork County Council. This will need to be carefully outlined by the contractor in the Construction Stage plan.

Site parking will be provided on site at a designated area. This area will be segregated from the active site.

3.4.2 Site Security

The site shall be kept secure at all times with signage indicating that it is a building site with associated dangers in accordance with the Health and Safety Authority Regulations.

The Contractor shall provide all necessary security during the progress of the works and shall be responsible for any damage or injury arising from insufficient security.

3.4.3 Signage and Fencing

Signage will be erected in advance to warn other pedestrian and road users of a construction site ahead. These signs will be checked and cleaned regularly so that they are maintained in a good condition. Signage will also be erected along emergency vehicle routes, and critical areas such as assembly points and means of escape will be kept clear.

Fencing will be introduced around the site. The hoarding will include a gate for access which will be set back from the road edge to ensure the sightlines are acceptable.

3.4.4 Cleaning of Roads

For the duration of the construction period the contractor will be required to install a wheel wash at the entrance to the site. This will wash the wheels and undercarriages of all vehicles leaving the site to ensure no debris leaves the site on vehicles. Adequate provision will be made on site for drainage of this area. All truck drivers must also inspect their vehicles before they leave the site for stones caught in their tyres or any other debris. The public roads will be monitored throughout the works and a road sweeper will be employed when required for the duration should the roads become dirty. The developer will liaise with the local authority and all adjoining owners / residents in respect of the timing and movement of the road sweeper activity.

3.4.5 Deliveries on Site

Deliveries on site will be an important element for the contractor to take into consideration due to the roads around the site being a heavily trafficked at certain times during the day due to people travelling to and from work, school, etc. To ensure that the development does not have any adverse effects on the current traffic on the road, the delivery of materials will be organised by the contractor so that deliveries are minimised at the morning between the hours of 8 to 9.30am or evening periods between the hours of 16.30 to 18.00pm when traffic is at peak flow on the public road.

The delivery of materials to the site during the construction phase shall be organised so that deliveries are minimised and do not cause traffic hazard, and that all construction vehicles are parked within the site.

4 Control of Water Pollution on Site

This section of the report sets out the potential sources of water pollution and other environmental issues that may arise during the construction works. Methods are proposed and discussed for controlling pollution and water runoff from the site during the construction works. Reference is made during this section to CIRIA C532 *Control of water pollution from construction Sites.*

Specific details will be provided by the contractor on development of the detailed Construction Management Plan at construction stage to be agreed in full of the Council's Environmental Department where necessary.

4.1 Sources of Water on the construction site.

The following are the sources of water that are likely or that may be encountered during the construction works.

- **Rainwater**: The primary source of water to the site is rainwater. The anticipated average annual rainfall at the site is anticipated to be in the region of between 800 and 1200 mm annually. The rainfall amounts vary by the season and can be as much as 50 mm over a 24-hour duration. Heavy rainfall can have a significant effect on the site and can cause flooding and the overwhelming of site drainage systems. Flooding can have an effect on stored site materials that would not normally pose a risk. The contractor will be required to ensure that materials are therefore properly stored on site and to plan site activities to ensure that works such as heavy excavation, drainage and foundation works are postponed during adverse weather conditions.

- **Surface Water**: Surface waters tend to include watercourses and waterbodies. In the case of the proposed development site, there are not any water courses or waterbodies that should be of concern.

- **Groundwater**. The contractor will be required, in advance of and during site establishment, to undertake a series of trial holes to establish the ground water levels. However, it is not thought at this juncture that the works will be below ground water levels.

4.2 Potential Sources of water Pollution

The following are a list of potential water pollutions that could arise on the construction site.

- **Suspended Solids**: The contractor is to employ measures to ensure that water pollution does not arise as a result of suspended solid pollution. Sources of suspended solid pollution include, excavation, earth stockpiles, plant and wheel washing, build-up of mud on site roads. Good practice construction measures are proposed in the following sections that the contractor will be required to employ to ensure that suspended sediments from the above potential sources do not enter the watercourse.

- **Oils and Hydrocarbons;** Oils are a potential source of pollutants on a construction site. Diesel, lubricating oil, fuel, petrol, and hydraulic fluids are used quite readily on construction sites for various types of machinery and refuelling and maintenance are required regularly on sites. The contractor will need to employ good practice measures to prevent these potential pollutants entering the water course. These measures will include bunded areas for the storage of fuels, regular maintenance of machinery to ensure that no leakages occur, measures to protect the site from vandalism and the provision of a designated refuelling area on site or refuelling off site.

- **Concrete and Cement Products**; It is important the cement products are carefully stored to withstand various weather conditions such as heavy rainfall and high winds to prevent run off and dust pollution. Concrete products can cause contamination during wash down of the trucks which can cause a large volume of uncontrolled runoff. Good practice measures can be employed on site to prevent such uncontrolled runoff by the use of a special impermeable bunded slab with a collection point and siltation for such operations.

4.3 Surface Water Management Techniques.

The contractor will be required to submit proposed methods for managing surface water runoff from the site during the construction operations. The following operations will require particular attention.

(i) Excavations for foundations works.

Excavations works will require works below ground level and to control the groundwater in the areas being excavated the contractor will require to isolate the area by digging trenches to the perimeter of the foundation area with suitable falls and sumps. The perimeter drain in an open excavation such as a basement excavation should include French drains as per the following extract from CIRIA C532.

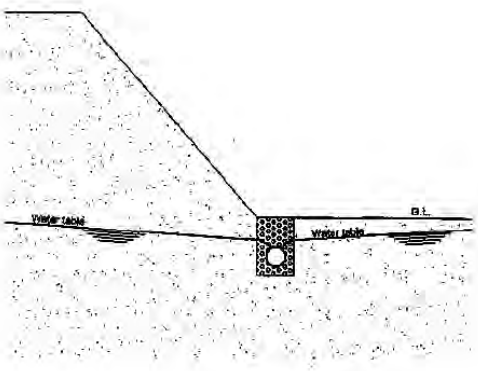


Figure 6.42 *Schematic section showing water control methods*

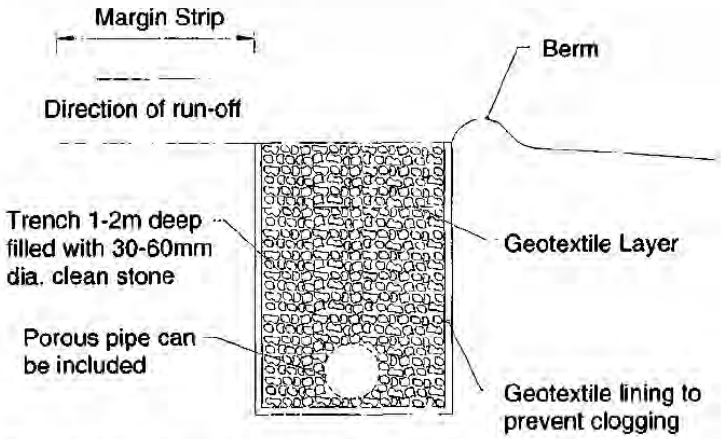
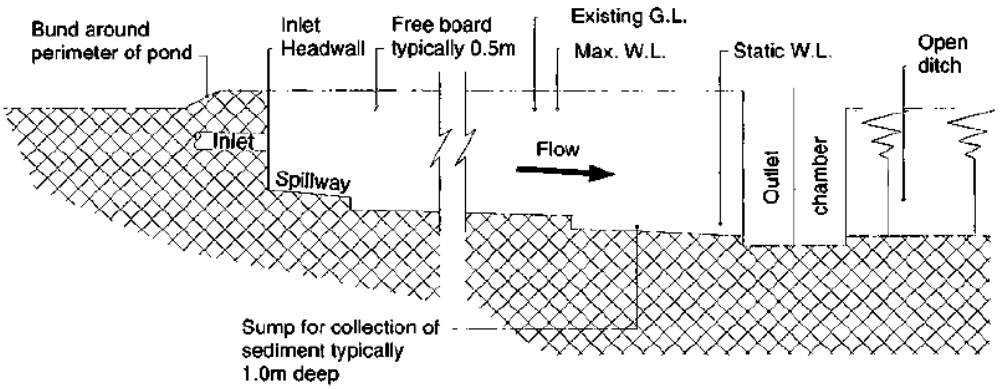


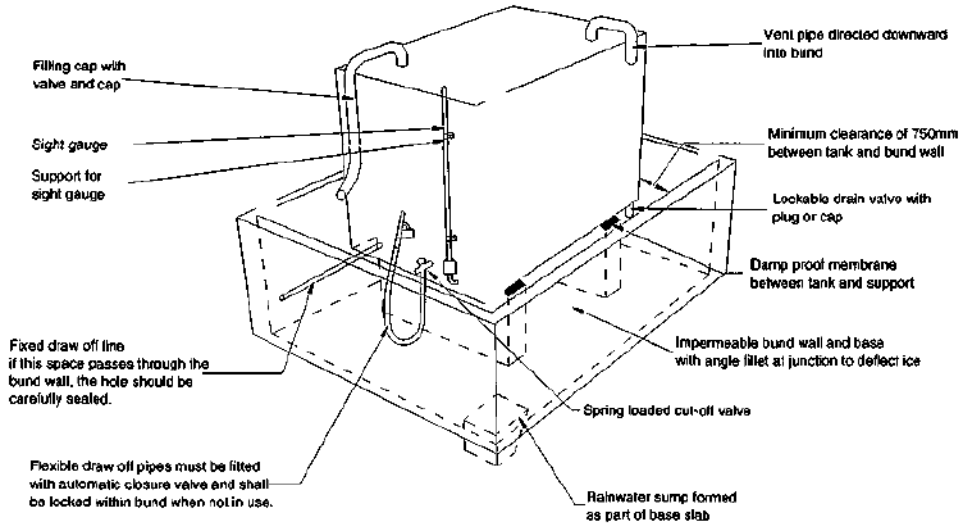
Figure 6.43 *Typical filter drain detail*

Discharge of ground water will be via silting ponds where suspended solids can be removed, and the water quality can be monitored. The following extract from CIRIA C532 provides a cross section through a typical silting pond.



(ii) Oil and Fuel delivery points.

As noted in section 3.2 above a designated fuel transfer area should be provided on site and this is typical good practice on well managed construction sites. The contractor will be required to install an impermeable paved and bunded area that is capable of handling and intercepting a fuel spillage. All tanks should be fully bunded and placed on a firm and secure foundation as per the following sketch from CIRIA C532.



(iii) Formwork and concrete operations.

Concrete should always be placed in a controlled method to prevent spillages as is good construction practice. Where possible concrete should be placed using a concrete pump. As noted above it is important that the machinery is well maintained.

At the delivery and wash down point it is important that measures are employed to prevent spillages from concrete delivery trucks contaminating the ground.

4.4 Construction & Operational Stage - Effluent

During the construction & operational stage, wastewater/foul effluent from the proposed development will be discharged to the public sewer. All water contaminated with hydrocarbons including storm water from bunded areas shall be discharged via a grit trap and 3- chambered hydrocarbon interceptor to the site surface water drainage system/suitably designed percolation area. An inspection chamber with a sump shall be constructed between the interceptor and the drain. The sump shall be of a minimum size of 500mm square and 400mm deep and shall be of watertight construction. It shall be easily accessible at all times. The interceptor and sump shall be installed and operated to the satisfaction of the Planning Authority. The applicant shall undertake an inspection of the interceptor traps monthly and shall maintain a register of the outcome of such inspections. The register shall be made available for inspection by the Planning Authority at all reasonable times. No soiled water is allowed drain from the development site to adjacent water courses. All surface water discharges shall consist of clean waters only.

5 Environmental & Waste Management Plan

5.1 General

The contractor will be required to prepare a specific Demolition waste management plan & Construction waste management plan for the site and submit prior to commencement of the works. The following requirements are noted.

Details of the Wastes to Be Produced (Incl. Estimated C&D Surpluses/Deficits)

During construction of the proposed development, there will be construction waste generated, such as off-cuts of timber, oversupply of materials and damaged or broken concrete blocks and tiles, along with packaging materials such as cardboard, plastic and polystyrene.

Main C&D Waste Categories

The main non-hazardous waste streams that will be generated by the construction and demolition activities at the site are:

- Stones/bedrock, topsoil and subsoil
- Concrete, brick, tiles and ceramics
- Asphalt, tar and tar products
- Plasterboard
- Scrap Metal
- Cardboard (packaging)
- Plastic (wrapping, packaging)
- Waste wood
- Paper

The hazardous waste streams may include the following;

- Batteries

- Wood Preservatives
- Oils/Fuels from machinery & equipment

The European Waste Code (EWC) Classification for each waste stream is presented in Table 5.1.

Table 5.1: Waste types and EWC Classification

Waste Material	**EWC Code**
Non-Hazardous	
Concrete bricks, tiles and ceramics	17 01 00
Wood	17 02 01
Glass	17 02 02
Plastic	17 02 03
Bituminous mixtures, coal tar and tarred products	17 03 00
Metals (including their alloys)	17 04 00
Soil, stones and dredging spoil	17 05 00
Insulation materials and asbestos-containing materials	17 06 00
Gypsum-based construction material	17 08 00
Other construction and demolition waste	17 09 00
Cardboard	15 01 01
Hazardous	
Asbestos	17 06 05
Batteries	16 06
Wood Preservatives	03 02
Liquid Fuels	13 07

Estimated Waste Arising & Proposals for Reduce, Reuse & Recycle

The EPA has produced figures for the C&D waste recorded in the National Waste Database. This included a percentage breakdown of each waste type in the C&D stream.

Table 5.2: Breakdown of Waste Materials generated at site

Waste Types	**%**
Bedrock, Soil & Stones	51
Concrete, Bricks, Tiles, Ceramics, Plasterboard	39
Asphalt, Tar and Tar products	2
Metals	2
Other	6
Total Waste	**100**

As Table 5.2 shows, a large percentage of the waste at the site will be soil and stones. The excavated material from the site will be reused on site if possible. In the event of the material being used off site options include land remediation/infill on other sites in the area.

Proposed Uses of Wastes and Surpluses/Deficits from the Site

A temporary segregation bay will be constructed at the site for the duration of the construction and demolition phase of the development. The bay will include segregated areas for recyclable waste streams, such as gypsum (plasterboard), cardboard, timber, concrete/blocks/tiles etc.

As extensive development is being carried out in the vicinity of the site, the possibility of reuse of materials on neighbouring sites will be investigated.

Cardboard

Cardboard will be segregated on site. The cardboard will be flattened and placed in a covered skip or tied and covered, to prevent the card getting wet. A recycling contractor will collect it as required.

Plasterboard

There will be a separate skip for plasterboard at the site. There are a number of specialist contractors that recycle plasterboard, and they will be contracted to address this matter.

Reprocessed gypsum powder, which makes up to 94% of the plasterboard, can be reprocessed into new plasterboard or converted for use in soil conditioners for the agricultural industry. The paper, which makes up to 6% of the plasterboard, can be reused in various industries.

Soil/Subsoil

Excess excavated soil will be disposed of off-site. Soil will be removed and disposed of by contractors licensed under the Waste Management Act of 1996, the Waste Management (Permit) Regulations of 1998 and the Waste Management (Collection Permit) Regulations of 2001. This material will be used for fill material on other sites, or capping purposes on site, e.g., at a landfill.

Plastic

As plastic is now considered a highly recyclable material, much of the plastic generated during construction will be diverted from landfill and recycled. Clean plastic will be segregated at source and kept as clean as possible and stored in a dedicated covered skip.

Timber

There will be timber waste generated from the construction work as off-cuts or damaged pieces of timber. Timber that is uncontaminated, i.e., free from paints, preservatives, glues etc, will all be recycled. It will be stored on site in a designated skip and collected by a recycling contractor. Such companies shred the timber and use it for manufacture of wood products or for landscaping (wood chips etc).

Scrap Metal

Steel is a highly recyclable material and there are numerous companies that will accept waste steel and other scrap metals. A segregated skip will be available for steel storage on site pending recycling.

Inflammable substances

All inflammable substances to be stored in accordance with Fire Officers requirements.

Tracking and Documentation Procedures for Off-Site Waste

All waste will be documented prior to leaving the site.

Any contractor who takes waste materials from the site will be compliant with the Waste Management Act of 1996 & 2001 and also the Waste Management (Collection Permit) Regulations of 2001, i.e., any contractor removing waste from the site will have a waste collection permit issued by Cork County Council (CCC). The foreman on the site will have a copy of the waste collection permits.

All information will be entered in a waste management system kept on the site; this will be maintained by the appointed building contractor. This will maintain accurate records on the quantities of waste/surpluses arising and the real cost (including purchase) associated with waste generation and management, locations for disposal and recycling of waste and the permitted contractors used in the process. This will also be in accordance with Section 5 of this Appendix.

Disposal of C&D Waste

There will be a general skip or receptacle for C&D waste not suitable for reuse or recovery. This skip will include polystyrene, contaminated cardboard, plastic etc. Workers on the site will be encouraged to recycle as much municipal waste as possible, i.e., cardboard, plastic, metals, and glass. General wet waste will be presented separately for recovery. Food waste will be segregated with separate receptacles for collection and disposal.

Prior to removal, the municipal waste receptacle will be examined by either the foreman or a member of his team to determine that recyclable materials have not been placed in there. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly.

5.2 C&D Waste Management Procedures

Sorting/Segregation Arrangements for Individual Materials

C&D waste materials will be stored separately on site, i.e., there will be a Central Waste Storage Area (CWSA) with specific receptacles or bays for each material taken from the demolition and construction phase.

Bins or skips used on site will be transportable to the CWSA. A forklift will be used to transport skips and containers around the site. By having segregated wastes at source, it can be arranged that a waste contractor/recycler will collect the materials, as necessary.

Details of Transportation and Reception Arrangements for Movement of Materials to Other Sites

The waste materials will be stored in the specifically designated compound. All waste collected from the site will be by a permitted waste contractor, under the Waste Management (Collection Permit) Regulations 2001.

The contractor will provide the waste manager on site with documentation of the waste to be removed and a copy of the waste collection permit. Prior to the waste leaving the site, the waste manager will have documentation to show where the waste is being taken to, and that the facility is licensed to accept the particular waste. A receipt will be issued for each load that leaves the site.

Some wastes may be transported to another site for reuse on the site. The manager will be in contact with other sites to ensure that as much waste is reused as possible, such as concrete for fill purposes etc.

All wastes leaving the site will be placed in appropriate containers. Any concrete, soil, gravel, or broken stone transported off site will be covered to prevent dust or particle emissions from the load.

Training Provisions for Waste Manager and Site Crew

One of the construction team or the foreman will be appointed as a waste manager to ensure commitment, operational efficiency and accountability.

The waste manager will be given responsibility and authority to select a waste team if required, i.e., members of the site crew that will aid him/her in the organisation, operation and recording of the waste management system on the site.

The waste manager will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management at the site. Authority will be given to the waste manager to delegate responsibility to sub-contractors where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and salvage on site.

The waste manager will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for the waste management on site.

He/she will be also trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and know how to implement the construction and demolition waste management plan.

The training of the site crew is the responsibility of the waste manager. A waste training program will be organised. A basic awareness course will be held for all site crew to outline the C&D waste management plan and to detail the segregation of waste materials at source. This may be incorporated into the induction course, or safety-training course.

This basic course will describe the materials to be segregated, the storage methods and the location of the waste storage areas. A subsection on hazardous wastes will be incorporated and the particular dangers of each hazardous waste will be explained.

5.3 Record Keeping

Records will be kept for each waste material, which leaves the site, either for reuse on another site, recycling, or disposal. A system will be put in place to record the construction waste arising on site.

The waste manager or a member of his team will record the following;

- Waste taken for Reuse off-site (i.e., for capping of landfill cells or at another site)
- Waste taken for Recycling.
- Waste taken for Disposal
- Reclaimed waste materials brought on-site for reuse

For each movement of waste on- or off-site, the waste manager will obtain a signed docket from the contractor, detailing the weight and type of the material and the source and destination of the material.

This will be carried out for each material type. This system will also be linked with the delivery records. In this way, the percentage of construction waste generated for each material can be determined.

The system will allow the comparison of these figures with the targets established for the recovery, reuse and recycling of construction waste and to highlight the successes or failures against these targets.

5.4 Outline Waste Audit Procedure

The appointed waste manager on site will be responsible for conducting a waste audit at the site.

A review of all the records for the waste generated and transported on- or off-site will be undertaken. If waste movements are not accounted for, the reasons for this should be established in order to see if and why the record keeping system has not been maintained.

A summary report will be prepared and compared with the established recovery/reuse/recycling targets for the site.

Each material type will be examined, in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Waste management costs will also be reviewed. Ongoing consultation with waste contractors and the CCC will be pursued in order to ensure that the best practicable option is being followed for waste management on site.

Upon completion of the project, an audit will be prepared, summarising the ongoing progress and the total recycling/reuse/recovery figures for the development. This audit may be reviewed by the Waste Management section of CCC.

At least two audits will be carried out during construction to ascertain if measures in place are addressing demands and to allow for corrective measures in waste handling and management to be addressed with appropriate corrective measures.

5.5 Prevention of Invasive Species

In relation to the spread of invasive species a walkover of the site should be conducted, to ensure no invasive species are within the site of the proposed development. To further ensure that no invasive species are imported on to the site during construction stage, comprehensive bio-security measures will be employed during the construction

phase to mitigate the introduction and spread of invasive species and will include the following:

- Adopting a precautionary approach. Do not release or plant until you have a clear understanding of the situation.
- Carrying out risk assessments. Due diligence is likely to include assessing the risk of an offence happening, establishing what to do to avoid it happening and acting according to best practice to prevent it happening.
- Ensure detailed checks and risk assessments are carried out for non-native species within initial site feasibility assessments and surveys.
- Where a non-native species is identified as a risk of being introduced, spread within, or moved off site, ensure mitigation measures are considered at the early planning stage, and ensure enough time is given to implement them.
- Where a species requires long-term management (e.g., Japanese knotweed), ensure a site management plan is put together that addresses all issues associated with it.
- Nominate a designated Clerk of Works/Project Manager to manage the issue of non-native species on your site from an early stage.
- Brief all contractors fully, and ensure all staff are aware of what the species looks like and the issues associated with it. This could be done through 'toolbox'

  talks or within site introductions. Everybody working on site must understand the role and authority of the Clerk of works managing the issue of the non-native species.
- Record any areas that are contaminated/infested with non-native species within your management plan, isolate them with fencing and put-up restricted

access signs.

- Maintain good site hygiene in general but especially when dealing with any non-native species.
- Where contaminated soil, materials or water are located, signage should be erected to indicate them.
- Personnel working on or between sites will ensure their clothing and footwear are cleaned where appropriate to prevent spread.
- Tracked vehicles will not be used within any discovered area of infestation (if such a scenario arises during construction).
- All vehicles leaving the infested area and / or transporting infested soil/materials will be thoroughly pressure-washed in a designated wash-down area before being used for other work.
- Where cross-contamination is possible (i.e., from one site to another), consider designating vehicles or machinery to specific sites where possible to prevent spread.
- Material / water left after vehicles have been pressure-washed will be contained, collected, and disposed of appropriately.
- All chemicals used for the control of non-native species (if required) will be stored and used in a responsible manner.
- All wash facilities including wastewater from washing vehicles, equipment or personnel will be managed in a responsible way so as not to not cause harm to the environment.
- If using water on your site for construction purposes or to wash vehicles or equipment, it will be ensured that the source of that water will not

inadvertently act as a vector for the transportation of non-native species to/from your site or elsewhere.

- Disposal of contaminated wash water, including all silt and other solids (e.g., plant fragments), will be dealt with in a responsible manner to avoid pollution and to prevent the spread of any non-native species that may be present.
- Where non-native species are known to be within or close to the site, care will be taken not to facilitate the transportation of plant seeds or fragments, animals

  or eggs on machinery, vehicles or by foot, from one site/river catchment to another. This may require the need for an exclusion zone and/or the use of designated machinery/ equipment on key sites to prevent movement from one site or river catchment to another.
- Vehicles will be inspected before moving them from site to site or off site and provide wash facilities suitable for the machinery you have, if needed, e.g., a through bath or footbaths. You should pay particular attention to

  caterpillar tracks and where trucks and dumpers are stowed.
- All the bat mitigation measures proposed shall be implemented.
- Lighting shall be kept to a minimum and directed away from tree lines and woodland. LED lights shall be incorporated into the lighting scheme.

The above bio-security measures are based on best practice and will be implemented during construction to ensure that no invasive aquatic and riparian plant species will be introduced during the construction phase via contaminated machinery and topsoil.

5.6 Rodent Control and Prevention Measures

In order to control and prevent rodents from causing issues on site the following measures will be taken at all bin storage areas:

1. All bins will be fitted with permanent covers.
2. All bin storage areas will be fitted with bait traps.

6 Noise, Dust and Vibration

6.1 Noise

The contractor will be required to carry out noise monitoring at defined locations on the boundary on an ongoing basis during the works. Noise levels emanating from the proposed development when measured at the nearest noise sensitive locations shall not exceed 55dBA (30 minute LAr) between 0700 hours and 1900 hours, 50 dBA (30 minute Lar) between 1900 and 2300 hours and 45dBA (15 minute Leq) between 2300 and 0700 hours. The contractor must ensure that sound measurements shall be carried out in accordance with ISO Recommendations R 1996, "Assessment of Noise with Respect to Community Response" as amended by ISO Recommendations R.1996/1, 2 and 3 "Description and Measurement of Environmental Noise" as appropriate

The contractor is to have a point of contact available during the works at all times and if exceedances are recorded, the contractor will be required to adopt alternative construction methodologies and measures to ensure that the limits are complied with.

Noise monitoring will be addressed with the contractor on an ongoing basis by the Engineer and it will be on the agenda at the weekly site meetings.

6.2 Dust

The contractor will require to carry out dust monitoring at three defined locations on the boundary on an ongoing basis during the works.

The contractor will be required to prepare and implement a dust minimisation plan for the duration of the works. Dust control will take on board the recommendations as outlined in Control of Dust from Construction and Demolition Activities (BRE/DTI, 2003). The dust limit is set as 350mg/m2/day as outlined in the TA Luft Guidelines. The dust minimisation plan shall be reviewed at regular intervals during the construction phase to ensure the effectiveness of

the procedures in place and to maintain the goal of minimisation of dust through the use of best practise and procedures. At all times, the procedures put in place will be strictly monitored and assessed.

The contractor is to have a point of contact available during the works at all times and in the event of dust nuisance occurring outside the site boundary, significant dust producing activities will be immediately terminated and satisfactory procedures implemented to rectify the problem before the resumption of the operations.

In order to ensure that no dust nuisance occurs, a series of measures will be implemented. Site access shall be regularly cleaned and maintained as appropriate. Hard surface areas shall be swept to remove mud and aggregate materials from their surface while any un-surfaced areas shall be restricted to essential site traffic only. Furthermore, any area that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions.

Vehicles on site shall have their speed restricted, and this speed restriction must be enforced rigidly. Vehicles delivering or removing material with dust potential shall be enclosed or covered with tarpaulin at all times to restrict the escape of dust.

All vehicles exiting the site shall make use of the wheel wash facility prior to entering onto public roads, to ensure mud and other wastes are not tracked onto public roads. Public roads outside the site shall be regularly inspected for cleanliness and cleaned, as necessary. The roads will be monitored throughout the works and a road sweeper will be employed by the contractor, when required, should the roads become dirty.

Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. Water misting, or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.

Dust monitoring will be addressed with the Contractor on an ongoing basis by the Engineer and it will be on the agenda at weekly meetings.

6.3 Vibration

The Main contractor will be obliged to carry out vibration monitoring at two defined locations on the boundary on an ongoing basis.

The works will be required to comply with BS5228 (2009): *Code of practice for noise and vibration control on construction and open sites- Part 2: Vibration.*

BS5228 recommends that that, for soundly constructed residential property, light commercial buildings and similar structures that are in good repair, a threshold for minor or cosmetic (i.e., non-structural) damage should be taken as a peak particle velocity of 15mm/s at 4 Hz increasing to 20mm/s at 15 Hz and increasing to 50 mm/s at 40 Hz and above for intermittent vibration.

Below these vibration magnitudes, minor damage is unlikely, although where there is existing damage, these limits may be reduced by up to 50%.

The contractor is to have a point of contact available during the works at all times and if exceedances are recorded, the contractor will be required to adopt alternative construction methodologies and measures to ensure that the limits are complied with.

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Air Quality Impact Assessment
Little Island Data Centre
Generator Emissions Air Dispersion Model

Report Reference Number: **5880-22-06**
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Contents

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Executive Summary

An air dispersion modelling exercise using AERMOD dispersion software was conducted to predict the impact on local ambient air quality, of emissions from combustion sources at a proposed Phase I Data Centre in Little Island, Co. Cork.

The Data Centre proposes to install 10 gas generators as a backup in the event of a power outage from the grid or if called upon by EirGrid. The planned arrangement would be to operate the Data Centre with power from the national grid as the primary power source for the installation. However, the proposed generators can and may operate 24/7/365 if called upon. This model assesses the potential impact of operating the 10 generators on gas at the installation on a continuous basis.

The report also accounts for a cumulative impact of running the generators from Phase II along with generators proposed for Phase I. Phase I data centre proposes to install 10 gas generators. Phase II would operate 18 generators at any one time to supply the data centre with the electrical demands required. There would be 6 back up diesel generators in reserve to cover maintenance, breakdown or another unforeseen requirement. It is proposed that the gas generators would be primary energy producers, supplemented by 2 diesel generators. This was the scenario modelled in this report.

Cork County Council requested an air dispersion model be completed to assess the potential impact of emissions from the generators on the local environment and the Cork Harbour Special Protection Area.

The purpose of the model is to ensure that air quality standards as outlined in Council Directive 2008/50/EC are not breached for the protection of human health or the SPA ecosystem.

The following point source emission points have been proposed for installation:

Table 1-1 Summary of Emission Points

Emission Point Reference	Description	Proposed Fuel
AP1	Generator 1	Natural Gas
AP2	Generator 2	Natural Gas
AP3	Generator 3	Natural Gas
AP4	Generator 4	Natural Gas
AP5	Generator 5	Natural Gas
AP6	Generator 6	Natural Gas
AP7	Generator 7	Natural Gas
AP8	Generator 8	Natural Gas
AP9	Generator 9	Natural Gas
AP10	Generator 10	Natural Gas

Building and terrain effects were included as part of the modelling analysis. The meteorological data set was defined using records from Cork Airport Met Station, which is located approximately 10km south west of the installation. Five years of met data was used in the model to estimate worst case ground level concentrations during the period (2014 to 2018). This was the closest and most appropriate station with the required meteorological data in any annual period used.

The contribution of mobile source emissions both on and off the facility were not considered as part of the modelling project, moreover the emissions from these sources were considered as part of the background concentration value for general parameters measured for ambient air.

A receptor grid system was determined using a multi-tier grid system that extended out to 10km from the production facility boundary line. This included a 100 metre resolution inner grid to a distance of 1km from the centre of the site, a 500 metre middle grid to 5km and a 1000m outer grid to 10km from the boundary. Special receptors including nearby houses and amenities were included as part of the receptor network.

With all the input files established, the air dispersion model was executed. The model was run using the latest AERMOD software (BREEZE AERMOD v.11.0.0.7 – Pro Plus Version) and the rural option based on the Auer (1978) Land Use categories.

Table 1-2 Summary of Input Parameters for Phase I

Emission point number		AP1 – AP10 Gas Generators
Oxides of Nitrogen	mg/m^3 @ 15% O_2	92.8
Oxides of Nitrogen	g/s @ 15% O_2	0.245
Stack height	m	18
Stack diameter	m	0.45
Exit temperature	Degree C	381
Exit velocity	m/s	44.2
Moisture Content	%	10
Exit flow rate	Nm^3/hr	9,496
	m^3/hr	25,276
Vertical or Horizontal	-	Vertical

Note: Quoted at 15% reference oxygen

The most likely scenario proposed would be to operate 10 gas generators at any one time to supply the data centre with the electrical demand required. This was the scenario modelled in this report.

Table 1-3 summarises the results of the model for the installation, and their comparisons with the ambient air quality standards. The air quality standards currently applicable in Ireland are the ambient standards EU 2008/50/EC, Clean air for Europe (CAFÉ) Directive.

Table 1-3 Summary of Highest Sensitive Receptor Model Results from Phase I

Pollutant	Avg. Period	Process Contribution ($\mu g.m^{-3}$)	Background Concentration ($\mu g.m^{-3}$)	Predicted Environmental Concentration ($\mu g.m^{-3}$)	Air Quality Standard ($\mu g.m^{-3}$)	Percentage Process Contribution (%)
NO_2	1 Hour	84.4	37.5	121.9	200	42.2
	Annual	8.9	18.8	27.7	40	22.2

Table 1-4 Summary of Highest Result in adjacent Special Protection Area from Phase I

Pollutant	Avg. Period	Process Contribution ($\mu g.m^{-3}$)	Background Concentration ($\mu g.m^{-3}$)	Predicted Environmental Concentration ($\mu g.m^{-3}$)	Air Quality Standard ($\mu g.m^{-3}$)	Percentage Process Contribution (%)
$NO + NO_2$	Annual	1.9	18.8	20.7	30	6.3

The model has predicted that assuming the emissions from 10 generators operating at full load using natural gas, releasing at mass emissions outlined in Table 1.1 and with worst case meteorological data for dispersion (taking 5 years of met data into account), the ground level concentrations at the nearest sensitive receptors would be below defined air quality standards.

Table 1-5 Summary of Emission Points for Phase II

Emission Point Reference	Description	Proposed Fuel
AP1 – AP16	Generator	Natural Gas
AP16 – AP24	Generator	Natural Gas

Table 1-6 Summary of Input Parameters for Phase II

Emission point number		AP1 – AP16 Gas Generators	AP17 – AP24 Diesel Generators
Oxides of Nitrogen	mg/m^3 @ 15% O_2	92.8	371
Oxides of Nitrogen	g/s @ 15% O_2	0.245	0.944
Stack height	m	18	18
Stack diameter	m	0.45	0.45
Exit temperature	Degree C	381	453
Exit velocity	m/s	44.2	42.6
Moisture Content	%	10	10
Exit flow rate	Nm^3/hr	9,496	9,160
	m^3/hr	25,276	24,360
Vertical or Horizontal	-	Vertical	Vertical

Note: Diesel and Gas are quoted at 15% reference oxygen

Table 1-7 Summary of Highest Sensitive Receptor Model Results from Phase I & II Combined

Pollutant	Avg. Period	Process Contribution ($\mu g.m^{-3}$)	Background Concentration ($\mu g.m^{-3}$)	Predicted Environmental Concentration ($\mu g.m^{-3}$)	Air Quality Standard ($\mu g.m^{-3}$)	Percentage Process Contribution (%)
NO_2	1 Hour	87.3	37.5	124.8	200	43.6
	Annual	19.5	18.8	38.3	40	48.8

Table 1-8 Summary of Highest Result in adjacent Special Protection Area from Phase I & II Combined

Pollutant	Avg. Period	Process Contribution ($\mu g.m^{-3}$)	Background Concentration ($\mu g.m^{-3}$)	Predicted Environmental Concentration ($\mu g.m^{-3}$)	Air Quality Standard ($\mu g.m^{-3}$)	Percentage Process Contribution (%)
$NO+NO_2$	Annual	4.1	18.8	22.9	30	13.7

The model has predicted that assuming the emissions from 28 generators operating at full load, releasing at mass emissions outlined in Table 1.2 and Table 1.6 with worst case meteorological data for dispersion (taking 5 years of met data into account), the ground level concentrations at the nearest sensitive receptors would be below defined air quality standards.

Oxides of nitrogen were also compliant for the Cork Harbour Special Protection Area in line with annual limits outlined in 2008/50/EC.

1. Introduction

An air dispersion modelling exercise involving AERMOD dispersion software was conducted to predict the impact on local ambient air quality of emissions from combustion sources at a proposed Data Centre in Little Island, Co. Cork.

The Data Centre proposes to install 10 natural gas generators in the event of a power outage from the grid or if called upon by EirGrid.

The proposed arrangement would be to run the Data Centre with power from the national grid as the primary source for the installation, however there may be instances whereby the generators are requested by EirGrid to run for extended periods, especially given the current uncertainty surrounding fuel supplies.

The purpose of the model is to ensure that local air quality standards are not breached by operation of the generators. This report describes the impact of emissions from the generators on ambient air quality for:

- Nitrogen Dioxide;
- Oxides of Nitrogen.

Modelled ground level concentrations (GLC's) are compared against limits applied in the CAFÉ directive for Ambient Air Quality Standards.

The cumulative air quality impact analysis from background concentrations is also required by the EPA Guidance Note AG4. Data that has been published by the EPA between 2016 – 2020 for Zone B regions was used for cumulative impacts.

An assessment of the cumulative impact of Phase I operating adjacent to Phase II data centre was carried out as part of this model.

2. Process Description and Air Pollutant Sources

The proposed data centre is based in Little Island in Co Cork in what is considered a Zone B Air Quality Zone.

Fig 2-1: Location Map

2.1 Air Quality Standards

The following limits outlined in European Legislation for ambient air quality is outlined below:

Table 2-1 Summary of the Relevant CAFÉ Directive Limits

Pollutant	Limit Value Objective	Averaging Period	Limit Value ug/m^3	Basis of Application of the Limit Value
Nitrogen Dioxide	Protection of human health	1 hour	200	Not to be exceeded more than 18 times in a calendar year
Nitrogen Dioxide	Protection of human health	Calendar year	40	Annual mean
Oxides of Nitrogen	Protection of Ecosystems	Calendar year	30	Annual mean

3. Air Dispersion Modelling Methodology

3.1 Modelling Approach

The assessment methodology for the air dispersion modelling exercise follows the guidance specified by the Environmental Protection Agency, AG4, Air Dispersion Modelling from Industrial Installations Guidance Note, 2020.

One of the detailed models recommended for use by the EPA is AERMOD. The model of selection was the Breeze AERMOD/ISC which is designed to estimate pollutant concentrations and deposition from an industrial source complex. The latest version of AERMOD (BREEZE AERMOD v.11.0.0.7 – Pro Plus Version) with the most current version of the AERMOD terrain pre-processor (AERMAP) was used on this assessment.

3.2 Building Downwash

The emissions sources at the facility were evaluated in terms of the proximity to nearby structures. All buildings located reasonably close to the point sources on the property were included in the modelling analysis. Breeze guidance would suggest that any building within 100 metres of the point source should be included.

The purpose of the downwash evaluation was to determine if stack discharges may become caught in the turbulent wakes generated by these structures. AERMOD incorporates the Plume Rise Model Enhancements (PRIME) algorithms for estimating enhanced plume growth and restricted plume rise for plumes affected by building wakes.

Direction specific structure dimensions and the dominant downwash structure parameters used as input to AERMOD were determined using the BREEZE®BPIPP software, developed by Trinity Consultants, Inc. The software incorporates the algorithms of the U.S. EPS's sanctioned SPIP PRIME (BPIPP). The software creates the downwash input cards that were used in AERMOD.

3.3 Dispersion Options

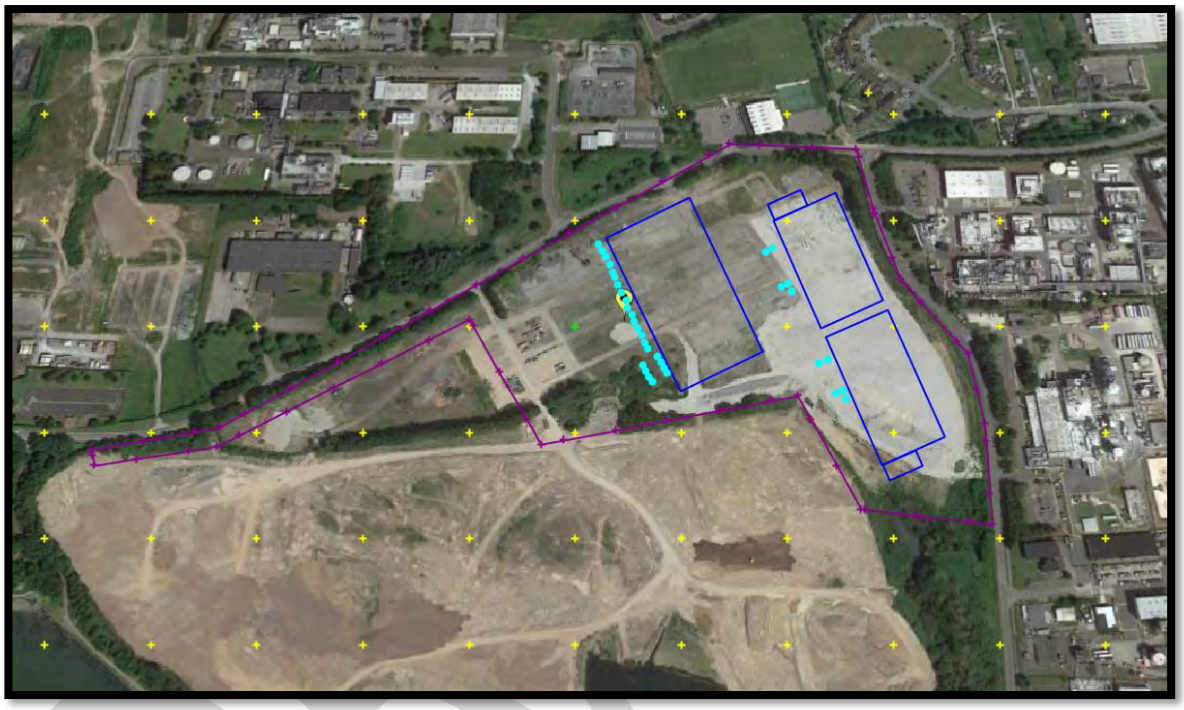
AERMOD was utilised using the regulatory default option.

3.4 Receptor Grid Selection

Ground level concentrations were calculated for receptors covering a region that extends 10km from all edges of the boundary line. Receptors inside the industrial estate would not be assessed in the model as these are covered by workplace exposure limits as opposed to air quality standards.

Sensitive discrete receptor locations were positioned at 10 m intervals along the boundary and at sensitive locations around the proposed installation.

Figure 3-1: Property Boundary



- The property in which the proposed data centre operates is within an industrial estate;
- The proposed development is situated on would be lands owned by the company;
- The property boundary line is a discrete receptor grid with receptors spaced at 10m intervals along the property line. All receptors inside the property line have been removed from the model run;
- The inner grid contains 100 m resolution spaced receptors extending to 1,000 m from the property line;
- The middle grid contains 500 m resolution spaced receptors extending to 5,000m from the property line;
- The outer grid contains 1000 m resolution spaced receptors extending to 10,000m from the property line;

Figure 3-2: Extent of Grid Boundary

3.5 Terrain

The terrain elevation for each modelled building, source and receptor was determined using Digital Terrain Model (DTM) Data. The terrain height for each modelled source, building and receptor was calculated using the AERMOD terrain pre-processor AERMAP. AERMAP computes the terrain height from the digital terrain elevations surrounding the modelled receptors, sources and buildings. It also computes the hill height scale required for the receptors.

3.6 Meteorological Options

The facility is located in Little Island, Cork. The met station chosen for this model was Cork Airport Met Station which would be considered similar simple terrain and met conditions. This met station was located approximately 10 km south west of the modelled site. Five years of data was obtained from 2014 – 2018 for this location.

There are two types of meteorological files used in this model, a file containing surface scalar parameters and a file containing vertical profiles. Both data filters for the surface and mixing heights were used to generate the meteorological files required by the AERMOD dispersion model, using the AERMET meteorological pre-processor programme. This AERMET programme has three stages to process the data. The first stage extracts met data and assesses data quality through a series of quality assessment checks. The second stage merges all data available for 24 hours' periods and writes these data together in a single intermediate file. The third and final stage reads the merged met data and estimates the necessary boundary layer parameters for dispersion calculations by AERMOD.

The AERMOD model requires hourly surface data values for wind speed, wind direction, temperature, rainfall, relative humidity, pressure, cloud cover, ceiling height and solar radiation and at least once daily mixing height data.

The wind rose for the respective years modelling is included in the table below. The wind rose shows the most predominant wind direction blows from south west indicating that the emission plumes will mainly be dispersed in the opposing direction.

The met station has <1% of missing data which complies with the EPA guideline requirements. The guidelines also require that the model run would have greater than 90% data coverage on a seasonal basis.

Figure 3-3 Met Data

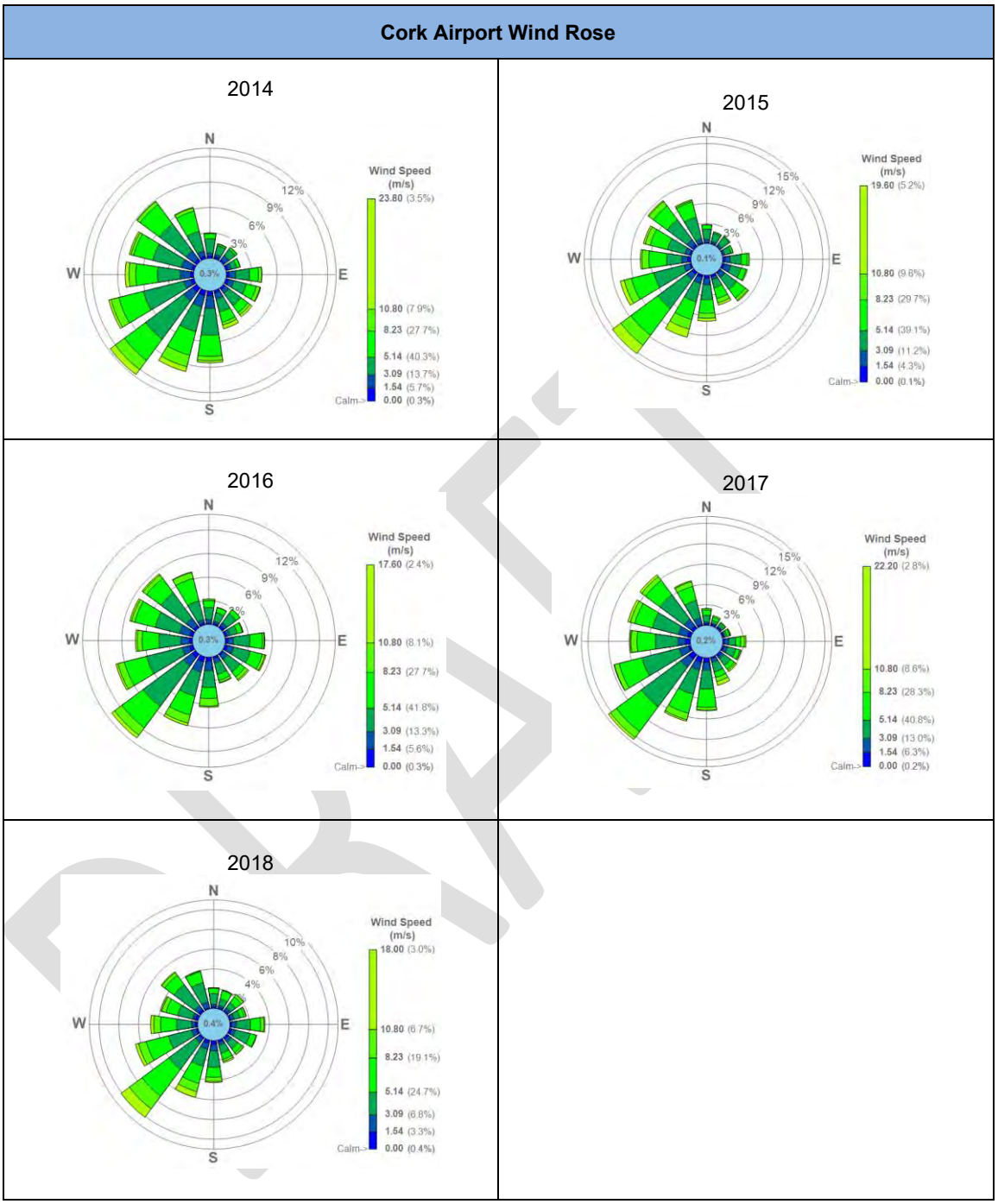


Table 3-1: Met Data 2014

Direction \ Speed	<= 1.54	<= 3.09	<= 5.14	<= 8.23	<= 10.80	> 10.80	Total
0.0	0.23	0.38	1.69	0.59	0.09	0	2.98
22.5	0.24	0.3	1.06	0.19	0.03	0	1.83
45.0	0.22	0.63	0.96	0.25	0.02	0	2.08
67.5	0.29	0.35	0.7	0.4	0.02	0	1.76
90.0	0.33	0.75	1.68	1.04	0.39	0.02	4.21
112.5	0.34	0.63	1.53	1.22	0.46	0.08	4.26
135.0	0.27	0.55	1.8	1.03	0.33	0.29	4.27
157.5	0.31	0.73	1.59	1.23	0.33	0.46	4.65
180.0	0.54	1.52	3.17	2.48	0.53	0.25	8.48
202.5	0.62	1.38	2.99	2.89	1.4	0.59	9.87
225.0	0.62	1.32	5.62	3.12	1.36	0.74	12.77
247.5	0.38	0.88	4.93	3	0.96	0.27	10.42
270.0	0.37	1.2	2.72	2.57	0.8	0.46	8.11
292.5	0.3	1.23	3.52	2.34	0.33	0.21	7.92
315.0	0.32	1.23	3.96	2.85	0.46	0.03	8.86
337.5	0.33	0.62	2.37	2.47	0.41	0.06	6.26
Total	5.68	13.7	40.29	27.67	7.92	3.46	98.72
Calm							0.33
Missing							0.95
Total							100

Table 3-2: Met Data 2015

Direction \ Speed	<= 1.54	<= 3.09	<= 5.14	<= 8.23	<= 10.80	> 10.80	Total
0.0	0.18	0.4	1.59	0.61	0.05	0	2.82
22.5	0.16	0.26	1.24	0.21	0	0	1.87
45.0	0.13	0.3	1.37	0.15	0.01	0	1.95
67.5	0.13	0.25	0.98	0.32	0.01	0	1.69
90.0	0.3	0.83	1.64	0.9	0.31	0	3.98
112.5	0.31	1.02	1.58	0.78	0.18	0	3.86
135.0	0.17	0.82	2.19	1.63	0.46	0.14	5.41
157.5	0.32	0.41	1.28	1.66	0.66	0.34	4.67
180.0	0.43	0.97	2.26	2.02	0.75	0.42	6.86
202.5	0.35	0.95	2.85	2.73	1.5	1.28	9.66
225.0	0.38	0.96	5.39	5.05	1.88	1.56	15.22
247.5	0.22	0.92	4.67	3.45	1.13	0.61	10.99
270.0	0.48	0.84	2.33	2.66	1	0.25	7.57
292.5	0.25	0.72	2.72	2.67	0.78	0.27	7.41
315.0	0.32	0.98	3.71	2.58	0.84	0.17	8.61
337.5	0.19	0.59	3.34	2.33	0.21	0.17	6.84
Total	4.32	11.23	39.14	29.73	9.77	5.22	99.41
Calm							0.15
Missing							0.45
Total							100

Table 3-3: Met Data 2016

Direction \ Speed	<= 1.54	<= 3.09	<= 5.14	<= 8.23	<= 10.80	> 10.80	Total
0.0	0.14	0.47	1.54	0.88	0.19	0.01	3.22
22.5	0.22	0.26	1.14	0.65	0.03	0	2.3
45.0	0.32	0.46	1.48	0.6	0.01	0	2.87
67.5	0.22	0.47	0.98	0.65	0.09	0.02	2.42
90.0	0.33	0.72	2.09	1.58	0.23	0.09	5.04
112.5	0.35	0.83	2.17	1.57	0.34	0.14	5.41
135.0	0.2	0.66	1.98	0.79	0.43	0.19	4.26
157.5	0.25	0.58	1.49	0.77	0.3	0.08	3.47
180.0	0.54	1.16	2.15	1.41	0.97	0.14	6.36
202.5	0.67	1.34	3.15	2.48	1.07	0.34	9.06
225.0	0.58	1.32	6.4	3.4	1.16	0.46	13.32
247.5	0.46	0.97	4.67	2.9	0.87	0.25	10.11
270.0	0.38	1.09	2.8	2.14	0.63	0.23	7.26
292.5	0.41	1.34	3.21	2.68	0.44	0.22	8.3
315.0	0.3	1.16	4.05	2.25	0.57	0.17	8.5
337.5	0.22	0.47	2.47	2.93	0.8	0.07	6.94
Total	5.57	13.3	41.78	27.69	8.13	2.4	98.86
Calm							0.31
Missing							0.83
Total							100

Table 3-4: Met Data 2017

Direction \ Speed	<= 1.54	<= 3.09	<= 5.14	<= 8.23	<= 10.80	> 10.80	Total
0.0	0.23	0.24	1.02	0.73	0.25	0	2.47
22.5	0.21	0.19	0.43	0.47	0.23	0	1.53
45.0	0.23	0.15	0.41	0.24	0.09	0.01	1.13
67.5	0.21	0.17	0.32	0.43	0.11	0.02	1.27
90.0	0.26	0.61	1.03	0.72	0.58	0.23	3.42
112.5	0.22	0.57	1.27	0.58	0.17	0.05	2.85
135.0	0.3	0.41	1.29	0.66	0.25	0.22	3.13
157.5	0.18	0.62	1.44	0.82	0.63	0.56	4.25
180.0	0.64	1.16	2.8	2.67	0.46	0.06	7.79
202.5	0.76	1.16	3.68	2.88	0.97	0.24	9.69
225.0	0.82	1.51	7.21	4.55	1.1	0.37	15.56
247.5	0.35	1.39	5.64	3.47	0.72	0.07	11.64
270.0	0.7	1.13	3.31	2.68	0.9	0.16	8.88
292.5	0.51	1.38	3.92	2.66	0.67	0.37	9.51
315.0	0.41	1.29	4.44	2.65	0.7	0.34	9.83
337.5	0.24	0.97	2.63	2.11	0.72	0.16	6.83
Total	6.27	12.96	40.82	28.33	8.55	2.84	99.77
Calm							0.23
Missing							0
Total							100

Table 3-5: Met Data 2018

Direction \ Speed	<= 1.54	<= 3.09	<= 5.14	<= 8.23	<= 10.80	> 10.80	Total
0.0	0.14	0.26	1.09	0.56	0.05	0.01	2.11
22.5	0.15	0.19	0.68	0.88	0.07	0	1.97
45.0	0.16	0.3	0.67	0.72	0.3	0.02	2.16
67.5	0.14	0.38	0.61	0.44	0.18	0.03	1.79
90.0	0.16	0.48	1.45	1.02	0.36	0.09	3.56
112.5	0.23	0.41	1.54	0.63	0.06	0	2.86
135.0	0.19	0.38	0.85	0.51	0.2	0.03	2.17
157.5	0.24	0.28	0.83	0.65	0.2	0.15	2.36
180.0	0.38	0.67	1.65	1.01	0.42	0.11	4.25
202.5	0.32	0.63	1.78	1.8	0.85	0.6	5.98
225.0	0.18	0.48	3.36	3.39	1.62	1.06	10.09
247.5	0.18	0.51	2.4	2.33	0.81	0.32	6.56
270.0	0.2	0.39	1.56	1.59	0.71	0.32	4.77
292.5	0.27	0.32	1.55	1.22	0.43	0.13	3.92
315.0	0.26	0.5	2.63	1.17	0.38	0.08	5.02
337.5	0.1	0.6	2.04	1.14	0.1	0.02	4.01
Total	3.3	6.77	24.69	19.07	6.74	2.98	63.56
Calm							0.35
Missing							36.09
Total							100

4. Model Inputs

4.1 Emissions from the Facility

A critical step for conducting air dispersion modelling is to quantify the emissions from the source at the facility. The emission rates from the sources identified was determined from:

- Emissions values as provided by the client and suppliers of the equipment;
- Volumetric emissions provided by the manufacturers.

Table 4-1 outlines the source information data determined for the facility. The emissions were based on the concentration emission limit values provided x the maximum flow rate in the stack gas. In line with the Medium Combustion Plant Directive, generators emissions data is quoted at 15% reference oxygen.

Table 4-1: Source Information Data for Phase I

Emission point number		**AP1 – AP10**
		Gas Generators
Oxides of Nitrogen	mg/m^3 @ 15% O_2	92.8
Oxides of Nitrogen	g/s @ 15% O_2	0.245
Stack height	m	10
Stack diameter	m	0.45
Exit temperature	Degree C	381
Exit velocity	m/s	44.2
Moisture Content	%	10
Exit flow rate	Nm^3/hr	9,496
	m^3/hr	25,276
Vertical or Horizontal	-	Vertical

Table 4-2: Source Information Data for Phase II

Emission point number		**AP1 – AP16**	**AP17 – AP24**
		Gas Generators	**Diesel Generators**
Oxides of Nitrogen	mg/m^3 @ 15% O_2	92.8	371
Oxides of Nitrogen	g/s @ 15% O_2	0.245	0.944
Stack height	m	18	18
Stack diameter	m	0.45	0.45
Exit temperature	Degree C	381	453
Exit velocity	m/s	44.2	42.6
Moisture Content	%	10	10
Exit flow rate	Nm^3/hr	9,496	9,160
	m^3/hr	25,276	24,360
Vertical or Horizontal	-	Vertical	Vertical

4.2 Existing Baseline Air Quality Data

When modelling the release of pollutants, it is important to consider the existing parameters present in the environment and at what concentration. The Process Contribution (PC) should be added to the Background Concentration (BC) to obtain the Predicted Environmental Concentration (PEC), which is the figure used for final assessment with the appropriate legislative limits.

The EPA manages the National Ambient Air Quality Network and routinely monitors ambient air quality at c. 33 locations in Ireland. The data is collected and collated for publication in the Annual Air Quality Reports.

The EPA have divided the country into zones for assessment and management of air quality. Zone A is the Dublin conurbation; Zone B is the Cork conurbation with Zone C comprising 23 large towns in Ireland with a population >15,000. Zone D is the remaining area of Ireland.

The number of monitoring locations required is dependent on population size and whether ambient air quality concentrations exceed the upper assessment threshold, are between the upper and lower assessment thresholds, or are below the lower assessment threshold.

This site is located within Zone B.

Table 4-3: Zone B: Background Air Quality

Zone B	2016	2017	2018	2019	2020	Average
South Link Road	22.7	26.6	25	21	14	-
UCC	-	-	11	10	8	-
Average	22.7	26.6	18	15.5	11	18.8
2 x Average	45.4	53.2	36	31	22	37.5

5. Model Results

With the various sources identified, a model domain established of 10km from the site boundary and centred in the middle of the proposed facility, the necessary input files created, model predictions were made for each of the pollutants for averaging periods for which there are Ambient Air Quality Standards under the CAFÉ Directive as described in Section 1 of this report.

Model impacts were run for point source and combined with ambient air quality data published under the national ambient air quality monitoring programme for a predicted environmental concentration.

The following assumptions have been made in this model:

- The site is in operation 24 hours per day, 365 days per year;
- 10-point sources are emitting continuously and consistently at selected mass emission rates operating on natural gas for Phase I;
- To account for cumulative impact with Phase II, a total of 28-point sources are emitting continuously and consistently at selected mass emission rates (26 Gas and 2 Diesel);
- 5 years of met data have been used from a comparable met station which is representative of met conditions at this site;
- Background concentrations were obtained from data published by the EPA for Zone B stations;
- EPA Guidance has been followed for oxides of nitrogen modelling.

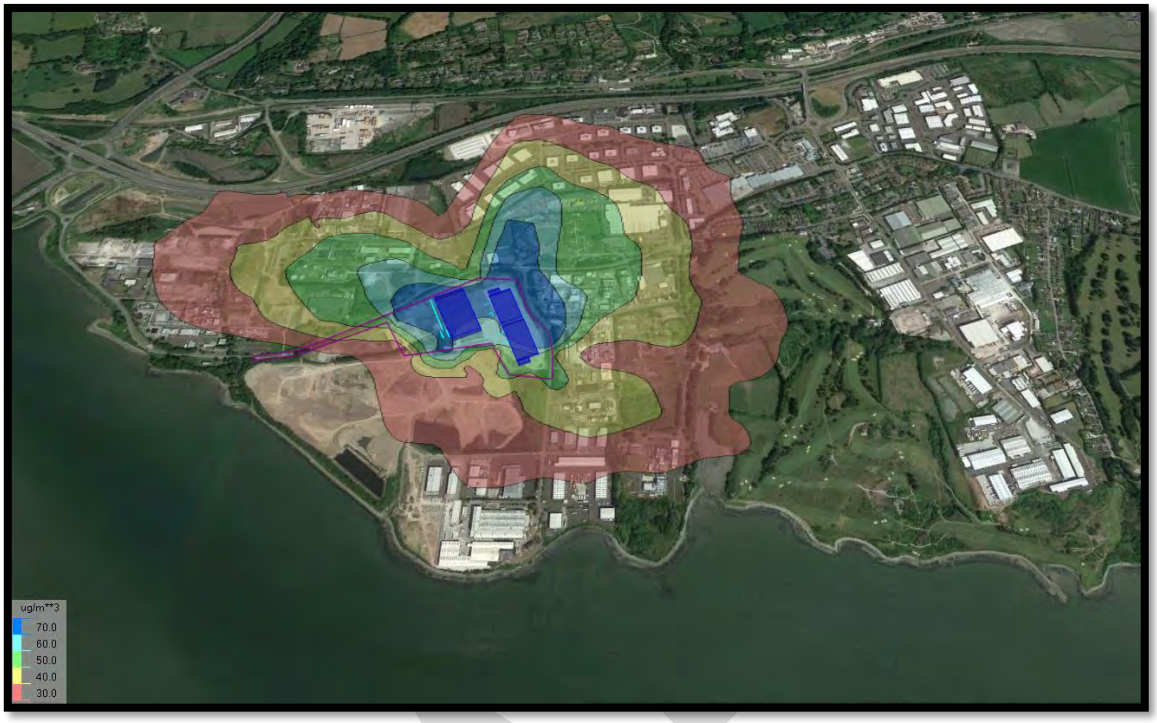
5.1 Nitrogen Dioxide Dispersion Results Phase I

Table 5-1-1: 1-Hour Results

Receptor Concentration 1 hour 99.8%ile High Result	Model Result Process Contribution (PC) ug.m^{-3}	Background Average of Annual Mean ug.m^{-3}	Cumulative Predicted Environmental Concentration (PEC) ug.m^{-3}	Limit The limit for Nitrogen Dioxide under 2008/50/EC for a 1 hour limit (not to be exceeded more than 18 times)	Compliance Statement
2018					
St Lappans Place	74.8	37.5	112.3	200	Compliant
Factory Hill	15.9	37.5	53.4		Compliant
Castleview	31.5	37.5	69.0		Compliant
The Lodge, Wallingstown	34.4	37.5	71.9		Compliant
Castlewood	20.7	37.5	58.2		Compliant
2017					
St Lappans Place	81.0	37.5	118.5	200	Compliant
Factory Hill	28.9	37.5	66.4		Compliant
Castleview	40.9	37.5	78.4		Compliant
The Lodge, Wallingstown	38.1	37.5	75.6		Compliant
Castlewood	31.0	37.5	68.5		Compliant
2016					
St Lappans Place	78.9	37.5	116.4	200	Compliant
Factory Hill	21.4	37.5	58.9		Compliant
Castleview	38.4	37.5	75.9		Compliant
The Lodge, Wallingstown	41.2	37.5	78.7		Compliant
Castlewood	27.1	37.5	64.6		Compliant
2015					
St Lappans Place	77.0	37.5	114.5	200	Compliant
Factory Hill	18.7	37.5	56.2		Compliant
Castleview	34.6	37.5	72.1		Compliant
The Lodge, Wallingstown	38.4	37.5	75.9		Compliant
Castlewood	24.3	37.5	61.8		Compliant
2014					
St Lappans Place	84.4	37.5	121.9	200	Compliant
Factory Hill	26.6	37.5	64.1		Compliant
Castleview	36.7	37.5	74.2		Compliant
The Lodge, Wallingstown	43.4	37.5	80.9		Compliant
Castlewood	24.4	37.5	61.9		Compliant

Note 1: 99.8th Percentile value used
Note 2: Background mean is from 2016 – 2020 from published EPA data sets for Zone B * 2

Figure 5-1-1: 1 Hour Contour Plot Process Contribution



Contours (ug/m³)

30	40	50	60	70

Table 5-1-2: Annual Average

Highest Receptor Concentration Annual 1st High Result	**Model Result** **Process Contribution** **(PC)**	**Background** **Average of Annual Mean**	**Cumulative** **Predicted Environmental Concentration** **(PEC)**	**Limit** The limit for Nitrogen Dioxide under 2008/50/EC for an annual limit	**Compliant**
	ug.m^{-3}	ug.m^{-3}	ug.m^{-3}		
2018					
St Lappans Place	7.9	18.8	26.7	40	Compliant
Factory Hill	0.7	18.8	19.5		Compliant
Castleview	2.4	18.8	21.2		Compliant
The Lodge, Wallingstown	1.5	18.8	20.3		Compliant
Castlewood	1.5	18.8	20.3		Compliant
2017					
St Lappans Place	8.9	18.8	27.7	40	Compliant
Factory Hill	0.8	18.8	19.6		Compliant
Castleview	2.7	18.8	21.5		Compliant
The Lodge, Wallingstown	2.0	18.8	20.8		Compliant
Castlewood	1.6	18.8	20.4		Compliant
2016					
St Lappans Place	8.4	18.8	27.2	40	Compliant
Factory Hill	0.8	18.8	19.6		Compliant
Castleview	2.4	18.8	21.2		Compliant
The Lodge, Wallingstown	1.8	18.8	20.6		Compliant
Castlewood	1.5	18.8	20.3		Compliant
2015					
St Lappans Place	8.2	18.8	27.0	40	Compliant
Factory Hill	0.7	18.8	19.5		Compliant
Castleview	2.5	18.8	21.3		Compliant
The Lodge, Wallingstown	1.7	18.8	20.5		Compliant
Castlewood	1.5	18.8	20.3		Compliant
2014					
St Lappans Place	8.9	18.8	27.7	40	Compliant
Factory Hill	0.9	18.8	19.7		Compliant
Castleview	2.4	18.8	21.2		Compliant
The Lodge, Wallingstown	1.9	18.8	20.7		Compliant
Castlewood	1.5	18.8	20.3		Compliant

Note 1: Background mean is from 2016 – 2020 from published EPA data sets for Zone B

Figure 5-1-2: Annual Contour Plot Process Contribution

Contours (ug/m³)

1	2	3	4	5

5.2 Nitrogen Dioxide Dispersion Results Phase I and II – Cumulative Impact

Table 5-2-1: 1-Hour Results

Receptor Concentration 1 hour 99.8%ile High Result	Model Result Process Contribution (PC) ug.m^{-3}	Background Average of Annual Mean ug.m^{-3}	Cumulative Predicted Environmental Concentration (PEC) ug.m^{-3}	Limit The limit for Nitrogen Dioxide under 2008/50/EC for a 1 hour limit (not to be exceeded more than 18 times)	Compliance Statement
2018					
St Lappans Place	81.9	37.5	119.4	200	Compliant
Factory Hill	55.5	37.5	93.0		Compliant
Castleview	80.5	37.5	118.0		Compliant
The Lodge, Wallingstown	79.2	37.5	116.7		Compliant
Castlewood	64.7	37.5	102.2		Compliant
2017					
St Lappans Place	87.3	37.5	124.8	200	Compliant
Factory Hill	59.9	37.5	97.4		Compliant
Castleview	84.2	37.5	121.7		Compliant
The Lodge, Wallingstown	86.5	37.5	124.0		Compliant
Castlewood	71.9	37.5	109.4		Compliant
2016					
St Lappans Place	86.5	37.5	124.0	200	Compliant
Factory Hill	62.4	37.5	99.9		Compliant
Castleview	83.3	37.5	120.8		Compliant
The Lodge, Wallingstown	84.6	37.5	122.1		Compliant
Castlewood	68.9	37.5	106.4		Compliant
2015					
St Lappans Place	85.9	37.5	123.4	200	Compliant
Factory Hill	56.5	37.5	94.0		Compliant
Castleview	83.4	37.5	120.9		Compliant
The Lodge, Wallingstown	83.9	37.5	121.4		Compliant
Castlewood	69.7	37.5	107.2		Compliant
2014					
St Lappans Place	86.1	37.5	123.6	200	Compliant
Factory Hill	64.8	37.5	102.3		Compliant
Castleview	82.3	37.5	119.8		Compliant
The Lodge, Wallingstown	84.4	37.5	121.9		Compliant
Castlewood	70.0	37.5	107.5		Compliant

Note 1: 99.8th Percentile value used
Note 2: Background mean is from 2016 – 2020 from published EPA data sets for Zone B * 2

Figure 5-2-1: 1 Hour Contour Plot Process Contribution

Contours (ug/m³)

30	40	50	60	70

Table 5-2-2: Annual Average

Highest Receptor Concentration Annual 1st High Result	**Model Result** **Process Contribution** **(PC)**	**Background** **Average of Annual Mean**	**Cumulative** **Predicted Environmental Concentration** **(PEC)**	**Limit** The limit for Nitrogen Dioxide under 2008/50/EC for an annual limit	**Compliant**
	ug.m^{-3}	ug.m^{-3}	ug.m^{-3}		
2018					
St Lappans Place	18.1	18.8	36.9	40	Compliant
Factory Hill	2.6	18.8	21.4		Compliant
Castleview	5.6	18.8	24.4		Compliant
The Lodge, Wallingstown	3.4	18.8	22.2		Compliant
Castlewood	3.9	18.8	22.7		Compliant
2017					
St Lappans Place	19.5	18.8	38.3	40	Compliant
Factory Hill	2.8	18.8	21.6		Compliant
Castleview	6.3	18.8	25.1		Compliant
The Lodge, Wallingstown	4.7	18.8	23.5		Compliant
Castlewood	4.3	18.8	23.1		Compliant
2016					
St Lappans Place	17.5	18.8	36.3	40	Compliant
Factory Hill	2.8	18.8	21.6		Compliant
Castleview	5.7	18.8	24.5		Compliant
The Lodge, Wallingstown	4.3	18.8	23.1		Compliant
Castlewood	3.9	18.8	22.7		Compliant
2015					
St Lappans Place	18.7	18.8	37.5	40	Compliant
Factory Hill	2.6	18.8	21.4		Compliant
Castleview	5.9	18.8	24.7		Compliant
The Lodge, Wallingstown	3.9	18.8	22.7		Compliant
Castlewood	4.0	18.8	22.8		Compliant
2014					
St Lappans Place	17.9	18.8	36.7	40	Compliant
Factory Hill	2.7	18.8	21.5		Compliant
Castleview	5.8	18.8	24.6		Compliant
The Lodge, Wallingstown	4.3	18.8	23.1		Compliant
Castlewood	4.0	18.8	22.8		Compliant

Note 1: Background mean is from 2016 – 2020 from published EPA data sets for Zone B
Note 2: Special Protection Area – maximum Oxides of Nitrogen result in the SPA

Figure 5-2-2: Annual Contour Plot Process Contribution

Contours (ug/m³)

2	4	6	7	8

5.3 Oxides of Nitrogen Dispersion Results

Table 5-3-1: Annual Average Results Phase I

Receptor Concentration	Model Result	Background	Cumulative	Limit	Compliance Statement
	Process Contribution (PC)	Average of Annual Mean	Predicted Environmental Concentration (PEC)	The limit for Oxides of Nitrogen under 2008/50/EC for a Annual Average limit	
	ug.m^{-3}	ug.m^{-3}	ug.m^{-3}		
2018					
Cork Harbour Special Protection Area	1.2	18.8	20.0	30	Compliant
2017					
Cork Harbour Special Protection Area	1.9	18.8	20.7	30	Compliant
2016					
Cork Harbour Special Protection Area	1.7	18.8	20.5	30	Compliant
2015					
Cork Harbour Special Protection Area	1.6	18.8	20.4	30	Compliant
2014					
Cork Harbour Special Protection Area	1.7	18.8	20.5	30	Compliant

Note 1: Highest value determined in the Special Protection Area;
Note 2: Background mean is from 2016 – 2020 from published EPA data sets for Zone B

Figure 5-3-1: Annual Contour Plot Process Contribution

Contours (ug/m^3)

0.3	0.4	0.5	0.6	0.7

Table 5-3-2: Annual Average Results Phase I and Phase II Combined

Receptor Concentration	Model Result	Background	Cumulative	Limit	Compliance Statement
	Process Contribution (PC)	Average of Annual Mean	Predicted Environmental Concentration (PEC)	The limit for Oxides of Nitrogen under 2008/50/EC for a Annual Average limit	
	ug.m^{-3}	ug.m^{-3}	ug.m^{-3}		
2018					
Cork Harbour Special Protection Area	3.3	18.8	22.1	30	Compliant
2017					
Cork Harbour Special Protection Area	4.1	18.8	22.9	30	Compliant
2016					
Cork Harbour Special Protection Area	3.4	18.8	22.2	30	Compliant
2015					
Cork Harbour Special Protection Area	3.1	18.8	21.9	30	Compliant
2014					
Cork Harbour Special Protection Area	3.4	18.8	22.2	30	Compliant

Note 1: Highest value determined in the Special Protection Area;
Note 2: Background mean is from 2016 – 2020 from published EPA data sets for Zone B

Figure 5-3-2: Annual Contour Plot Process Contribution

Contours (ug/m^3)

1	2	3	4	5

6. Conclusions

The following conclusions may be made as a result of the air dispersion model;

- A model was completed in line with the Environmental Protection Agency Guidance AG4 2020 for Air Dispersion Models;
- The results quoted are worst case scenarios Predicted Environmental Concentrations (PEC) for the potential source emissions at nearest sensitive receptors. In line with Annex 3 of the Council Directive 2008/50/EC, no assessment has been conducted within an industrial installation where health and safety legislation apply, in an area where the public do not have access and there is no fixed habitation, or on the carriage of any road;
- Background concentrations were used to obtain PEC's by use of ambient air quality results within the EPA Zone B network where available;
- NO_2/NOx chemistry used the PVMRM method in AERMOD;
- NO_2 was predicted to be in compliance with Annex 3 criteria and Annex 11 2008/50/EC ground level concentration limits for protection of human health for a one-hour average and an annual average over the modelled period.
- Oxides of nitrogen were also compliant for the Cork Harbour Special Protection Area in line with annual limits outlined in 2008/50/EC;
- The cumulative impacts of Phase I and II were also assessed and deemed compliant with the limits applied in Annex 3 criteria and Annex 11 2008/50/EC for 1 hour and annual average ground level concentrations. It was also deemed in compliance with limits applied for the Special Protection Area.

TECHNICAL REPORT

LITTLE ISLAND DATA CENTRE - PHASE 1
EXTERNAL MECHANICAL PLANT NOISE ASSESSMENT
LITTLE ISLAND, CORK

For:
Eastmont Developments Ltd
City Gate
Mahon
Cork

Report Prepared By:
Brian S. Johnson MIOA
Our Reference:
22_0117R01B
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1.0 INTRODUCTION

CLV Consulting has been commissioned by Eastmount Developments to conduct a noise assessment in respect of externally located mechanical plant that is proposed to be provided for Phase 1 of the new Little Island Data Centre in Little Island, Cork. The subject mechanical plant consists of generators and rooftop condensing units. Note that an earlier assessment of the development was carried out by CLV in 2017 but the mechanical plant design has since been modified.

CLV Consulting has therefore carried out an updated noise assessment of the proposed mechanical plant by measuring the current ambient noise level environment in the vicinity of the facility, conducting a review of the proposed plant noise level data and calculating the expected level of noise emissions at the nearest noise sensitive receptors. The results were then used to determine compliance with the noise criteria limits defined in the project planning conditions.

The following document summaries all aspects of our assessment.

2.0 DEVELOPMENT EXTERNAL PLANT LOCATION & DESCRIPTION

The Little Island Data Centre external mechanical plant under consideration is split up into two buildings. Each building will have 5 no. continually operating gas generators located at ground level as well as 92 no. rooftop condensing units. The relevant plant areas are shown in Figures 1 & 2.

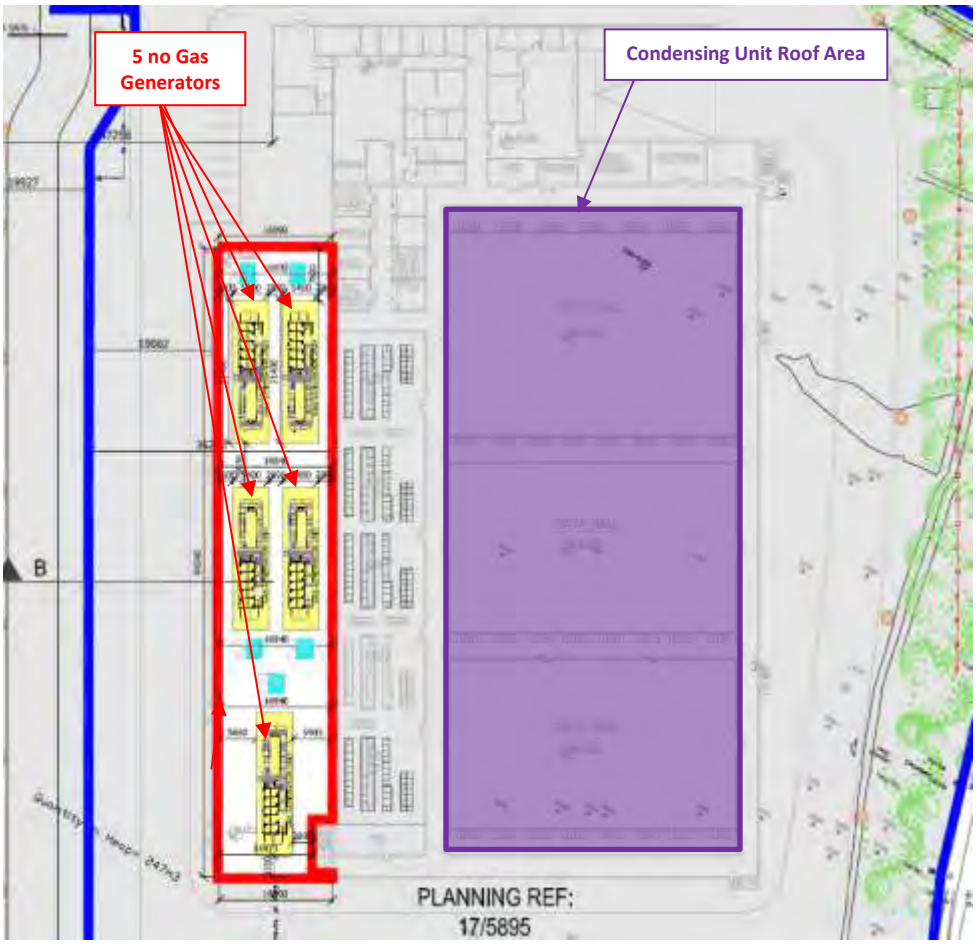

Figure 1 Proposed Little Island Data Centre Development Layout - Building 1

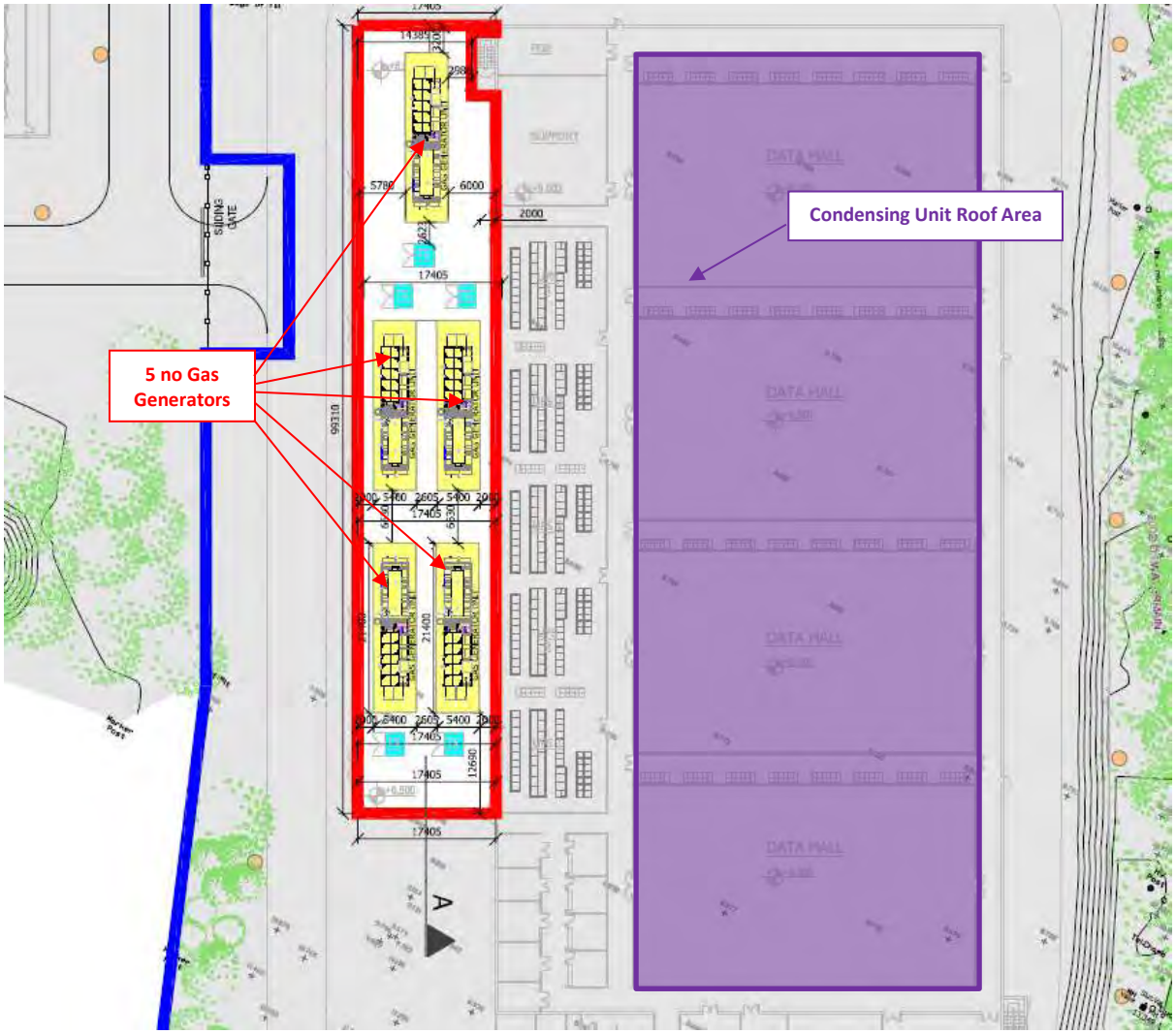

Figure 2 Proposed Little Island Data Centre Development Layout - Building 2

A summary of the plant is provided in Table 1 along with its manufacturer listed sound levels. Full octave band sound level data is provided in Appendix A.

Mechanical Plant	Model	Sound Pressure Level
Gas Generators	Edina TCG 3020V20	76dB(A) @ 1m
Rooftop Condensing Units	Liebert MCL 165	53dB(A) @5m

Table 1 Proposed External Mechanical Plant for Little Island Data Centre

The proposed Little Island Data Centre locates on the western side of Little Island, directly across the R623 from the Little Island Sports Complex. The nearest noise sensitive receptor to the closest point of the proposed development plant areas are the private dwellings located along St. Lappan's Place (≈170m to the northeast). Although not technically considered a noise sensitive receptor, the aforementioned Little Island Sports Complex is located approximately 105m from the nearest point of the plant areas.

All other occupied buildings within 200m of the development would be considered industrial buildings and therefore have far less stringent noise criteria requirements than the closer

proximity St. Lappan's Place dwellings and Sports Complex. We also understand that the Sports Complex is only open during evening and night time periods; however, we have carried out an assessment during the daytime period anyway in case their operational periods change in the future.

The actual proximity of the Little Island Data Centre external mechanical plant to the immediate adjacent noise sensitive receptors is shown in Figure 3 below.

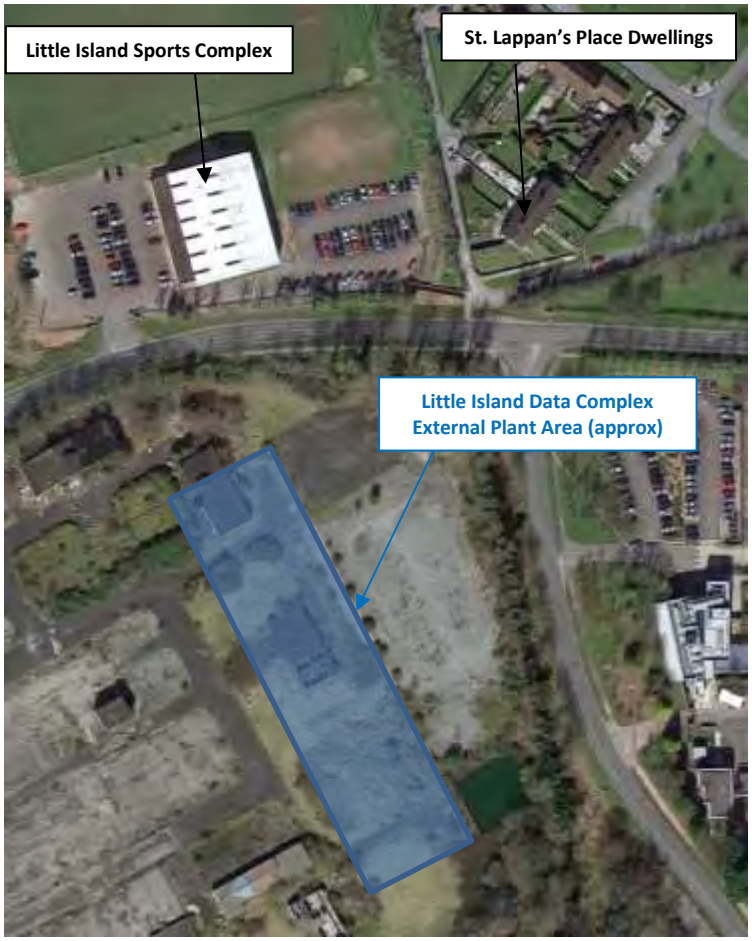

Figure 3 Proposed Little Island Data Centre Location & Nearest NSRs

3.0 AMBIENT ENVIRONMENTAL NOISE SURVEY

In order to obtain a baseline for assessing the potential noise impact of the proposed development, an environmental noise survey was conducted in order to quantify the existing noise environment in the vicinity of the development. The survey was conducted in general accordance with *ISO 1996 - 2: 2017 - Acoustics - Description, measurement and assessment of environmental noise*.

Specific details are set out in the following sections.

3.1 Choice of Measurement Locations

Two measurement locations were selected; each is described in turn below and shown in Figure 4 on the following page.

Location 1 is located in the vicinity of the St. Lappan's Place residential dwellings.

Location 2 is located in the vicinity of the Little Island Sports Complex.

Figure 4 Site Layout Showing Approximate Positions of Measurement Locations

3.2 Survey Periods

Noise measurements were conducted over the course of two survey periods as follows:

- Daytime 11:40 to 13:30hrs on 3 February 2022
- Night-time 23:00 to 00:50hrs on 31 January / 1 February 2022

The daytime measurements cover a period that was selected in order to provide a typical snapshot of the existing noise climate, with the primary purpose being to ensure that the proposed noise criteria associated with the development are commensurate with the prevailing environment.

The night-time period measurements provide a measure of the existing background noise levels. The weather during the daytime survey periods was dry and 6 - 7 °C with winds at around 2 - 3 m/s from the southwest. The weather during the night time survey was dry and 6 - 7 °C with calm winds.

3.3 Personnel & Instrumentation

Brian S. Johnson (CLV) conducted the noise level measurements during all survey periods. He is an internationally experienced acoustic consultant who has been working in the fields of architectural / building acoustics and noise control since 1994. He has been based in America, Europe, Asia and Australia and is a member of the Institute of Acoustics. Brian also has extensive knowledge in the field of environmental acoustics and holds a Certificate of Competence in Environmental Noise Measurements from the Institute of Acoustics.

The measurements were conducted using an NTI Audio Type XL2 Sound Level Meter (Serial #A2A-10070-EO). It was fitted with a 90mm windshield the measurement apparatus was check calibrated both before and after the survey using a Casella Cel 120 Acoustic Calibrator (Serial #3921077). The microphone was positioned approximately 1.4m above the ground.

The calibration certificates for the sound level meter and calibrator are provided in Appendices A & B respectively of this document.

3.4 Procedure

Measurements were conducted at the two locations on a cyclical basis. Sample periods for the noise measurements were 15 minutes during both the daytime and night-time periods. The results were saved to the instrument memory for later analysis. All primary noise sources contributing to noise build-up were also noted.

3.5 Measurement Parameters

The noise survey results are presented in terms of the following five parameters:

L_{Aeq} is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period.

L_{Amax} is the instantaneous maximum sound level measured during the sample period.

L_{Amin} is the instantaneous minimum sound level measured during the sample period.

L_{A10} is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.

L_{A90} is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.

The “A” suffix denotes the fact that the sound levels have been “A-weighted” in order to account for the non-linear nature of human hearing.

All sound levels in this report are expressed in terms of decibels (dB) relative to $2x10^{-5}$ Pa.

3.6 Measurement Results

Location 1

The survey results for Location 1 are summarised in Table 2 on the following page.

Time		Measured Noise Levels (dB re. $2x10^{-5}$ Pa)				
		L_{Aeq}	L_{Amax}	L_{Amin}	L_{A10}	L_{A90}
Daytime	11:40 - 11:55	61	83	48	63	52
	12:20 - 12:35	62	87	48	65	52
	13:00 - 13:15	64	86	47	65	51
Night-time	23:00 - 23:15	49	81	39	51	42
	23:40 - 23:55	46	79	39	49	41
	00:15 - 00:30	46	73	39	48	40

Table 2 Summary of Measured Noise Levels at Location 1

During daytime monitoring periods, the sources of noise noted in the area were road traffic noise along the adjacent road, occasional pedestrian pass-by events, services / process noise emissions from distant buildings and birdsong. Daytime noise levels were in the range 61 to 64dB L_{Aeq} and 51 to 52dB L_{A90}.

The night-time noise measurements at this location were dominated by services / process noise emissions from distant buildings and occasional traffic events were the dominant noise sources. Noise levels were in the range 46 to 49dB L_{Aeq} and 40 to 42dB L_{A90}.

Location 2

The survey results for Location 2 are summarised in Table 3 below.

Time		Measured Noise Levels (dB re. $2x10^{-5}$ Pa)				
		L_{Aeq}	L_{Amax}	L_{Amin}	L_{A10}	L_{A90}
Daytime	12:00 - 12:15	63	88	47	65	52
	12:40 - 12:55	63	84	47	65	53
	13:15 - 13:30	65	87	48	68	53
Night-time	23:20 - 23:35	52	78	37	55	41
	23:55 - 00:10	49	82	37	51	41
	00:35 - 00:50	48	81	36	49	40

Table 3 Summary of Measured Noise Levels at Location 2

During daytime monitoring periods, the sources of noise noted in the area were road traffic noise along the adjacent road, services / process noise emissions from nearby and distant buildings and birdsong. Daytime noise levels were in the range 61 to 64dB L_{Aeq} and 51 to 52dB L_{A90}.

The night-time noise measurements at this location were dominated by services / process noise emissions from local and distant buildings and occasional traffic events were the dominant noise sources. Noise levels were in the range 46 to 49dB L_{Aeq} and 40 to 42dB L_{A90}.

4.0 NOISE EMISSIONS CRITERIA

Planning Permission Requirements

The planning conditions for the development state the following in relation to noise emissions:

> *Noise levels emanating from the proposed development when measured at Noise Sensitive Receptors shall not exceed 55 dBA (30 minute LAR) between 0700 hours and 1900 hours, 50 dBA (30 minute LAR) between 1900 and 2300 hours and 45 dBA (15 minute Leq) between 2300 and 0700 hours.*

Although the Little Island Sports Complex would not technically be considered a Noise Sensitive Receptor, it still needs to be considered in respect of best practice guidance criteria. Unfortunately there are no specific best practice noise emission level criteria for sports complexes (as, again, these are not generally considered to be noise sensitive buildings); however, the guidance document *Technical Guidance Document TGD-021-5* specifies an internal ambient noise level criterion of 40dB L_{Aeq} for physical education rooms which could be considered applicable as a worst case condition in this instance. An internal noise emission criterion of 40dB L_{Aeq} was therefore applied to the Little Island Sports Complex. Although operable windows are not located in some of the building facades, they do have entry doors so the same 15dB open window correction was also applied to obtain an external noise criterion of 55dB L_{Aeq}.

Cork SPA

Cork County Council have requested that specific assessment of noise emissions from the development in respect of the Cork SPA be carried out using the IECS Waterbird Disturbance Mitigation Toolkit. Although the development is not technically located within 500m of the Cork SPA, we have adopted the recommended threshold of < 55dB(A)[1] in order to ensure that any potential noise emission from the proposed development would be in the low noise level effects range.

Note that this criterion was established after consideration of the specific species of birds that inhabit the Little Island area of the Cork SPA. Please find below a table of species recorded at low tide in the area of Cork Harbour located to the south of the site.

Species	Subsite	
	0L539	0L540
Shelduck (SU)	-	L
Wigeon (WN)	L	L
Teal (T)	-	M
Pintail (PT)	-	-
Shoveler (SV)	-	-
Red-breasted Merganser (RM)	-	-
Little Grebe (LG)	-	-

[1] A 55dB L_{Aeq} noise level is also consistent with maximum criteria established independently of the ICES Waterbird Disturbance Mitigation Toolkit in the past by CLV Consulting in respect of prior Cork SPA assessments.

Species	Subsite	
	0L539	0L540
Great Crested Grebe (GG)	H	L
Cormorant (CA)	M	L
Grey Heron (H)	M	-
Oystercatcher (OC)	L	M
Golden Plover (GP)	-	-
Grey Plover (GV)	-	L
Lapwing (L)	-	L
Dunlin (DN)	-	H
Black-tailed Godwit (BW)	M	M
Bar-tailed Godwit (BA)	-	-
Curlew (CU)	M	M
Redshank (RK)	L	H
Black-headed Gull (BH)	M	H
Common Gull (CM)	L	L
Lesser Black-backed Gull (LB)	M	M

Table 4 Summary of Cork Harbour Specific Bird Species

This data is extracted from the Cork Harbour SPA Conservation Objectives Supporting Document. L, M and H refers to a ranking where numbers recorded were low, moderate or high. Recommended minimum thresholds from the IECS Waterbird Disturbance Mitigation Toolkit for low level noise disturbances for each are summarised as follows:

Species	**Minimum Threshold for Disturbance**
Shelduck	< 60dB
Dunlin	< 60dB
Curlew	< 100dB
Lapwing	< 55dB
Redshank	< 55dB
Oystercatcher	< 55dB
Grey Plover	< 100dB
Black Tailed Goodwit	< 70dB
Bar Tailed Goodwit	< 70dB

In accordance with the IECS Toolkit, note that '*low level noise is classed as that which is unlikely to cause response in birds using a fronting intertidal area. These effects are likely to be masked by background inputs in all but the least disturbed areas and thus would not disturb the birds close by. Noise between 55 - 72dB(A) in some highly disturbed areas e.g. industrial or urban areas and adjacent to roads, may feature a low level of disturbance provided the noise level was regular as birds will often habituate to a constant noise level*'.

The above guidance would therefore make the established worst case criterion of < 55dB(A) an extreme worst case criteria approach given that noise emissions from the development are expected to be constant and steady state in nature.

External Plant Noise Emission Criteria Summary

In summary, the established operational phase noise criteria for this assessment are summarised in Table 5 below.

Location	Time Period	Noise Criterion
St. Lappan's Place Dwellings	Daytime	55dB $L_{Ar,30min}$
	Evening	50dB $L_{Ar,30min}$
	Night	45dB $L_{Aeq,15min}$
Little Island Sports Complex	All	55dB L_{Aeq}
Cork SPA	All	55dB L_{Aeq}

Table 7 Summary of External Plant Noise Assessment Criteria

5.0 EXTERNAL PLANT NOISE EMISSSION ASSESSMENT

5.1 Rooftop Condensing Units Noise Emissions

The rooftop condensing units locate on the top of the main Data Centre office buildings. However, a perimeter wall (permitted as part of the original grant of permission 17/5895) will block line of sight to both the Sports Centre and the St. Lappan's Place dwellings. In order to assess a worst case situation, we have assumed that there will also be negligible ground attenuation and vegetation shielding and that the prevailing wind is blowing from the southwest.

Taking into consideration the 53dB(A) at 5m sound pressure levels along with standard appropriate corrections for the number of units, attenuation with distance, screening and the presence of nearby reflecting surfaces, the resultant noise levels at the nearest noise-sensitive receptors have been calculated and are summarised in Table 5 below.

Noise Sensitive Receptor	Rooftop Condensing Unit Noise Level Emissions
Little Island Sports Complex	41dB L_{Aeq}
St. Lappan's Place Dwellings	38dB L_{Aeq}
Cork SPA	25dB L_{Aeq}

Table 5 Rooftop Condensing Unit Noise Emissions

5.2 Generator Noise Emissions

The generators locate to the west of the Data Centre office building and will therefore completely block the generators from both the Sports Centre and the St. Lappan's Place dwellings. We have assumed that all ten generators (five per each building) will be operating continuously and have also assumed that there will be negligible ground attenuation and that the prevailing wind is blowing from the southwest.

Taking into consideration the octave band sound pressure levels detailed in Appendix C along with standard appropriate corrections for the number of units, attenuation with distance, screening and the presence of nearby reflecting surfaces, the resultant noise levels at the nearest noise-sensitive receptors have been calculated and are summarised in Table 3 below.

Noise Sensitive Receptor	Generator Noise Level Emissions
Little Island Sports Complex	40dB L_{Aeq}
St. Lappan's Place Dwellings	36dB L_{Aeq}
Cork SPA	29dB L_{Aeq}

Table 6 Generator / Gas Turbine Noise Emissions

5.3 Cumulative Noise Emissions

The total level of combined noise emissions from both the rooftop condensing units and generators can be determined by summing together their individual contributions (through simple sound pressure level addition). The total levels at each of the considered receptors are summarised in Table 7 below.

Noise Source	Noise Level Emissions (dB L_{Aeq})		
	Little Island Sports Complex	**St. Lappan's Place Dwellings**	**Cork SPA**
Condensing Units	41dB	38dB	25dB
Generators	40dB	36dB	29dB
Cumulative Noise Level	**44dB**	**41dB**	**30dB**

Table 7 Development Mechanical Plant Cumulative Noise Level Summary

5.4 Phase 1 & 2 Cumulative Noise Emissions

Given that the Phase 1 planning application was lodged separately to the Phase 2 application, the noise emission contribution from Phase 2 will need to be taken into account to ensure that the noise emissions of both Phases in totality will be compliant with the planning condition criteria. The cumulative level of both phases was therefore determined by summing together their individual contributions (through simple sound pressure level addition).

The total external plant noise emission levels at each of the considered receptors are summarised in Table 8 below.

Phase	Noise Level Emissions (dB L_{Aeq})		
	Little Island Sports Complex	St. Lappan's Place Dwellings	Cork SPA
Phase 1	44dB	41dB	30dB
Phase 2	40dB	37dB	45dB
Cumulative Noise Level	**46dB**	**43dB**	**45dB**

Table 8 Development Mechanical Plant Cumulative Noise Level Summary

The predicted cumulative noise levels are compared with the established project noise emission criteria in Table 11 below. Note that a tonal analysis of the octave band data detailed in Appendix C confirmed that there are no tones expected to be manifest at any of the assessed locations with all units in operation. The L_{Aeq} value therefore equals the L_{Ar} values in each instance.

Location	Predicted Noise Level	Time Period	Noise Emission Criteria	Compliant?
Little Island Sports Complex	46dB L_{Aeq}	All	55dB L_{Aeq}	Yes
St. Lappan's Place Dwellings	43dB L_{Ar}	Daytime	55dB L_{Ar}	Yes
	43dB L_{Ar}	Evening	50dB L_{Ar}	Yes
	43dB L_{Aeq}	Night	45dB L_{Aeq}	Yes
Cork SPA	45dB L_{Aeq}	All	55dB L_{Aeq}	Yes

Table 11 Proposed Development Noise Emission Level Comparison with Established Criteria

The above results confirm that noise emission results from both phases of the Little Island Data Centre's external mechanical plant will be within the established criteria limits at the nearest Noise Sensitive Receptor as well as both the Little Island Sports Complex and Cork SPA.

In addition, it should be noted that the predicted levels of noise emission are also below the ambient noise levels measured at each of these locations. In specific relation to the Cork SPA, the proposed development's noise emissions will also be both continuous and steady state in nature which will further minimise any potential noise impact on Cork SPA wildlife.

6.0 CONCLUSIONS

The results of our assessment of noise emissions from the proposed Little Island Data Centre external plant have confirmed that noise levels are expected to be within the planning condition criteria requirements at all nearby Noise Sensitive Receptors and the Cork SPA during the relevant periods of operation (based on current plant selections).

Noise emission levels were also below the ambient noise levels measured in the vicinity of the nearby Noise Sensitive Receptors.

Provision of the selected plant will ensure that there is no significant noise impact from the development on any of the nearest Noise Sensitive Receptors or Cork SPA.

APPENDIX A

Sound Level Meter Calibration Certificate

NSAI
National Metrology Laboratory

Certificate of Calibration

Issued to	CLV Consulting The NSC Campus Mahon Co. Cork
Attention of	Niall Vaughan

Certificate Number	213041
Item Calibrated	NTi Audio XL2-TA Sound Level Meter with NTi Audio MC230A Microphone
Serial Number	A2A-11070-E0 (SLM) and A14422 (Microphone)
ID Number	None
Order Number	210702
Date Received	26 Jul 2021
NML Procedure Number	AP-NM-09
Method	The above sound level meter was allowed to stabilise for a suitable period in laboratory conditions. It was then calibrated by carrying out the verification tests detailed in IEC 61672-3 (2006), *Periodic tests, specification for the verification of sound level meters*. This standard specifies a procedure for the periodic verification of conformance of a sound level meter or integrating-averaging meter to IEC 61672-1 (2003).
Calibration Standards	Norsonic 1504A Calibration System incorporating: SR DS360 Signal Generator, No. 0735 [Cal Due Date: 31 Dec 2019] Agilent 34401A Digital Multimeter, No. 0736 [Cal Due Date: 31 Dec 2019] B&K 4134 Measuring Microphone, No. 0743 [Cal Due Date: 24 Apr 2021] B&K 4228 Pistonphone, No. 0741 [Cal Due Date: 19 Jan 2020] B&K 4226 Acoustical Calibrator, No. 0150 [Cal Due Date: 21 Jun 2020]

Calibrated by	David Fleming	Approved by	Paul Hetherington
Date of Calibration	10 Aug 2021	Date of Issue	11 Aug 2021

CIPM MRA

This certificate is consistent with Calibration and Measurement Capabilities (CMC's) that are included in Appendix C of the Mutual Recognition Arrangement (MRA) drawn up by the International Committee for Weights and Measures. Under the MRA, all participating institutes recognize the validity of each other's calibration certificates and measurement reports for quantities, ranges and measurement uncertainties specified in Appendix C (for details see www.bipm.org).

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APPENDIX B

Sound Calibrator Calibration Certificate

NSAI
National Metrology Laboratory

Certificate of Calibration

Issued to	CLV Consulting The NSC Campus Mahon Co. Cork
Attention of	Niall Vaughan

Certificate Number	204549
Item Calibrated	Casella CEL-120/1 Acoustic Calibrator
Serial Number	5072087
ID Number	None
Order Number	PO24112020N2
Date Received	01 Dec 2020
NML Procedure Number	AP-NM-13
Method	The above calibrator was allowed to stabilize for a suitable period in laboratory conditions. It was then calibrated by measuring the sound pressure level generated in its measuring cavity (half-inch configuration). The calibrator's operating frequency was also measured.
Calibration Standards	Norsonic 1504A Calibration System incorporating: Agilent 34401A Multimeter, No. 0736 [Cal due date: 24 Apr 2021] B & K 4134 Measuring Microphone, No. 0743 [Cal due date: 27 May 2022] B & K 4228 Pistonphone, No. 0741 [Cal due date: 26 May 2022]

Calibrated by	David Fleming	Approved by	Paul Hetherington
Date of Calibration	09 Dec 2020	Date of Issue	10 Dec 2020

CIPM MRA

This certificate is consistent with Calibration and Measurement Capabilities (CMC's) that are included in Appendix C of the Mutual Recognition Arrangement (MRA) drawn up by the International Committee for Weights and Measures. Under the MRA, all participating institutes recognize the validity of each other's calibration certificates and measurement reports for quantities, ranges and measurement uncertainties specified in Appendix C (for details see www.bipm.org).

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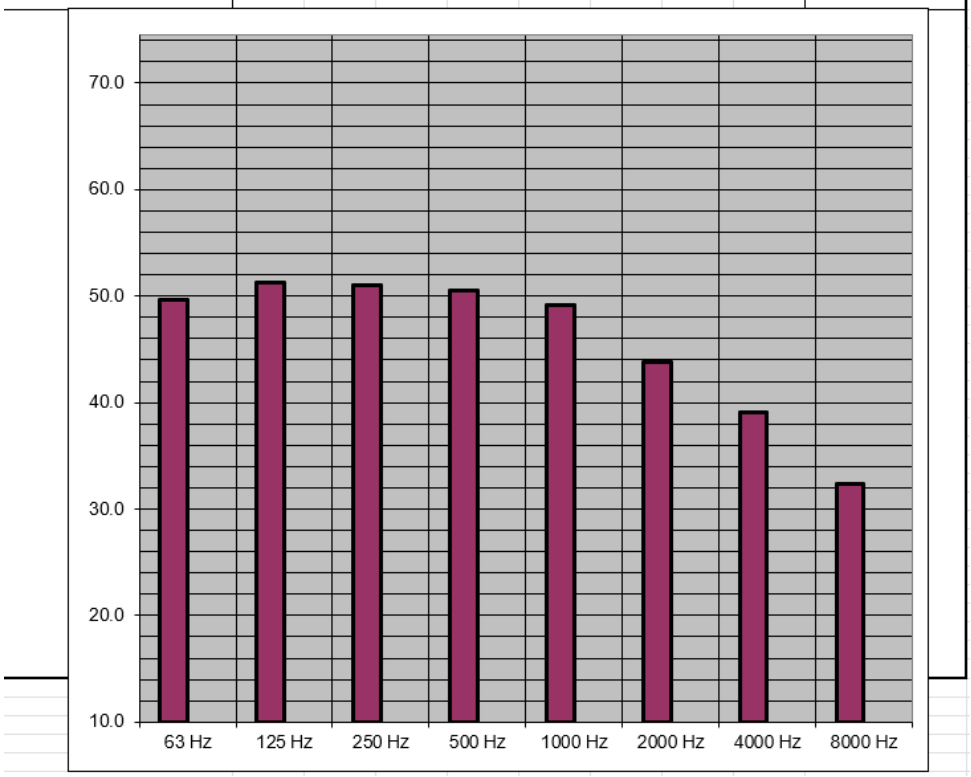
APPENDIX C

Selected Plant Noise Level Data

Condensing Unit Noise Data

MCL165 PREMIUM - Outdoor octave band Sound Pressure Level spectra @ 5 m, f.f - modulation 510 rpm

Octave band frequency	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Sound Pressure Level in dB	49.6	51.2	51.0	50.5	49.1	43.8	39.1	32.4	53.0



Cummins Diesel Generator Noise Data

Case-1: Point Noise Source:

Distance r_2 = 100.0 m

Source

Distance r_1 = 1.0 m

Select Parameter : SPL1 83.5 dBA

SPL_2 = 43.5 dBA

SWL

Select Unit : dBA

Directivity : 2

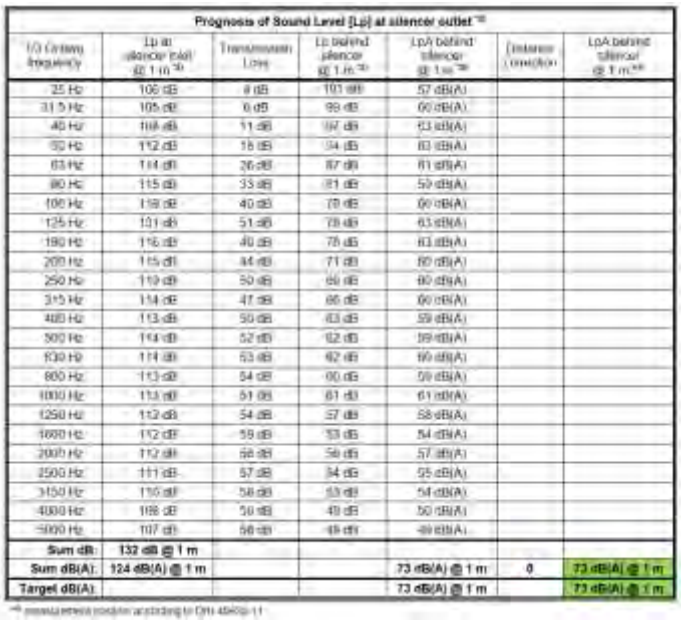
Enter SPL1 data of source noise:

Hz	62.5	125	250	500	1000	2000	4000	8000	Hz
SPL1	64.0	75.0	79.0	70.0	58.0	59.0	61.0	80.0	dBA
SPL_2	24	35	39	30	18	19	21	40	dBA

43.5 dBA

Edina TCG 3020V20 Gas Generators - Typical Silencer and Radiator noise performance for 75dBA @ 1m

Engine Exhaust Silencer Noise Spectrum – Roof Mounted



Prognosis of Sound Level [Lp] at silencer outlet						
1/3 Octave frequency	Lp at silencer inlet @ 1 m	Transmission Loss	Lp behind silencer @ 1 m	LpA behind silencer @ 1 m	Distance correction	LpA behind silencer @ 1 m
25 Hz	105 dB	8 dB	103 dB	57 dB(A)		
31.5 Hz	105 dB	6 dB	99 dB	66 dB(A)		
40 Hz	108 dB	11 dB	97 dB	63 dB(A)		
50 Hz	112 dB	18 dB	94 dB	69 dB(A)		
63 Hz	114 dB	26 dB	87 dB	81 dB(A)		
80 Hz	115 dB	33 dB	81 dB	59 dB(A)		
100 Hz	119 dB	40 dB	79 dB	90 dB(A)		
125 Hz	121 dB	51 dB	70 dB	63 dB(A)		
160 Hz	116 dB	40 dB	76 dB	63 dB(A)		
200 Hz	115 dB	44 dB	71 dB	60 dB(A)		
250 Hz	119 dB	50 dB	69 dB	60 dB(A)		
315 Hz	114 dB	47 dB	66 dB	60 dB(A)		
400 Hz	113 dB	50 dB	63 dB	59 dB(A)		
500 Hz	114 dB	52 dB	62 dB	59 dB(A)		
630 Hz	114 dB	53 dB	62 dB	60 dB(A)		
800 Hz	113 dB	54 dB	60 dB	59 dB(A)		
1000 Hz	113 dB	51 dB	61 dB	61 dB(A)		
1250 Hz	112 dB	54 dB	57 dB	58 dB(A)		
1600 Hz	112 dB	59 dB	53 dB	54 dB(A)		
2000 Hz	112 dB	58 dB	54 dB	57 dB(A)		
2500 Hz	111 dB	57 dB	54 dB	55 dB(A)		
3150 Hz	110 dB	58 dB	53 dB	54 dB(A)		
4000 Hz	108 dB	59 dB	49 dB	50 dB(A)		
5000 Hz	107 dB	58 dB	49 dB	49 dB(A)		
Sum dB:	**132 dB @ 1 m**					
Sum dB(A):	**124 dB(A) @ 1 m**			**73 dB(A) @ 1 m**	**0**	**73 dB(A) @ 1 m**
Target dB(A):				**73 dB(A) @ 1 m**		**73 dB(A) @ 1 m**

Gas Generator Radiator Noise Spectrum – Roof mounted

Sound Power Spectrum

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000	Total
Sound Power (LwA)	38	65	74	84	90	88	82	72	93

Sound pressure (LpA) : 72.9 at 1m calculated in accordance with BS EN:13487 Parallel Pipe Method Directivity 2.

Levels are quoted for single units. Where multiple units are required due allowance must be made for the overall sound pressure level.

Coughlan DeKeyser ARCHITECTS

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DRAWING ISSUE SHEET

Project No. 2354

Sheet No.01 of 01

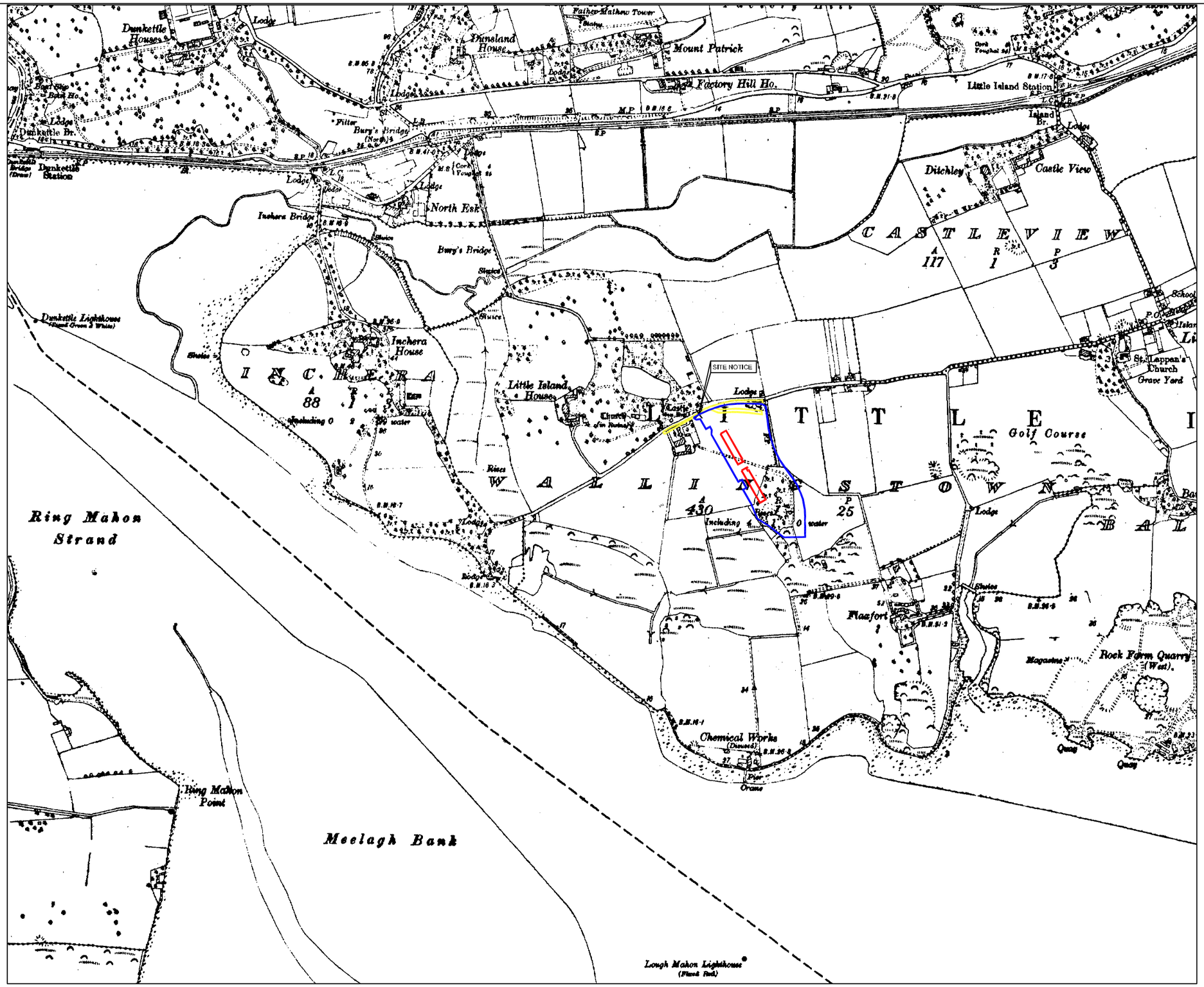
Project Title:
2354 – Generator Units, Little Island Cork.

No.	Drawing Title	Scale	Revision
2354-P-001	Historical OS Map	1:10560 @ A3	0
2354-P-002	Site Location Map	1:2500 @A3	0
2354-P-003	Proposed Site Plan	1:500 @ A1	0
2354-P-202	Proposed Section A-A & B-B	1:200 @ A1	0

	Day	Month	Year
	19	12	22

Distribution	Number of Copies	Revision
Client		1
Project Manager		
Quantity Surveyor		
Civil / Structural Consultant		
Mechanical & Electrical Consultant		
Main Contractor (Office)		
Main Contractor (Site)		
Local Authority		4
Fire Consultant		
Issued by **COUGHLAN DeKEYSER ARCHITECTS**		✓
Purpose of Issue		P

I= Information P = Planning A = Approval C = Construction T = Tender D = Discussion = E-Mailed



OUTLINE OF WAYLEAVE

LANDS IN APPLICANT OWNERSHIP / CONTROL
PREVIOUSLY GRANTED PERMISSION TP 17/5895

OUTLINE OF PROPOSED APPLICATION

HISTORICAL OS MAP
1:10560 @ A3

N

Description:
Historic 6" Latest Edition

Publisher / Source:
Ordnance Survey Ireland (OSi)

Data Source / Reference:
CK075
Revision Date =
Survey Date = 31-Dec-1929
Levelled Date = 31-Dec-1935

File Format:
Tagged Image File Format (TIFF)

File Name:
R_50279838_1.tif

Clip Extent / Area of Interest (AOI):
LLX,LLY= 572730.0,570498.0
LRX,LRY= 575908.0,570498.0
ULX,ULY= 572730.0,573112.0
URX,URY= 575908.0,573112.0

Projection / Spatial Reference:
IRENET95_Irish_Transverse_Mercator

Centre Point Coordinates:
X,Y = 574319.0,571805.0

Data Extraction Date:
13-Jul-2022

Product Version:
1.3

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Please visit 'www.osi.ie/about/terms-conditions'.

Compiled and published by Ordnance Survey Ireland, Phoenix Park, Dublin 8, Ireland.

SETTING OUT:
Contractor is responsible for checking of all dimensions, etc. before commencement and bringing any discrepancies in same to the Architect's attention.

COMPLIANCE WITH BUILDING REGULATIONS:
All materials and workmanship to conform in full with Building Regulations 2001, contractor to make himself familiar with the Building Regulations before commencement of work.

CONTRACTOR TO CHECK ALL DIMENSIONS ON SITE

Rev	Description	Drn By	
00	ISSUED FOR INFORMATION	CD	19/12/2022

Coughlan DeKeyser ARCHITECTS

north point house
north point business park
mallow road
cork
Ireland

T - (021) 4309299
T - (021) 4309306
F - (021) 4309247
Info@cda-architects.ie
www.cda-architects.ie

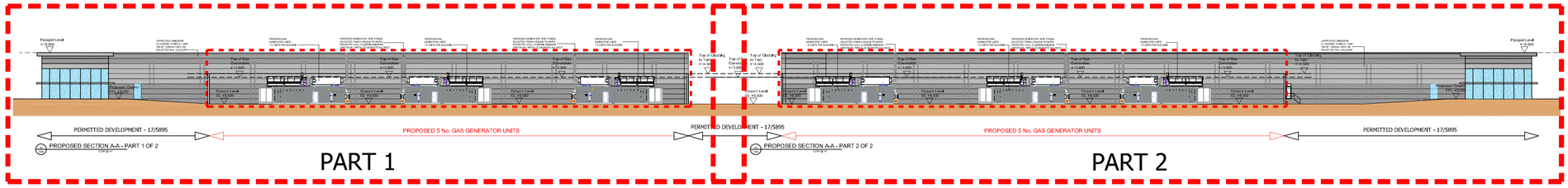
Job title:
PROPOSED GENERATOR UNITS, LITTLE ISLAND, CORK.

Client:
PCCL

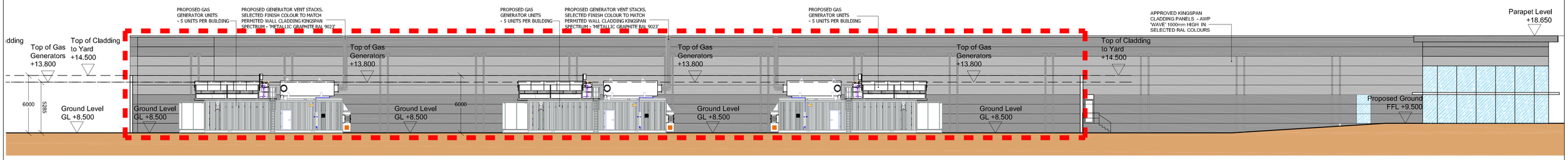
Drawing title:
HISTORICAL OS MAP

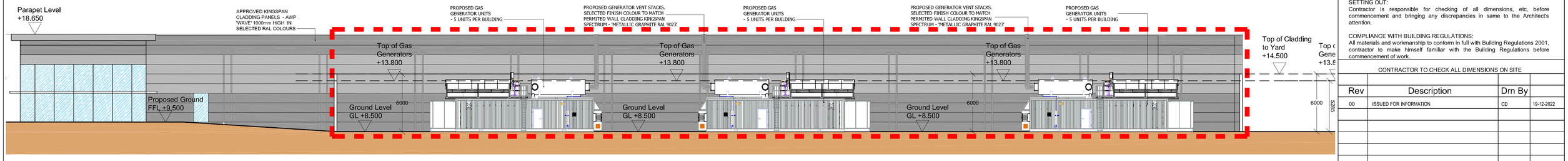
Drawing type:
PLANNING PERMISSION ONLY

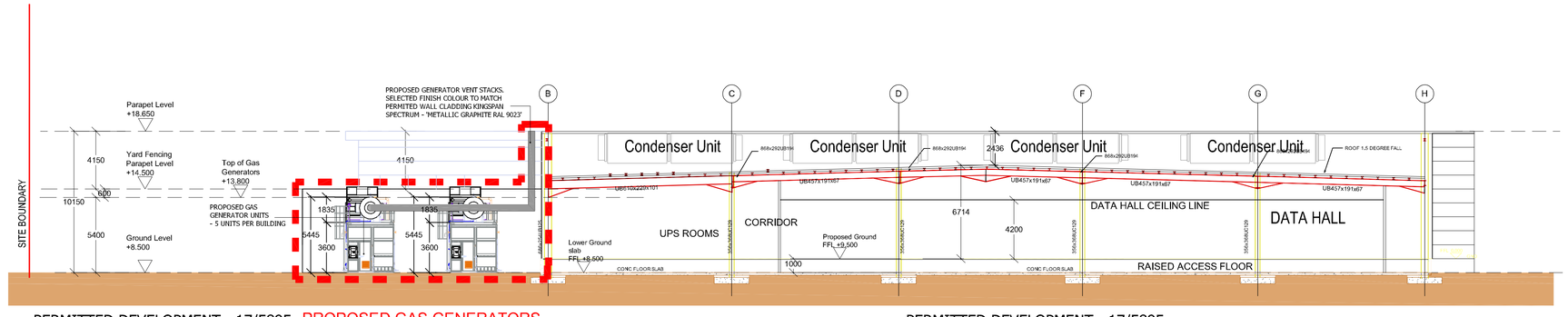
Scale:	Job No.:	
1:10560 @ A3	2354	
Date:	Drg No.:	Rev.:
DECEMBER 2022	2354-P-001	00



SECTION A-A LEGEND - SCALE 1:500







PROPOSED SECTIONS A-A & B-B

1:200 @ A1

SETTING OUT:
Contractor is responsible for checking of all dimensions, etc, before commencement and bringing any discrepancies in same to the Architect's attention.

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CONTRACTOR TO CHECK ALL DIMENSIONS ON SITE

Rev	Description	Drn By	
00	ISSUED FOR INFORMATION	CD	19-12-2022

Coughlan DeKeyser ARCHITECTS
north point house
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mallow road
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info@cda-architects.ie
www.cda-architects.ie

Job title:
PROPOSED GENERATOR UNITS, LITTLE ISLAND CORK

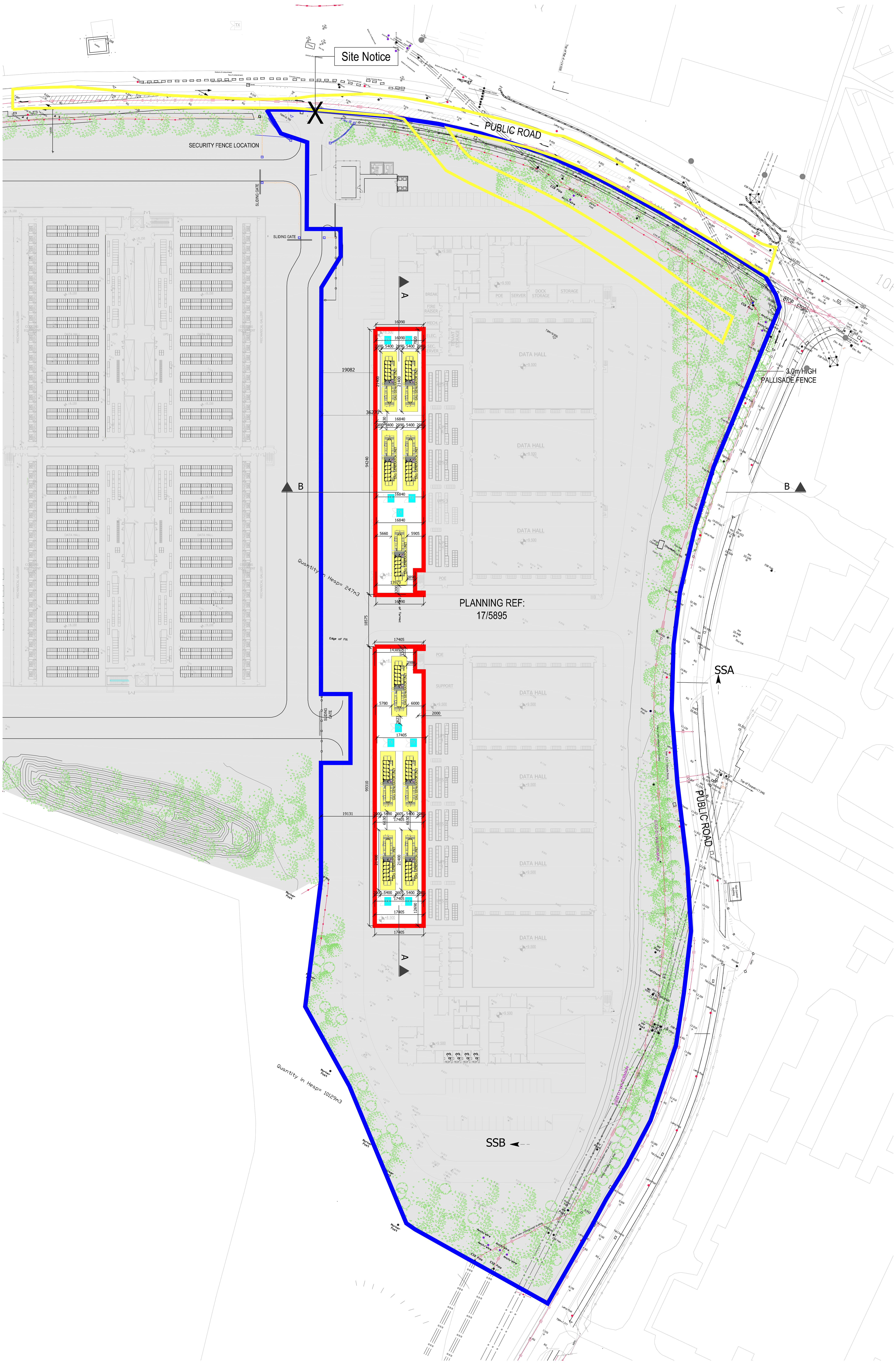
Client:
PCCL

Drawing title:
PROPOSED SECTIONS A-A & B-B

Drawing type:
PLANNING PERMISSION ONLY

Scale:	Job No.:	
1:200 @ A1	2354	
Date:	Drg No.:	Rev.:
DECEMBER 2022	2354-P-004	00

ISSUED FOR INFORMATION



PROPOSED GAS GENERATOR UNITS
TOTAL No. UNITS = 10 UNITS (5 UNITS PER BUILDING)

LOCATION OF SITE NOTICE X

LANDS IN APPLICANT OWNERSHIP / CONTROL
PREVIOUSLY GRANTED PERMISSION TP 17/5895

OUTLINE OF PROPOSED APPLICATION

OUTLINE OF WAYLEAVE

PROPOSED SITE PLAN 1:500 @ A0

ISSUED FOR INFORMATION

SETTING OUT:
Contractor is responsible for checking of all dimensions, etc, before commencement and bringing any discrepancies in same to the Architect's attention.

COMPLIANCE WITH BUILDING REGULATIONS:
All materials and workmanship to conform in full with Building Regulations 2001, contractor to make himself familiar with the Building Regulations before commencement of work.

CONTRACTOR TO CHECK ALL DIMENSIONS ON SITE

Rev	Description	Drn By	
00	ISSUED FOR INFORMATION	CD	19-12-2022

Coughlan DeKeyser ARCHITECTS
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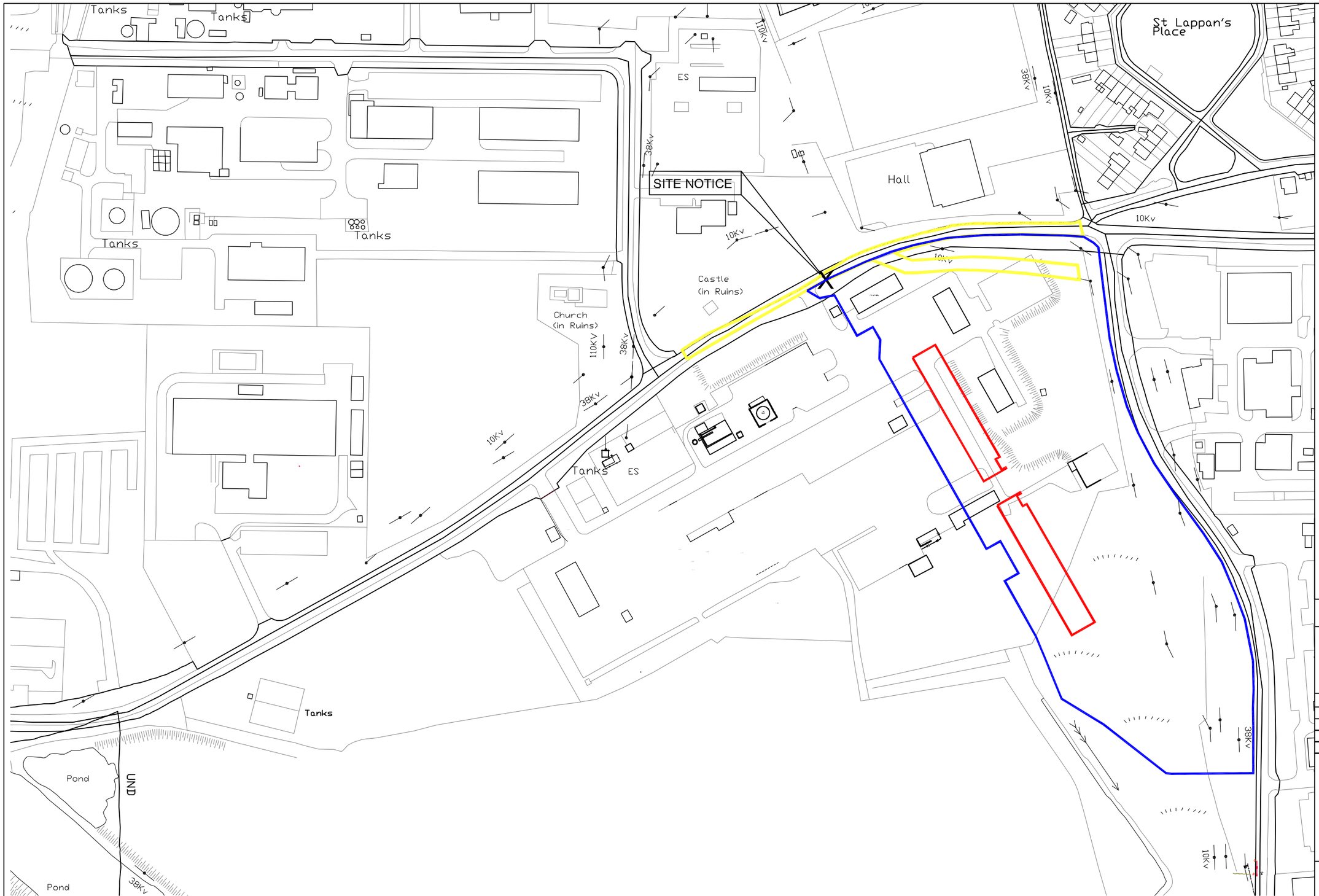
Job title:
PROPOSED GENERATOR UNITS, LITTLE ISLAND CORK

Client:
PCCL

Drawing title:
PROPOSED SITE PLAN

Drawing type:
PLANNING PERMISSION ONLY

Scale:	Job No.:	
1:500 @ A0	2354	
Date:	Drg No.:	Rev.:
DECEMBER 2022	2354-P-003	00



OUTLINE OF WAYLEAVE

LANDS IN APPLICANT OWNERSHIP / CONTROL
PREVIOUSLY GRANTED PERMISSION TP 17/5895

OUTLINE OF PROPOSED APPLICATION

SITE LOCATION PLAN
1:2500 @ A3

N

Output Format:
==========
DWG_35_LEVEL

Output File:
==========
V_00_25250054_00000001.DWG

Map Series:
==========
1:2500

6384-B
REVISION DATE = 07-Jul-2014
SURVEY DATE = 01-Sep-1992
LEVELLED DATE = 31-Dec-1962

6384-D
REVISION DATE = 07-Jul-2014
SURVEY DATE = 01-Aug-1992

Clip Extent:
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LLX,LLY = 574072,571482
LRX,LRY = 574902,571482
ULX,ULY = 574072,572097
URX,URY = 574902,572097

Projection:
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ITM

ITM Centre Point Co-ordinate:
==========
X,Y = 574487,571790

Extraction Date:
==========
05-Jan-2016

SETTING OUT:
Contractor is responsible for checking of all dimensions, etc. before commencement and bringing any discrepancies in same to the Architect's attention.

COMPLIANCE WITH BUILDING REGULATIONS:
All materials and workmanship to conform in full with Building Regulations 2001, contractor to make himself familiar with the Building Regulations before commencement of work.

CONTRACTOR TO CHECK ALL DIMENSIONS ON SITE

Rev	Description	Drn By	
00	ISSUED FOR INFORMATION	CD	19/12/2022

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Job title:
PROPOSED GENERATOR UNITS, LITTLE ISLAND, CORK.

Client:
PCCL

Drawing title:
SITE LOCATION PLAN

Drawing type:
PLANNING PERMISSION ONLY

Scale:	Job No.:	
1:2500 @ A3	2354	
Date:	Drg No.:	Rev.:
DECEMBER 2022	2354-P-002	00