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26th April 2023

Clarification of Additional Information - SDCC Reg. Ref. SD22A/0156
Development at Plot 100, Profile Park,
Nangor Road, Clondalkin, Dublin 22

Dear Sir/Madam,

We, Brock McClure, Planning & Development Consultants, 63 York Road, Dún Laoghaire, Co. Dublin, have been instructed by the Applicant, **Equinix Ireland Limited, Unit 6/7 Kilcarbery Business Park, New Nangor Road, Dublin 22, D22FV12,** to lodge this Response to a Request for a Clarification of Additional Information to South Dublin County Council.

This response is made within 9 months (including a 3 month extension + Christmas period) from the date of the original Request for Additional Information on the 25 July 2022 and is submitted before 4 May 2023.

A response to the Request for Additional Information is now set out below. We request that this cover letter is read in conjunction with all drawings and reports accompanying this response, as outlined in the table below and all documentation previously submitted in respect of Application Ref. SD22A/0156.

CFI Response – DB8 OSPG, Profile Park, Nangor Road, Clondalkin, Dublin 22.

We enclose the following documentation herewith for assessment as part of this application:

No	Items	Consultant	No. of Copies	Copy/Original
1.	Environmental Impact Assessment Volume's 1, 2 and 3	BMC	10	Copy
2.	EIA Portal Confirmation Portal ID: 2023056	BMC	10	Copy
3.	Confirmation of Feasibility from Irish Water CDS20007552	Irish Water	10	Copy
4.	Biodiversity Plan	RKD	10	Copy
5.	Elevation Drawings OSPG	RKD	10	Copy
6.	Design Statement	RKD	10	Copy
7.	Energy Statement and Part L Compliance	RED	10	Copy
8.	Green Space Factor Calculation and note	Murray & Associates	10	Copy
9.	Evidence of Sign up to the Climate Neutral Data Centre Pack. Signatories and Press Statement	Equinix	10	Copy
10.	Site Layout Plan illustrating 20% EV charging	RKD	10	Copy
11.	Constraints Plan - Proposed Site Layout	RKD	10	Copy

Executive Summary

This Cover Letter and accompanying reports provide a comprehensive response to the Planning Authority's requests for a Clarification of Additional Information relating to SDCC Reg. Ref. SD22A/0156 for the Development of an On Site Power Generation Plant and modifications to the permitted Development at Plot 100, Profile Park, Nangor Road, Clondalkin, Dublin 22.

The following clarifications are summarised below:

- This Cover letter details the rationale for the proposal to power the permitted data centre by gas and demonstrates the appropriateness of the proposal in terms of national regional and local policy;
- The global development of Data Centres has seen significant design and construction improvements relating to energy efficiency of buildings. Use of alternative energy technologies were explored as part of the process;
- We note that the Final Ministerial Direction was made on 18 November 2022, whereby Data Centre reverted to an 'open for consideration' use under the EE zoning;
- We understand that GNI has paused any pre-contract applications at present. It is therefore important to note that the Applicant has secured and agreed a gas supply to the subject site with GNI. We refer to the proof of agreement accompanying this response.
- There is uncertainty in relation to a grid connection for the permitted Data Centre on site. The Applicant intends to use the proposed OSPG until such time as connection can be made to the national electricity grid. The medium and long-term options for the OSPG are included in this cover letter and assessed in the EIAR, where relevant;
- The Applicant will implement a CPPA with a renewable energy plant that is in the development stage which will add to the renewable energy capacity in Ireland. The agreement will offset the energy that is consumed by the Data Centre with the production of renewable energy;
- Equinix confirms the operation of the Data Centre will not commence prior to the operation of the CPPA renewable energy plant;
- A comprehensive EIAR has now been prepared and accompanies this application;
- The EIAR has been prepared for the Overall Project which includes the proposed OSPG development and the permitted Data Centre development and identifies potential effects the Overall Project would have on relevant environmental issues;
- It is considered that DB8 will create employment synergies with DB2. The Overall Project once operational will provide 14 no. permanent jobs, these members of staff will be employed on a shift basis over a 24 hour period seven days a week; and
- Renewable energy generation on site was explored for this project and is included to support the operation of the front of house areas through energy saving technologies.

The Applicant has addressed all items raised as part of the Request for a Clarification of Further Information and we trust that the Planning Authority will duly consider this submission in full in their assessment of this proposal.

Additional Information Response

1.0 Clarification of Item No. 1

"As additional information, the applicant was requested to set out how the proposal was in keeping with the relevant land use zoning matrix. The applicant has stated that the proposed development is not a 'public service' and is solely linked to the adjacent Data Centre. Since the additional information request was made, the County Development Plan 2022-2028 has been adopted. Taking into account the draft Ministerial Direction, Data Centres are 'open for consideration within EE lands. Data Centres are 'space extensive'. The applicant is, therefore, requested to demonstrate how the proposed amendments to the development proposed to SD21A/0186 are compliant with Policy EDE7 and its associated objectives."

Applicant Response Clarification of Item No. 1:

Overview

We note that the Final Ministerial Direction was made on 18 November 2022, whereby 'Data Centre' use reverted to an 'open for consideration' use under the EE zoning.

In response to Item No. 1, we refer the Planning Authority to the following information demonstrating compliance with Policy EDE7 of the County Development Plan 2022-2028.

Policy EDE7: Space Extensive Land Use
"Recognise the need for land extensive uses and ensure that they are located within appropriate locations having regard to infrastructural, transport and environmental considerations and the need for orderly growth."

EDE7 Objective 1:
"To ensure that, insofar as possible, space extensive enterprise is located on lands which are outside the M50 and which do not compromise labour intensive opportunities on zoned lands adjacent to public transport."

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:
The appropriateness of the site for the proposed use having regard to EDE7 Objective 1;

- ⇒ ***Strong energy efficiency measures to reduce their carbon footprint in support of national targets towards a net zero carbon economy, including renewable energy generation;***
- ⇒ ***Maximise on site renewable energy generation to ensure as far as possible 100% powered by renewable energy, where on site demand cannot be met in this way, provide evidence of engagement with power purchase agreements in Ireland (PPA);***
- ⇒ ***Sufficient capacity within the relevant water, wastewater and electricity network to accommodate the use proposed;***
- ⇒ ***Measures to support the just transition to a circular economy;***
- ⇒ ***Measures to facilitate district heating or heat networks where excess heat is produced;***
- ⇒ ***A high-quality design approach to buildings which reduces the massing and visual impact;***
- ⇒ ***A comprehensive understanding of employment once operational;***
- ⇒ ***A comprehensive understanding of levels of traffic to and from the site at construction and operation stage;***
- ⇒ ***Provide evidence of sign up to the Climate Neutral Data Centre Pact."***

EDE7 Objective 3:
"To ensure that landscaping and site layout in space extensive developments provides for demonstrated biodiversity measures and that landscape and biodiversity measures integrate into the green infrastructure network, in accordance with the Green Infrastructure Strategy set out in Chapter 4 of this Plan."

Applicant's Response

In response to EDE7 – Space Extensive Land Use, we note that the lands at Profile Park and Grangecastle were originally earmarked for the development of enterprise and employment uses, by nature covering large expanses of land.

In terms of road infrastructure and 6-year road programmes, it is an objective of SDCC to extend the New Nangor Road between the R120 and Brownstown to enable access to employment lands within Grangecastle and onward connections as appropriate.

The site is well served by bus and rail connections. Bus connects' proposed orbital route between Blanchardstown and Tallaght will serve the wider Grangecastle area. Moreover, the implementation of the DART expansion programme will provide DART+ services as far as Hazelhatch on the Kildare Line, serving the developing Adamstown SDZ lands and the Grange Castle Business Park.

In addition to the above Bus Connects and DART+ initiatives, it is an objective of SDCC under SM3 Objective 22: *"To investigate the option of an inter-county rail service stopping at Kishogue Station which would provide access to new employment space at Clonburris and give direct access to the Grange Castle Business Park."*

Having considered the excellent connectivity of the subject site, as illustrated in Figure 1 below from the County development Plan and the intended use of Profile Park for Data Centre purposes, the proposed development is considered wholly appropriate.

This is echoed in Section 9.1 of the Development Plan which states:

*"The Citywest Business Campus and Grange Castle Business Park are **modern business parks** located in the west of the County with capacity to **attract large scale industries** of regional, national and international significance, due to the availability of **large plot sizes, infrastructure and corporate park style environments**. These areas have attracted a significant number of blue-chip national and **multi-national corporations**. Significant investment has been made over the past two decades in infrastructure and services to support these economic areas. Grange Castle Business Park is identified in the MASP as a strategic development area for the promotion of high-tech manufacturing, research and development.*

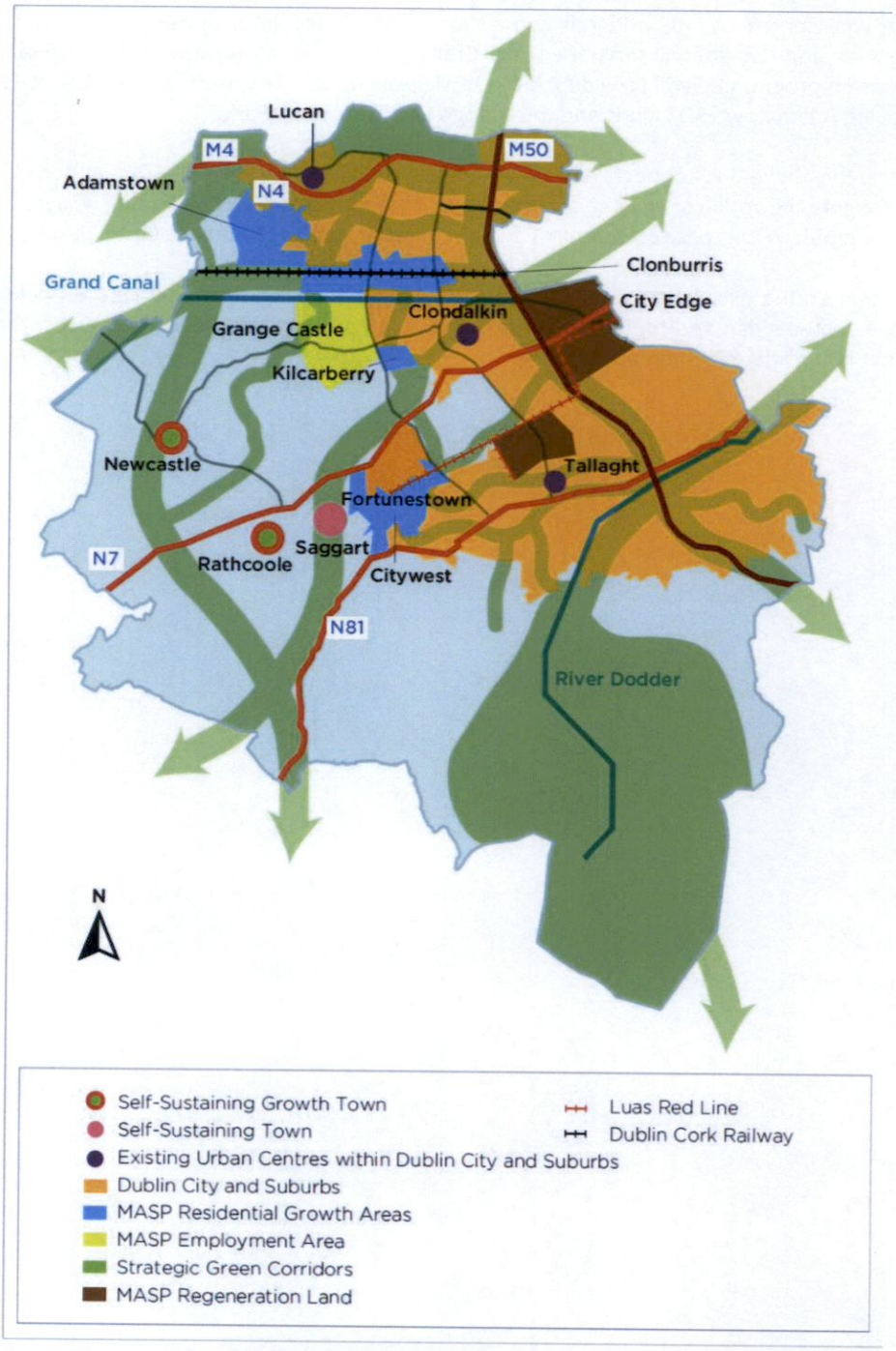

Figure 10: South Dublin County Core Strategy Map 2022-2028

Figure 1 - South Dublin Core Strategy Map 2022-2028

CFI Response – DB8 OSPG, Profile Park, Nangor Road, Clondalkin, Dublin 22.

We refer to Policy EDE5 Objective 1 – Building on Clusters which states:

"To prioritise hi-tech manufacturing, research and development and ***associated uses in the established Business and Technology clusters to the west of the County*** *(Grange Castle and Citywest areas) maximising the value of higher order infrastructure and services that are required to support large scale strategic investment."*

Equinix is an experienced provider of Data Centre services. At of the end of 2022, Equinix operated over 240 colocation centres, known as International Business Exchanges (IBX), in 27 countries across the world with a global reach spanning 66 metros across 27 countries.

In Ireland, Equinix operates Data Centres in Northwest Business Park (2no.), Blanchardstown, Citywest and Kilcarbery Business Park (north of the subject site). The sites in Dublin have become the gateway to the United States as U.S.- based content companies must host EU customer data within Europe. Equinix has also invested in a corporate head office, DBO, in the Citywest Business Park.

Equinix has invested significantly in the area over the last 10-15 years. DB2 at Kilcarbery Park, New Nangor Road, north of the subject site, is one of their first locations in Dublin in Ireland and operates as a hub for over 175 companies which interconnect with each other with their International Business Exchange. The location of the permitted Data Centre (DB8) and the proposed OSPG subject of this CFI response, is seen as an expansion of their established presence in the area.

The type of data centre proposed is a retail co-location data centre known as International Business Exchanges (IBX), to support and co locate multiple companies in Ireland in one facility and allow high speed interconnectivity between multiple organisations. As companies expand their presence in Ireland and Europe there is a requirement for additional space and high-speed connectivity with their existing systems and infrastructure. To facilitate this expansion, the required connectivity and interlink with the existing systems the expansion of the Equinix base in Ireland and specifically the Equinix Dublin Metro is required.

Through Platform Equinix and their ecosystem of leading service providers, Equinix offer Irish and international businesses unmatched opportunity to fast-track their digital advantage across clouds, networking, storage, compute and software in their colocation data centres.

It is considered that DB8 will create employment synergies with DB2. The Overall Project once operational will provide 14 no. permanent jobs, these members of staff will be employed on a shift basis over a 24 hour period seven days a week.

This project will contribute to the emerging digital infrastructure that helps to support a strong Irish economy through its enterprise, skills, and innovation sectors. The land use contributes to Ireland's economic development with the job multiplier effects extending well beyond the actual infrastructure and support high technology construction sector.

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***The appropriateness of the site for the proposed use having regard to EDE7 Objective 1;"***

Applicant's Response

In response to the above item, we refer to the response outlined in response to EDE7 Objective 1 above.

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***Strong energy efficiency measures to reduce their carbon footprint in support of national targets towards a net zero carbon economy, including renewable energy generation;"***

Applicant's Response

Renewable Energy

Renewable energy generation on site was explored for this project and is included to support the operation of the front of house areas through energy saving technologies including: solar power/PV panels, low energy lighting, sensor lighting controls, heat recovery and variable speed pumps. However, renewable energy generation to support the operation of the permitted data centre was discounted for the following reasons, as outlined by RED Consulting Engineers:

Solar & Wind

Due to the lack of available and suitable land on the site, it is not possible to generate substantial power from renewable sources of power such as PV and Wind. PV cells are installed at roof level to provide power to the front of house office building in the Data Centre, which has been recognised and accepted in the planning approval received for the Data Centre building.

The best use of solar and wind power is at a utility level. EirGrid are continually de-carbonising the grid by increasing solar and wind power plants to support the national gird. Once EirGrid achieve the de-carbonisation goals for the power grid, as a consumer, the Applicant will automatically benefit from using green utility power derived from renewable sources, once the project receives a permanent power supply.

Bio-diesel

Bio-diesel, as an alternative fuel source was considered for the project, but the volume to be stored on site is in excess of 1,000,000 litres. Given the site constraints, there is insufficient space to accommodate a fuel storage facility of this scale. Furthermore, the re-fuelling process is problematic, and relies on multiple diesel powered tankers to deliver fuel 2-3 times per week.

This particular option is also heavily reliant on the fuel supply chain network and any shortages in stock or problems with delivery could cause the Data Centre to be without power for extended periods of time.

National Targets

We note the following national targets from the Climate Action Plan that relate to a net zero carbon economy:

- *"Ireland's statutory climate objective is a 51% reduction in emissions by 2030 (relative to 2018 levels) and net-zero emissions no later than 2050.*
- *Emissions from electricity generation and large industry in the Emission Trading System ETS are subject to EU-wide targets which require that emissions from these sectors be reduced by 43% by 2030, relative to 2005 levels.*
- *Emissions from all other sectors, including agriculture, transport, buildings, and light industry are covered by the EU Effort Sharing Regulation. This established binding annual GHG emission targets for Member States for the period 2021–2030. Ireland is required to reduce its emissions from these sectors by 30% by 2030, relative to 2005 levels.*
- *Among the most important measures in the plan is to increase the proportion of renewable electricity to up to 80% by 2030 and a target of 9 GW from onshore wind, 8 GW from solar, and at least 5 GW of offshore wind energy by 2030."*

Energy Efficiency

In response to the above item, we note that the permitted Data Centre which is the main component of the Overall Project incorporates several energy efficiency measures to reduce carbon footprint including:

1. The proposal makes the most efficient use of the site. The multi-storey nature of the permitted Data Centre and proposed OSPG creates a compact and efficient development that utilises existing site services and road infrastructure.
2. Back-up diesel fuel is reduced. The permitted development had a diesel storage capacity of 450,000 litres and the proposed development now has a reduced storage capacity of 135,000 litres. The permitted development stored diesel in stand-alone double walled tanks with bunded concrete areas, hard standing and associated fill and spill control systems. The permitted development now utilises belly tanks within the generator modular enclosures.
3. Supplementary power is provided by the PV roof panels. A heat recovery building is also provided in the event future connection can be made to a district heating system in the area. The above measures comply with the Council's objectives that promote climate change adaptation measures.
4. The IT cooling system is an air-cooled system which cools water via free cooling, air cooled chillers. From the chillers, water is circulated into data hall fan arrays which distributes cooled recirculated air back into the data hall.

The global development of Data Centres has seen significant design and construction improvements relating to energy efficiency of buildings. Use of alternative energy technologies were explored as part of the process.

The environmental impact of the proposal is minimised through energy saving technologies including: solar power/PV panels, low energy lighting, sensor lighting controls, heat recovery and variable speed pumps.

The internal office space, workshops and storage spaces require heating and cooling. Whilst cooling could be provided by the main chilled water system, it is unable to generate sufficient heat to maintain ambient temperature during the winter cycle. Therefore, Airside heat recovery systems with air-to-air heat pumps shall be installed to provide heating and cooling to the office areas.

Energy efficient, Electrically Commutated (EC) Fans and motors shall be utilised for units up to 6kW in output and variable speed drives (VSD's) will be utilised to control larger motors. The effect of using these types of motors and control is minimum power consumption and 0-100% control possibilities for optimum energy consumption. Premium efficiency motors will be specified on all equipment.

All other data storage engineering services installations proposed have been considered in detail from an energy perspective.

With respect to Building Regulations, Technical Guidance Document (TGD) Part L notes that spaces with installed heat capacity of less than $10W/m^2$ are exempt from meeting the requirements of the TGD Part L document. As such, the data storage operational space is exempt from TGD Part L 2017. This effectively means that any space that requires little to no heating is exempt from meeting the requirements of TGD Part L.

The office space is fully air conditioned and meets the requirements of the TGD Part L 2017. Building Energy Rating BER A3 or higher is targeted for the office areas with the utilization of high efficiency VRF Air Conditioning and roof mounted PV Panels to generate on-site renewable electricity is compliant with nZEB "Nearly Zero Energy Buildings requirements.

All Data Centre's servers are housed in the data halls which are also known as "white space". When Data Centres were first introduced, the ambient temperature of the white space could be as low as 18°C. Now, as technology and cooling strategies have developed, this temperature has increased to save energy and reduce carbon footprint. For the proposed development, the ambient temperature of the white space will be maintained at 25 Degrees Celsius and free cooling is utilised whenever the external ambient temperature permits.

Air cooled chillers generate chilled water and this is piped to the white space where cool walls (effectively air conditioning units) distribute the cool air to the servers to maintain operational temperature limits.

For 7-9 months of the year when the external ambient temperature is below 15°C, the air cooled chillers will operate in "free cooling" mode where the refrigeration component of the chillers are not required to run. This not only reduces the capital expenditure associated with the refrigeration systems but the associated electrical infrastructure to power them. The free cooling chillers help to reduce the operational carbon footprint as well as the embedded carbon of the Data Centre.

Equinix have developed and tested cooling solutions for Data Centres over many years of operation and strive to reduce energy consumption at every opportunity. The research for this site has led to the most optimum solution that is available on the market today.

Data Centre Efficiency

Power usage effectiveness (PUE) is a ratio that describes how efficiently a computer Data Centre uses energy and specifically, how much energy is used by the servers in the white space in comparison to the power required by the chillers and other building systems that support the white space.

PUE = Total facility energy/IT Equipment Energy

Equinix adheres to the Climate Neutral Data Centre Pact (CNDCP) which mandates that by January 1, 2025 new Data Centres operating at full capacity in cool climates will meet an annual PUE target of 1.3, and 1.4 for new Data Centres operating at full capacity in warm climates. This target takes into account all new and emerging technologies and the efficiencies achievable with all associated plant and equipment.

The subject Data Centre is in compliance with these targets and achieves a PUE of 1.27 at full load capacity.

Data Centre operators and trade associations are committed to the European Green Deal, achieving the ambitious greenhouse gas reductions of the climate law, and leveraging technology and digitalization to achieve the goal of making Europe climate neutral by 2050.

To ensure Data Centres are an integral part of the sustainable future of Europe, Data Centre operators and trade associations agree to take the following actions to make Data Centres climate neutral by 2030.

- **Energy Efficiency**: Data centers and server rooms in Europe shall meet a high standard for energy efficiency, which will be demonstrated through aggressive power use effectiveness (PUE) targets.
- **Clean Energy:** Data centers will match their electricity supply through the purchase of clean energy.
- **Water**: Data centers at full capacity will meet a high standard for water conservation.
- **Circular Economy:** The reuse, repair and recycling of servers, electrical equipment and other related electrical components is a priority for data center operators.
- **Circular Energy System:** The reuse of data center heat presents an opportunity for energy conservation that can fit specific circumstances. Data center operators will explore possibilities to interconnect with district heating systems.

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***Maximise on site renewable energy generation to ensure as far as possible 100% powered by renewable energy, where on site demand cannot be met in this way, provide evidence of engagement with power purchase agreements in Ireland (PPA);"***

Applicant's Response

In response to the above item, we wish to note that the Applicant shall use the OSPG until such time as connection can be made to the national electricity grid. However, there is uncertainty in relation to a grid

connection from EirGrid/ESBN at this time. The medium and long-term options for the OSPG are provided below.

1. Medium Term Option: Decommission the OSPG plant

   In the next 6-8 years, the grid will be upgraded by ESBN and they may decide that there is sufficient capacity in the network to serve and support this development. In this instance, OSPG plant may no longer be required.

2. Medium Term Option: Retain the OSPG with a grid connection after 6-8 years of full operation

   ESBN could request that the plant is retained on a permanent basis and operate on the terms and requirements of the CRU in order to support the security of the new de-carbonised national grid. In this case, the Consumer would have a "flex" agreement with ESBN and would be required to operate the OSPG on a limited time period to support the decarbonised grid at times when renewable energy supply to the grid is at low levels. As the OSPG hours of operation are currently unknown for this option, the hours of operation have been estimated based on an existing/similar OSPG development that is currently in a flex agreement which operates for 500 hours of the year.

3. Long Term Option: Retain the OSPG with no grid connection

   If the grid is not upgraded by ESBN in the next 6-8 years and connection is not available for the permitted Data Centre, the proposed OSPG would remain operational for the long term (+15 years). This scenario has been assessed in the Climate Chapter of the accompanying EIAR.

The above scenarios have been assessed in each chapter of the EIAR, where relevant.

Corporate Power Purchase Agreements CPPA

This section provides detail in relation to how the overall energy demand for this project, in terms of energy use will be offset from a CPPA. This agreement will comply with the relevant policies outlined in the Climate Action Plan and the Governments Statement on the Role of Data Centres.

Equinix's strategy is to utilise Corporate Power Purchase Agreements (CPPAs), where possible. Ireland offers significant opportunities in this regard that offsets the energy consumption of a project with the energy production of renewable project.

The CPPA process involves the corporate energy consumer entering a direct agreement with a renewable energy generator to supply energy to cover the Data Centre consumption and emissions offsetting at any stage of the project. This is in line with the Equinix strategy to procure CPPAs that produce renewable electricity to power their projects.

The Applicant will implement a CPPA with a renewable energy plant that is in the development stage which will add to the renewable energy capacity in Ireland. The agreement will offset the energy that is consumed by the Data Centre with the production of renewable energy.

The type of Data Centre proposed and predicted energy demand has a gradual ramp in energy use over a 6 to 8 year period as the data halls are occupied and loaded by end users.

This allows a number of different energy project types to be utilised. However, the overall energy demand for this project, in terms of energy use will be offset from a CPPA. The renewable energy plant CPPA can be based on electricity production from renewables and/or e-fuel production to allow the CPPA to align with the building ramp energy use.

Additionally, as the market develops for alternate gas fuels in line with the KPIs of the Climate Action Plan 2023, the development of an on-site power plant with a flexible fuel arrangement has significant impact in

supporting the use of renewable energy. Once the project receives a utility power supply, this will directly allow the wider transmission electrical grid to take on more input power from wind and solar sources knowing that projects like this one, can self-support power through a sustainable gas infrastructure during times when the sun and wind sources are not at full levels of production.

Equinix commits not to commence the operation of the Data Centre prior to the operation of the CPPA renewable energy plant.

Equinix is fully committed to sustainability these commitments are detailed in this cover letter where the Equinix 2030 Climate Neutral Target is detailed together with the science-based target for emissions reduction across its global operations and supply chain by 2030.

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***Sufficient capacity within the relevant water, wastewater and electricity network to accommodate the use proposed;"***

Water

As confirmed by Irish Water in their Confirmation of Feasibility Letter Ref. CDS20007552 dated 13 January 2021, there is adequate capacity within the existing watermain network to supply the overall development. We note that the COF covers the permitted data centre. No water connections are required for the proposed OSPG.

The Overall Project will be served via connection off the 150mm Ø network, as located in Falcon Avenue.

Hydrants will be installed in accordance with the Requirements of the Building Regulations and in accordance with the recommendations contained in the Technical Guidance Documents, Section B – Fire Safety, dated 2006.

Water demand for the development has been based on Irish Water's criteria = 0.113 litres/second.

- Avg. Demand = 0.141 litres/second
- Peak Demand = 0.705 litres/second

Water meters, sluice valves and hydrants, in line with Irish Water requirements and specifications, will be installed at the connections onto the aforementioned existing water mains, as required.

Waste Water

As confirmed by Irish Water in their Confirmation of Feasibility Letter Ref. CDS20007552 dated 13 January 2021 the existing foul sewer reticulation network has adequate capacity to cater for the proposed effluent discharge from the subject site. We note that the COF covers the permitted data centre. No wastewater connections are required for the proposed OSPG.

It is proposed to discharge foul water from the proposed development, via a 225mm Ø gravity foul sewer outfall, laid from a discharge manhole at the end of a 100mm Ø pumped main and discharge into the existing 225mm Ø spur connection laid across Falcon Avenue, which is connected to the existing foul sewer network laid along the western edge of Falcon Avenue.

Based on Irish Water's Code of Practice of 150ltr/hd/day, the peak wastewater flow will not be in excess of circa 0.66l/s.

The waste water is a small volume and is generated from the front of house washrooms and staff wellness areas and condensate drainage from the HVAC systems.

The proposed network connects into the Profile Park reticulation network.

All on-site foul sewers have been designed to be a minimum 225mm Ø diameter pipes, with gradients designed to achieve self-cleansing velocities.

Electricity

As stipulated above, EirGrid/ESBN have not been able to confirm the terms and conditions related to providing a power supply to the development. The Applicant therefore intends to construct an On Site Power Generation plant to power the permitted development, whilst ESBN determine how to supply additional consumers on the national grid.

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***Measures to support the just transition to a circular economy;"***

In response to the above item, we note that the circular economy is promoted as part of the proposal. The long-term use of materials, recycling and re-use, and minimising waste at the end of the cycle has been carefully considered as part of the overall development.

Construction materials have been selected for their robust and durable nature. During the construction phase, typical construction waste materials will be generated which will be source segregated on-site into appropriate skips/containers, within designated waste storage areas and removed from site by suitably permitted waste contractors as required, to authorised waste facilities. All waste leaving the site will be recorded and copies of relevant documentation maintained.

Where possible, materials will be reused on-site to minimise raw material consumption or reuse of materials under Regulation 27 and Article 28 of the European Communities (Waste Directive) Regulations 2011, as amended will be investigated for reuse on other sites. Source segregation of waste materials will improve the re-use/recycling opportunities of recyclable materials off-site. This will all be overseen by the main contractor, who will appoint a construction phase Resource Manager to ensure effective management of waste during the excavation and construction works. All construction staff will be provided with training regarding the waste management procedures on site.

A carefully planned approach to waste management and adherence to the site-specific Resource and Waste Management Plan (Appendix 13.1) and Chapter 13 of the EIAR during the construction phase, will ensure that the effect on the environment will be *short-term, neutral* and *imperceptible.*

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

An Operational Waste Management Plan or Strategy will be prepared by the operator prior to occupation which will provide a strategy for segregation (at source), storage and collection of wastes generated within the development during the operational phase including packaging waste, general non-hazardous waste, non-hazardous WEEE canteen/kitchen waste, landscaping waste, hazardous WEEE, waste filters, lube oil and other spares, waste diesel (replaced once a year from emergency generators if not used), waste batteries from the battery room, waste sludge from the petrol interceptors which will be pumped out/removed as required by a suitably permitted/licenced contractor . The plan complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the development. This Plan will be made available to all staff from first occupation of the development, i.e. once the first unit is occupied. This Plan will be supplemented, as required, by the operator as required with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

Provided the mitigation measures outlined in Chapter 13 of the EIAR are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be *long-term, neutral* and *imperceptible.*

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***Measures to facilitate district heating or heat networks where excess heat is produced;***

In response to the above objective, we refer to the Codema – Dublin Region Energy Masterplan. Codema has been leading the project and collaborating with the four Dublin Local Authorities to establish the first regional energy masterplan in Ireland. The masterplan provides realistic, costed pathways for the Dublin Region to achieve its carbon emission reduction targets to 2030 and 2050. These pathways have been based on detailed local-level, spatially-driven energy scenario modelling and identify low-carbon technologies

specific to the energy characteristics of a particular area at a local level, which has not been carried out before for any county in Ireland.

The Masterplan outlines specific measures large scale energy users (Data Centres) can take to reduce their climate impacts including:

- *"Ensuring that on-site renewable electricity production is maximised where possible. For any remaining electricity demand, this shall be supplied through renewable electricity power purchase agreements (PPAs) which finance renewable electricity developments within the island of Ireland or within its territorial waters. It is also becoming more commonplace to ensure the renewable power purchased is matched to the hourly consumption of these sites to more closely reflect reality (compared with annual matching for production with demand).*
- *Ensuring that the waste heat produced on site by servers, on-site power generation, etc. be characterised and made available for use for planned or existing DH networks in the area. This has the added benefit of reducing the electrical and water consumption of the Data Centre cooling system. Further details in relation to the use of Data Centre waste heat for DH can be found in the policy recommendation paper produced by Codema in conjunction with other DH and Data Centre industry representatives here.*
- *Ensuring that Data Centres impact on the grid is limited. This will be assessed by relevant parties such as EirGrid in accordance with Data Centre grid connection processing procedure to ensure that grid integrity is maintained.*

District heating represents the most feasible low-carbon heating option for 87% of heat demand in Dublin by 2050, equating to a possible 538,983 homes and 41,394 businesses being heated by this source. Heat pumps are the most feasible option for the remaining 13% of heat demand in Dublin by 2050, potentially serving 72,528 homes and 5,600 businesses. Heat sources that arise as a by-product of electricity generation, industrial activity, the natural environment or from existing infrastructure are low or zero-carbon and often go to waste. Codema estimates that 3,579 MW of heat is available from these sources (including both low-grade and high-grade heat) that could be utilised via district heat networks in Dublin. This equates to 24,244 GWh of heat per annum, enough to heat over 1.6 million homes. These figures are projected to drop slightly over time to 21,952 GWh in 2030 and 22,413 GWh in 2050. This is primarily due to the reduced use of fossil fuel power plants over this period, as renewable electricity generation gains greater market share. This reduction is offset somewhat by increased availability of Data Centre waste heat and heat generated from curtailed renewable electricity."

We understand that Dublin South West including Grangecastle and Profile Park has been identified in Figure 118 of the Codema – Dublin Region Energy Masterplan as having potential for District Heating (DH). Grange Castle has an abundance of potential waste heat sources, including substantial waste heat from a number of Data Centres. There is further potential to develop district heating within the development area of Grangecastle west.

We note that heat recovery has been integral to the design and was included in the early design stage of the Data Centre and OSPG applications.

In accordance with Policy E6 Waste Heat Recovery and Utilisation of the South Dublin County Development Plan 2022-2028, a heat recovery building is located to the south west of the OSPG compound to facilitate waste heat arising from the Data Centre. All infrastructure including plant and ducting is provided in the event that a district heating system is developed in the area.

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***A high-quality design approach to buildings which reduces the massing and visual impact;"***

In response to the above item, we note that the OSPG building has been sensitively designed having regard to the road frontage to the west of Profile Park and potential visual impact from Nangor Road to the north.

We refer to CGIs and verified views prepared by Digital Dimensions included in Appendix 11 of the accompanying EIAR for more information. As the verified views illustrate, the combination of screening through natural planting and physical boundary treatments, combined with the sympathetic design of the OSPG building mitigate against any negative impact to the massing or visual impact when viewed from the estate road or public road.

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***A comprehensive understanding of employment once operational;"***

Construction Stage

In response to the above objective, the construction phase would not result in any permanent change to local population trends with the area. There will be a short-term and imperceptible effect on population during the construction phase.

The site is located within an area of low population density. The construction phase would have a short-term positive impact on the existing population trends of the area as a result of the proposed development.

The development will require approximately c. 100-120 no. of construction workers on site during the construction phase. It is expected that the workforce will travel from its existing place of residence rather than staying in temporary accommodation in the area. However, this short-term increase in employment may result in short-term increased need for accommodation locally which may add value to the local economy.

Subject to the receipt of the necessary statutory consents the construction phase will last approximately 16-18 no. months.

The main areas in which the construction phase would have a potential impact relate to air quality, noise, visual effects and traffic effects during the construction stage. These potential impacts are assessed within the relevant chapters outlined above in this EIA Report. There will be a negligible or minor impact on population.

Operation Stage

In terms of staff levels during operation, it is envisaged that the permitted Data Centre development will employ approximately c. 14 employees while the proposed OSPG will be minimally manned with a dedicated team carrying out routine maintenance and inspections.

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***A comprehensive understanding of levels of traffic to and from the site at construction and operation stage;"***

In response to the above objective, we refer to Chapter 12 of the EIAR which details the levels of traffic to and from the subject site and adjoining the permitted Data Centre.

In summary, it is proposed that all vehicles entering and exiting the proposed development will do so via the existing junction located on the Profile Park Road.

The likely impact of the construction works will be short-term in nature. The number of staff on site will fluctuate over the implementation of the subject scheme. Nevertheless, based upon the experience of similar projects and estimation has been made on the construction impact.

During the construction phase, the general workforce is likely to be approximately 100-120 in number, which with an allowance for shared journeys could equate to a maximum of around 100 arrivals and departures per day.

Were possible, construction workers will use shared transport. On-site employees will generally arrive before 07:00, thus avoiding the morning peak hour traffic. These employees will generally depart after 16:00.

A number of the construction traffic movements will be undertaken by heavy goods vehicles.

It is assumed that all trips will arrive/depart in each of the peak periods. This is illustrated in the table below.

Two-Way Link	AM Peak Hour (08:00hrs-08:59hrs)	PM Peak Hour (17:00hrs-17:59hrs)
Ground Works	10	10
D&C Waste	2	2
Deliveries	10	10
Workers	80	80
Total	**102**	**102**

Table 1 - Peak Construction Trips

The construction phase of the proposed development will increase traffic at the Profile Park Road/New Nangor Road by 8.33% in the AM Peak and up to 9.44% in the PM Peak as illustrated below.

The site will accommodate up to 65 employees and visitors once operational. It is assumed the 14 no. permanent members of staff will be employed on a shift basis over a 24 hour period seven days a week. The breakdown of personnel to accommodate the Overall Project once complete are as follows:

Data Centre

- 14 permanent personnel of the Data Centre (operations team)
- 45 visitors / customers
- 4-6 contractors working on site

	Roundabout Flow	Construction	% Increase
AM (08:00-09:00)	1224	102	8.33%
PM (17:00-18:00)	1080	102	9.44%

Table 2 - Percentage Impact of Development on Roundabout

OSPG

The OSPG will be operated and maintained by 1 no. plant manager with 2 no. specialists to be on call duty during the night shift. In addition there will be a remote operation team that will be available 24/7 to manage the OSPG facility if required.

The proposed peak hour trip rates are shown in the table below for the Overall Project.

Shift Pattern	Time			
12 Hour Shift	07:00-19:00		19:00-07:00	
	Arrivals	Departures	Arrivals	Departures
Trips	33	33	33	33
Two-Way	66		66	

Table 3 - Predicted staffing requirements for proposed development

We refer to Section 12.21 of the Traffic and Transport Chapter in the EIAR submitted as part of this Clarification of Further Information which outlines the potential cumulative effects with the Overall Project in relation to the existing and permitted schemes that have the potential to travel through Profile Park Roundabout.

The following schemes have been included in the Traffic Cumulative Effects assessment:

- SD23A/0035 – Not granted but included in Cumulative Effects Assessment
- SD22A/0420 – Not granted but included in Cumulative Effects Assessment
- SD21A/0241 – included in Cumulative Effects Assessment
- SD21A/0167 – included in Cumulative Effects Assessment

EDE7 Objective 2:
"To require that space extensive enterprise demonstrates the following:

⇒ ***Provide evidence of sign up to the Climate Neutral Data Centre Pact."***

In response to the above objective, we note that the Applicant signed up to the Climate Neutral Data Centre Pact in January 2021. The Applicant was an early signatory of the Climate Neutral Data Centre Operator Pact, a Self-Regulatory Initiative where key players and stakeholders in the Data Centre industry and cloud service infrastructure sector have pledged to become climate-neutral by 2030. With pro-active technology choices, the Applicant aims to ensure that this goal is not compromised by the exponential growth of data traffic and the attendant use of energy to power the digital revolution. We refer to the attached confirmation for more information.

EDE7 Objective 3:
"To ensure that landscaping and site layout in space extensive developments provides for demonstrated biodiversity measures and that landscape and biodiversity measures integrate into the green infrastructure network, in accordance with the Green Infrastructure Strategy set out in Chapter 4 of this Plan."

Applicant's Response

In response to the above objective, we refer to the landscape material submitted with the application.

The proposed landscaping and site works were important elements of the overall design approach and strategy. It aims to provide a high-quality and well-integrated landscape at this location. The proposed landscape works will enhance the biodiversity on site through the use of native plants and the protection of existing hedge vegetation. It will also improve the appearance of the site from the public areas.

For further details as well as for the architectural design approach please refer to Architectural Design Statement and Landscape Design Statement and drawings which have been submitted with the planning application.

The landscape mitigation measures for the proposed development include the following:

- Provision of a 'green wall' and additional native trees in front of the OSPG compound to conceal the solid enclosure wall and mitigate the negative visual impact of a large expanse of metal cladding. It also enhances the biodiversity of the site, providing foraging opportunities, shelter and resting habitats for the wildlife. The wire trellis system will be mounted on the wall with a combination of fast-growing climbers: Wisteria and Persian Ivy. The system can reach the full height of the enclosure.
- Addition of 2 no swales near the south and east boundary. Swales are shallow drainage channels formed in the terrain with gentle side slopes where water running off a site can collect and soak away. These have been added instead of underground attenuation tanks, which have been omitted. Swales are natural drainage elements, that assist in the protection of biodiversity on site (please refer to Section 6.5.3.2 of this EIAR for further information).

The strategy was accepted by SDCC in their assessment of the now permitted development under SDCC Ref. SD21A/0186.

2.0 Clarification of Item No. 2

a) *"The applicant has not provided an assessment of the appropriateness of the proposals to power the permitted Data Centre by gas instead of by electricity (as previously permitted) in terms of national, regional and local policy in terms of energy requirements and climate change. The applicant is requested to consider the following documents and set out how the requirements of each are met:*
   - *National Planning Framework*
   - *Regional Spatial and Economic Strategy*
   - *Climate Action Plan 2021 (Government of Ireland)*
   - *SDCC Climate Change Action Plan*
   - *Government Policy Statement on Security of Electricity Supply*
   - *CRU Direction to the System Operators*
   - *Role of Data Centres in Ireland's Enterprise Strategy'*

b) *In terms of adaptation of the plant for alternative energy supply, the applicant appears to be reliant upon GNI proposals for alternative energy and has not put forward any site specific proposal in this regard. No renewable energy on site is proposed. The applicant is requested to set out any details of proposed on site renewables, in light of the requirements of Policy EDE7.*

c) *As requested by CFI 1, the applicant is requested to demonstrate that there is sufficient capacity within the relevant water, wastewater and electricity network to accommodate the use proposed, in line with EDE*

d) *The applicant has stated that there is no current agreement to connect to the grid, however, consultation has been undertaken with EirGrid. Therefore, no details of the long term plan for the power plant have been provided, i.e. whether it would be decommissioned etc. The applicant is requested to provide further details regarding the long term proposal for the plant."*

Applicant Response Clarification of Item No. 2a:

In response to Item No. 2a, the permitted Data Centre will be powered by the on-site gas power generator. We refer to the section below that details the rationale for the use of gas and the proposed development's compliance with national policy and government statements.

National Planning Framework 2040

The proposed development complies with the **National Planning Framework** as follows:

The National Planning Framework (NPF) is the Government's high-level strategic plan for shaping the future growth and development of our country out to the year 2040.

The NPF sets out that the Eastern and Midland part of Ireland will, by 2040, be a Region of around 2.85 million people, at least half a million more than today.

Compliance with Key National Policy Objectives
The following National Policy Objectives are considered to apply to the site.

National Policy Objective 55- *"Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050."*

National Policy Objective 64- *"Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions."*

Under the National Strategic Outcome 5 – A Strong Economy Supported by Enterprise, Innovation and Skills, Ireland is being prompted as a suitable international destination for ICT infrastructure.

"Ireland is very attractive in terms of international digital connectivity, climatic factors and current and future renewable energy sources for the development of international digital infrastructures, such as Data Centres. This sector underpins Ireland's international position as a location for ICT and creates added benefits in relation to establishing a threshold of demand for sustained development of renewable energy sources. There is also greater scope to recycle waste heat from Data Centres for productive use, which may be off-site."

It is our considered view that the current proposal together with development permitted to date complies with and exceeds the vision of the National Planning Framework on the following basis:

- The proposal makes the most efficient use of the site. The multi-storey nature of the proposal creates a compact and efficient development that utilises existing site services and road infrastructure.
- The overall development is appropriately located in South West Dublin with excellent connectivity to the N4, N7 and M50. Public transport services operate in the area with several bus services stopping to the east of the site on the R134 (Castle Grange Stop c.750m/10 min walk distant) and Clondalkin/Fonthill Rail Stop c.3.4km distant.
- The proposal will contribute to the emerging digital infrastructure of the area that helps to support a strong Irish economy through its enterprise, skills and innovation sectors.
- The proposal will continue to maintain high quality international connectivity, that Ireland is quickly becoming renowned for.
- Renewable technologies include use of photovoltaic panels, heat pumps and provision of waste heat building to facilitate future connection to a district heating system.

Having considered the above, it is submitted that the current proposal will deliver on key objectives contained within the NPF.

Regional Spatial and Economic Strategy

The proposed development complies with the **Regional Spatial and Economic Strategy** as follows:

The Regional Spatial and Economic Strategy for Eastern and Midland Regional Assembly (RSES) provides a:

- *Spatial Strategy - To manage future growth and ensure the creation of healthy and attractive places to live, work, study, visit and invest in.*
- *Economic Strategy - That builds on our strengths to sustain a strong economy and support the creation of quality jobs that ensure a good living standard for all.*
- *Metropolitan Strategy - To ensure a supply of strategic development areas for the sustainable growth and continued success and competitiveness of the Dublin Metropolitan Area.*
- *Investment Framework - To prioritise the delivery of key enabling infrastructure and services by government and state agencies.*
- *Climate Action Strategy - To accelerate climate action, ensure a clean and healthy environment and to promote sustainable transport and strategic green infrastructure.*

One of the Guiding Principles for Investment Prioritisation in Placemaking for Enterprise Development is to ***"Align to national strategy and approach for Data Centres – right location for use and energy demand."***

RPO 8.25 of the RSES states that Local Authorities shall:

- *Support and facilitate delivery of the National Broadband Plan.*
- *Facilitate enhanced international fibre communications links, including full interconnection between the fibre networks in Northern Ireland and the Republic of Ireland.*
- *Promote and facilitate the sustainable development of a high-quality ICT network throughout the Region in order to achieve balanced social and economic development, whilst protecting the amenities of urban and rural areas.*

- *Support the national objective to promote Ireland as a sustainable international destination for ICT infrastructures such as* ***Data Centres*** *and associated economic activities at appropriate locations.*

- *Promote Dublin as a demonstrator of 5G information and communication technology.*

We refer to the Final Ministerial Direction was made on 18 November 2022, whereby Data Centre reverted to an 'open for consideration' use under the EE zoning.

Section 12 of the Planning and Development Act 2000, as amended, sets out the statutory provisions and obligations relevant to the making of a new Development Plan. This section of the Act expressly requires that Planning Authorities, in preparing their Development Plan ensure that the Development Plan does not conflict with any of the National Policy Objectives of the NPF, Regional Policy Objectives of the RSES, or the provisions of Government Policy.

Section 12(18) states the following:

> *"In this section 'statutory obligations' includes, in relation to a local authority, the obligation to ensure that the development plan is consistent with —*
> *the national and regional development objectives specified in — the National Planning Framework, and (ii) the regional spatial and economic strategy, and specific planning policy requirements specified in guidelines under subsection (1) of section 28."*

We support Data Centre development being listed as an open for consideration use. Its inclusion as an open for consideration use will not compromise the key objectives outlined in the Development Plan or indeed national policy pertaining to data centre development or climate action obligations. The adopted material alteration is therefore consistent with the economic and spatial strategy for the Greater Dublin Region, as outlined in the above national policy.

Climate Action Plan 2023

The Climate Action Plan 2021, is superseded by the Climate Action Plan 2023, as such this policy document is reviewed hereunder. The Plan seeks to increase the rate of key decarbonisation activities across all sectors of the economy.

The proposed development complies with the **Climate Action Plan 2023** as follows:

As importantly, rapid delivery of flexible gas generation is needed at scale and in a timeframe to replace emissions from coal and oil generation before the second carbon budget period.

The key measures to ensure security of electricity supply and reduce emissions are:

- *The CRU and EirGrid will ensure an adequate level of conventional dispatchable generation capacity and deliver at least 2 GW of new flexible gas-fired generation.*
- *Expand the gas network to accommodate 2 GW of new gas-fired generation.*
- *Deliver at least three new transmission grid connections or interconnectors to Northern Ireland, Great Britain, and the EU.*
- *The CRU and EirGrid will, as a priority, deliver the competitive market arrangements for zero carbon system services, to an accelerated timetable, ensuring that reserve requirements are fully provided by zero-carbon technology by the end of 2023 and procurement of reserve services from carbon sources phased out by end 2027.*
- *EirGrid and ESB Networks will undertake an in-depth analysis of local, regional, and system level flexibility requirements, identifying opportunities and internal changes required to facilitate demand flexibility and provide flexibility to support the system operation and local network congestion management.*

- *EirGrid will monitor and reduce emissions resulting from its non-market actions, procuring appropriate system services, and constructing necessary infrastructure to relieve network constraints as required in line with regulatory arrangements.*
- *ESB Networks will, under approved regulatory arrangements and in coordination with EirGrid, introduce local flexibility market arrangements, designed to incentivise investment in commercial storage facilities at scale, providing local network capacity for low-carbon technologies.*
- *Develop a policy framework for electricity storage based on electricity system needs.*
- *Fuel switching from more carbon intensive oil and coal to lower carbon natural gas has been one of the drivers for the reduction in this area.*

Having regard to the Government's approach to gas generation serving the national grid, we conclude the gas powered OSPG for use in a private development is considered an appropriate and suitable transition fuel as alternative and renewable fuel sources are being developed to power the national grid.

The Plan seeks to deliver a flexible grid system that support renewables and demand. The Plan goes onto state *"CRU, EirGrid, and ESB Networks will enable hybrid technology grid connections, maximising the utilisation of existing grid infrastructure, to accelerate connection of new renewable generation and associated storage."* In accordance with the spirit of the Plan, we note that the OSPG plant equipment has been designed to accommodate flexible fuel, should new technology be introduced to the grid in the future.

The Plan advocates for growth in the circular economy. We note that the overall development has been designed to promote circular economy practices through the construction and environmental management plan which is included in Appendix 11 of the accompanying EIAR, provision of heat recovery and future connection to district heating and in the operation of their facilities with the re-use, repair and recycling of their servers and electrical equipment.

Overall, the permitted and proposed development actively responds to the Plan by implementing decarbonising measures through features of its design and operation, as outlined above.

SDCC Climate Change Action Plan 2019-2024

The proposed development complies with the **SDCC Climate Change Action Plan 2019-2024** as follows:

The Climate Change Action Plan features a range of actions across five key areas - Energy and Buildings, Transport, Flood Resilience, Nature-Based Solutions and Resource Management.

In addition, the Climate Change Action Plan seeks to improve energy efficiency, reduce greenhouse gas emissions and make Dublin a climate resilient region.

The on-site power generator will operate using natural gas. Gas is seen as a medium-term solution and will bridge the power source gap between conventional heavy fuels that have traditionally been used for electricity generation and renewable generation – hydrogen or biomethane.

The OSPG and gas supply is envisaged to cease upon successful connection to the grid. At this point, at this point, it is understood the national grid will be powered by 80% renewable sources by 2030. The emissions arising from the OSPG will be significantly lowered as a result.

Energy efficiencies are found in the building and landscape design including sustainable urban drainage systems featuring green walls, green roofs, swales, rainwater harvesting, pv panels and heat recovery.

In terms of transport efficiencies, the subject site has excellent connectivity to the N4, N7 and M50. Public transport services operate in the area with several bus services stopping to the east of the site on the R134 (Castle Grange Stop c.750m/10 min walk distant) and Clondalkin/Fonthill Rail Stop c.3.4km distant. Pedestrian/cyclist connectivity is promoted through pedestrian links with the existing road and footpath network and is supported by circulatory connections within the site.

As outlined above, the extensive list of SUDS measures is incorporated into the permitted and proposed design to mitigate against any potential flood risk. The drainage system, landscape design and architectural design has been holistically designed to provide nature-based solutions over hard landscape/civil measures that enhance green infrastructure and biodiversity on site.

The permitted and proposed development include the provision of a waste heat recovery building. Should a district heating system be developed in the area, waste heat arising from the Data Centre can be used to power the Data Centre and/or be used in homes and businesses in the wider area to fulfil heating requirements.

Resource management including waste management, has been fully addressed as outlined in the Construction and Environment Management Plan which is included in Appendix 11 of the accompanying EIAR.

Government Policy Statement on Security of Electricity Supply

The proposed development complies with the **Government Policy Statement on Security of Electricity Supply** as follows:

"Security of electricity supply must also be maintained throughout the transition to up to 80% of electricity consumption coming from renewable sources by 2030 on a pathway to net zero emissions.

It is expected that the majority of renewable energy generated by 2030 will be from wind and solar. These sources of renewable energy are variable in nature and therefore will require other technologies to both support their operation and provide electricity supplies when they are not generating. This will require a combination of conventional generation (typically powered by natural gas), interconnection to other jurisdictions, demand flexibility and other technologies such as energy storage (e.g. batteries) and generation from renewable gases (e.g. biomethane and/or hydrogen produced from renewable sources).

As more wind, solar, storage and interconnection is added to the system, conventional generation is expected to operate less, but sufficient conventional generation capacity will still be required.

It is anticipated that natural gas will form the vast majority, and more enduring, part of this conventional generation.

There will be a continuing need for conventional generation beyond 2030.

There is significant projected growth in electricity demand from large energy users such as Data Centres, due to the electrification of heating and transport and as a result of growing population. This is one of a number of challenges to maintaining security of electricity supply while increasing the level of renewable electricity generation in our system. The risk associated with such demand growth can be significantly mitigated by ensuring that new demand can be flexible, particularly at periods of peak demand, ***or have its own onsite backup generation or storage capacity.***

The Government has approved that:

- *the development of new conventional generation (including gas-fired and gasoil/distillate-fired generation) is a national priority and should be permitted and supported in order to ensure security of electricity supply and support the growth of renewable electricity generation;*
- *the connection of large energy users to the electricity grid should take into account the potential impact on security of electricity supply and on the need to decarbonise the electricity grid;"*

The proposed OSPG is considered an interim solution for the estimated timeframe of 6-8 years or until grid connection can be achieved in consultation with EirGrid and ESBN. We have outlined and assessed the other options or scenarios that relate to grid connection which are set out previously in this cover letter.

As noted above, the OSPG plant equipment has been designed to accommodate flexible fuel, should advances to the grid be made in the future.

CRU Direction to the System Operators

The proposed development complies with the **CRU Direction to the System Operators** as follows:

The CRU outlined 3 mitigation measures to either do nothing, moratorium on Data Centre connections or connection measures. The connection measures were chosen as the desired mitigation option in order to allow the Data Centre industry to continue to connect in a manner which respects the overall system integrity while balancing the needs of the consumer to have a secure and stable supply of electricity. The CRU directs EirGrid and ESBN to assess applications for connection of Data Centres using the following criteria:

- the location of the Data Centre applicant with respect to whether they are within a constrained or unconstrained region of the electricity system.
- the ability of the Data Centre applicant to bring onsite dispatchable generation (and/or storage) equivalent to or greater than their demand, in order to support security of supply.
- the ability of the Data Centre applicant to provide flexibility in their demand by reducing consumption when requested to do so by the system Operator in times of system constraint through the use of dispatchable on-site generation (and/or storage) in order to support security of supply.
- the ability of the Data Centre applicant to provide flexibility in their demand by reducing consumption when requested to do so by the relevant system operator, in times of system constraint, in order to support security of supply.

The CRU will review the direction when it is considered necessary to do so.

The key issue is that whilst the proposal to power the permitted Data Centre by electricity was previously permitted, Equinix has not received a commercial or technical offer to supply permanent power to the site and has been verbally confirmed by ESBN that power to the site is likely to be available in 6-8 years.

The initial application to ESBN was made on the 15 February 2021 and the response was the application process would likely exceed 90 days, which has passed. The chronology of correspondence with ESB has been provided in our last response to FI and will also be included in the EIAR which SDCC have requested and will be submitted in due course.

Several attempts have been made to open dialogue with EirGrid and ESBN. Until such time as connection can be made to the national grid with agreement from EirGrid and ESBN, the OSPG will remain the sole source of power for the permitted Data Centre development. It has been verbally confirmed by ESBN that power to the site is likely to be available in 6-8 years.

The following table shows the Connection Measures defined in Section 3.3 of the Decision Paper "CRU Direction to the System Operators related to Data Centre Grid Connection Processing" and how this application achieves those measures:

Table 4 - CRU Requirement and Statement of Compliance

Bullet Point No	CRU Requirement	Statement of Compliance
1	the location of each Data Centre applicant with respect to whether they are within a constrained or unconstrained region of the electricity system	ESBN/EirGrid would determine if their network is constrained or unconstrained. The project consultant does not have access to this information.
2	the ability of each Data Centre applicant to bring onsite dispatchable generation (and/or storage) equal to or greater than their demand, which meets appropriate	The proposed OSPG will have a capacity of 10MW which matches the load of the Data Centre, and

Bullet Point No	CRU Requirement	Statement of Compliance
	availability and other technical requirements as may be specified by ESBN, in order to support security of supply	can be utilized by the network operator to re-enforce the network and enhance security of supply.
3	the ability of each Data Centre applicant to provide flexibility in their demand by reducing consumption when requested to do so by ESBN in times of system constraint through the use of dispatchable on-site generation (and/or storage) which meets appropriate availability and other technical requirements as may be specified by ESBN, in order to support security of supply	Dispatchable on-site generation will be provided in the form of an OSPG Plant powered by Natural Gas in accordance with CRU requirements.
4	the ability of each Data Centre applicant to provide flexibility in their demand by reducing consumption when requested to do so by ESBN in times of system constraint, in order to support security of supply	The Data Centre will have the ability to provide flexibility in demand by reducing consumption when requested to do so, once the permitted development is connected to the grid.

Role of Data Centres in Ireland's Enterprise Strategy – July 2022

The Government has released relevant Statements that contribute to the Strategic Policy Framework in Ireland and confirm the Government's desire for a plan-led approach to Data Centres.

This Statement sets out national principles to inform and guide future data centre development. These principles and how the Proposed Development and Overall Project complies with these preferred strategies/principles are set out below:

1. Economic Impact

   "The Government has a preference for data centre developments associated with strong economic activity and employment. In particular, it favours developments in regional locations, aligned with the National Planning Framework and Regional Spatial and Economic Strategies, which will embed the technology sector in locations and communities that can benefit from this investment, employment and spillover effects. In assessing economic impact, the totality of the Irish-based economic impact should be considered and factors such as associated total corporate employment, exports, wage levels, Irish materials/services purchased taken into account.

   The availability of digital infrastructure should serve our national digitalisation objectives, drive innovation, productivity and skills across our economy aligned to the National Digital Strategy"

The Overall project will contribute to the emerging digital infrastructure that helps to support a strong Irish economy through its enterprise, skills, and innovation sectors. The land use contributes to Ireland's economic development with the job multiplier effects extending well beyond the actual infrastructure and support high technology construction sector.

Through Platform Equinix and their ecosystem of leading service providers, Equinix offers Irish and international businesses unmatched opportunity to fast-track their digital advantage across clouds, networking, storage, compute and software in their colocation data centres.

It is considered that DB8 will create employment synergies with DB2. The Overall Project once operational will provide 14 no. permanent jobs, these members of staff will be employed on a shift basis over a 24 hour period seven days a week. In addition, the proposal will help support Irelands economy by supporting and facilitating data storage that is required for online and remote working which has increased in recent years.

2. Grid Capacity and Efficiency

> *"The Government has a preference for data centre developments that make efficient use of our electricity grid, using available capacity and alleviating constraints. Data centres should engage collaboratively with the respective system operators to understand capacity availability and required grid services across geographic locations, and where connection can be facilitated, provide grid services such as to best utilise available infrastructure to the benefit all electricity customers.*
>
> *This is in line with the CRU Direction to the System Operators related to Data Centre grid connection processing (CRU/21/124)."*

The Proposed OSPG Development will power the permitted Data Centre by gas therefore, the Overall Project will have no impact on the electricity grid in the short to medium term, as a result. There is uncertainty around the timing of grid connection and the scenarios have been identified in this letter and in the EIAR. The on-site generation (gas plant or generators) will be able to assist with capacity management once DB8 is grid connected if required and able to support the ESB strategy.

3. Renewables Additionality

> *"The Government has a preference for data centre developments that can demonstrate the additionality of their renewable energy use in Ireland. Developments should provide clear additionality in renewable energy delivery in Ireland, whether through new generation, repowering or otherwise increasing in-country renewable energy capacity – proportionate to the impact of their energy demand."*

We refer to our response to Item No. 1 which outlines the details in relation to the applicants strategy to utilise Corporate Power Purchase Agreements (CPPAs).

On site renewables in the form of PV together with heat pump technology are incorporated into the design for the administrative areas. These areas do not have the specific reliability requirements of the data hall and allow for the incorporation of PV and heat pumps. However, the best use of renewable energy for a project of this type, is made at the utility level. Whilst the use of on-site renewable energy was assessed for this project, the site constraints do not facilitate the installation of large scale on-site renewables to support the entire Data Centre (such as wind or significant quantities of PV). However as previously noted it is the applicant's intent to review the procurement of renewable energy for the project where available through biofuels such as biomethane, Guarantees of Origin (GO's) and Corporate Power Purchase Agreements (CPPAs) for the electrical grid connected solution once a grid connection is available.

4. Co-Location or Proximity with Future – Proof Energy Supply

> *"The Government has a preference for data centre developments in locations where there is the potential to co-locate a renewable generation facility or advanced storage with the data centre, supported by a CPPA, private wire or other arrangement. Where the combination of technologies at a generation facility is built to match the demand capacity factor (e.g. endeavouring to match the maximum import capacity with export capacity), the same infrastructure may be able to assist both demand customers and generation facilities (wind/solar/battery farm). This would make efficient use of grid investments, reduce curtailment and potentially enable significant decarbonisation of the data centre. The Government also encourages the co-location of downstream value-adding activities that can make use of carbon, excess heat and other outputs from the data centre activity, such as for horticultural activities or district heating schemes."*

We refer to our response to Item No. 1 which outlines the details in relation to the applicants strategy to utilise Corporate Power Purchase Agreements (CPPAs).

The CPPA process involves the corporate energy consumer entering a direct agreement with a renewable energy generator to supply energy to cover the Data Centre consumption and emissions offsetting at any stage of the project. This is in line with the Equinix strategy to procure CPPAs that produce renewable electricity to power their projects.

The Applicant will implement a CPPA with a renewable energy plant that is in the development stage which will add to the renewable energy capacity in Ireland. The agreement will offset the energy that is consumed by the Data Centre with the production of renewable energy.

As outlined previously, the scope to be able to connect to large-scale renewable energy centres such as wind farms or solar farms is not feasible given the site's urban/suburban context which does not include expansive areas for wind farm or solar farm development.

5. Decarbonised Data Centres by Design

> *"The Government has a preference for data centres developments that can demonstrate a clear pathway to decarbonise and ultimately provide net zero data services. It is expected that data centres will align with the EU Climate Neutral Data Centre Pact energy efficiency and water use targets and set themselves targets to achieve zero- carbon electricity use at all hours. System operators will work with large energy users to facilitate accurate hourly emissions reporting, grid carbon-intensity transparency, and allow data centre to optimise computing loads to maximise use of renewables and minimise carbon emissions (as per Action 99 of Climate Action Plan 2021)."*

The Proposed Development consists of on-site power generation that is sufficient to meet the demand of the permitted data centre DB8. It is important to note that the Applicant has received an agreed gas supply with GNI.

As mentioned previously the proposal is in line with the criteria set by the CRU and the Applicant has signed up to the Climate Neutral Data Centre Pact which is submitted with this cover letter. We note that solar, wind and bio-diesel were considered as alternative renewable fuel options but discounted as viable alternatives, as outlined in response to Item No. 1 above.

6. SME Access and Community Benefits

> *"The Government has a preference for data centre developments that provide opportunities for community engagement and assist SMEs, both at the construction phase and throughout the data centre lifecycle. Data centres should provide benefits for regional locations and their surrounding areas through place-making, community engagement and collaboration with local and regional stakeholders to ensure they offer value to the communities in which they locate.*
>
> *Data centres are also construction projects, built environment and physical investments of scale. By necessity, they have an impact on the geography and communities in their vicinity. Data centre developers should make every effort to minimise the disruption of their construction on these communities."*

Equinix supports local employment and continues to engage with Irish consultants and sub-consultants in the delivery of their proposed planning applications in Ireland. Several Irish based firms including planning consultants, architects, mechanical and electrical engineers, landscape architects and others form part of the design team. Once planning is secured, it is envisaged that local contractors and suppliers will be employed during the construction and maintenance of the Overall Project through direct and indirect employment opportunities.

CFI Response – DB8 OSPG, Profile Park, Nangor Road, Clondalkin, Dublin 22.

In terms of other community benefits, Equinix supports the re-use of waste heat generated from their data halls. The Overall Project has provided a heat recovery plant room for waste heat recovery and reuse. It is intended to support the heating requirements of homes, businesses and civic institutions in the vicinity a district heating centres be developed near the site in the future.

CFI Response – DB8 OSPG, Profile Park, Nangor Road, Clondalkin, Dublin 22.

ESB Networks for Net Zero Strategy

The ESBN Net Zero Strategy is driven by their central role in leading the transition to a secure and affordable low-carbon future, using clean electricity. The transition to a Net Zero society no later than 2050 will be enabled by a Net Zero Ready Distribution Network by 2040.

The proposed development complies with the **ESB Networks for Net Zero Strategy** as follows:

Connecting renewables:
ESB Networks will facilitate the connection in the region of 22 GW of renewable generation by 2030. In line with CAP there should be 9 GW of onshore wind, and at least 5 GW of offshore wind (and an additional 2 GW offshore wind for green hydrogen production) and 8 GW of solar connected to the electricity system by 2030. As part of our 'Build Once for 2040' concept, we are proposing to develop renewable hubs and explore advance build network reinforcements so that increased wind, solar, batteries (including community projects and smaller scale generation customers) can connect safely to the electricity network.

Network Capacity:
We are ensuring that our network has the capacity to connect and accommodate renewables, as well as the demand growth driven by population growth, new housing developments, the economy, and the significant increase in demand due to electrification of heat, transport, and industry.

		2025 Targets	2030 Targets	2040 Targets	Outcome
DECARBONISED ELECTRICITY	Connecting Renewables	Connect additional renewable generation to decarbonise up to 50% of electricity. Deliver up to 5 GW of solar and 6 GW of onshore wind connections.	Connect additional renewable generation to decarbonise up to 80% of electricity. Deliver 8 GW of solar, 9 GW of onshore wind and at least 5 GW of offshore wind connections.	Deliver the connections for all renewable generation needed to fully decarbonise electricity.	ESB Networks enabling net zero electricity.
	Distribution System Operation	Deliver the operation tools and systems to operate the distribution network with 85% SNSP.	Deliver Smart Distribution System (through NNLCP), the operation tools and systems to operate a distribution network with 95-100% SNSP.	Continuously improve and innovate the operation of the flexible, a smart distribution network.	ESB Networks enabling a smart and sustainable distribution system.
	System Flexibility	Manage 15-20% of all electricity demand flexibly.	Manage 20-30% of all electricity demand flexibly.	Extend and optimise the use of electricity demand to deliver a Net Zero Ready Distribution Network.	Well informed customers using flexibility to deliver their climate action.
RESILIENT INFRASTRUCTURE	Network Capacity	Deliver the network capacity for 2025 AFIR, DART+ and public transport charging, demand growth and renewables connection according to CAP.	Adopt 'Build Once for 2040' concept and deliver the network capacity based on demand growth and decarbonisation of electricity.	Deliver the full network capacity required for Net Zero Ireland.	Electricity network ready for electrified demand and renewables needed to decarbonise electricity.
	Transmission Delivery	Work with the Transmission System Operator to develop and deliver the Transmission Development Plan.	Deliver Transmission Development Plan as agreed with the Transmission System Operator.	Deliver the transmission projects to enable the connection of offshore renewables at scale.	ESB Networks enabling 100% renewable electricity and supporting security of supply.
	Resilient Network	Reduce unplanned CML<76.6 per annum. Reduce unplanned CI<109.6 per annum.	Reduce unplanned CML<60 per annum. Reduce unplanned CI<80 per annum.	Continuously improve network performance as opportunities arise.	ESB Networks providing a smart resilient network that customers can rely on when they need it.
EMPOWERED CUSTOMERS	Electrification	Deliver network capacity for 215,000 HPs, 196,000 EVs and 180 MW of public charging infrastructure capacity.	Deliver network capacity for 680,000 HPs, up to one million EVs and 800 MW of public charging infrastructure capacity.	We will have a network that enables full decarbonisation of industry, heat and transport.	ESB Networks enabling net zero Ireland.
	Customer Experience	Deliver >83% customer satisfaction.	Deliver >90% customer satisfaction.	Continuous improvements in all aspects of customer engagements.	ESB Networks providing Customer Experience Excellence.
	Smart Metering	Replace 95% of electricity meters with smart meters.	Deliver and scale the enhanced retail market capabilities set out in Industry High Level Design of the smart metering programme.	Customers in control of their energy journey.	ESB Networks enabling customers to control their energy journey.

		2025 Targets	2030 Targets	2040 Targets	Outcome
FOUNDATIONAL CAPABILITIES	Our People	Recruit and ensure safety competence of 900 people to support net zero delivery.	Deliver 40% gender diversity target for all new joiners.	Truly diverse and inclusive organisation with high levels of employee engagement and retaining a top quartile position in employment market.	Safe and empowered employees working in an inclusive, customer centric and values-led culture.
	Digital & Data Driven	Build the foundational IT systems and capabilities. Upgrade core telecommunications infrastructure by 2026 (SmartGrid Spectrum).	Transform ESB Networks to a data driven digital utility.	A fully digitally enabled business and workforce.	ESB Networks a Digital Utility.
	Financially Strong	Total capital investment of ~€4.4bn in PR5 (2021-2025). A minimum BBB+ credit rating on a standalone basis.	Capital investment of ~€10bn on the transmission and distribution infrastructure 2023-2030.	Efficiently delivered, sustainable and affordable electricity network supporting the Irish economy.	ESB Networks delivering an affordable electricity network for net zero Ireland.
	Sustainable and Socially Responsible	50% of our buildings to be at BER B rating. Integrate Carbon Emission Assessment as part of all infrastructure capital investments.	Deliver absolute CO_2 reduction of 50%. 80% of Light Duty Vehicles will be electric.	Fully decarbonised fleet. Replace all Fluid Filled Cables by 2035. ESB Networks fully decarbonised as a business.	ESB Networks at net zero as a Business.

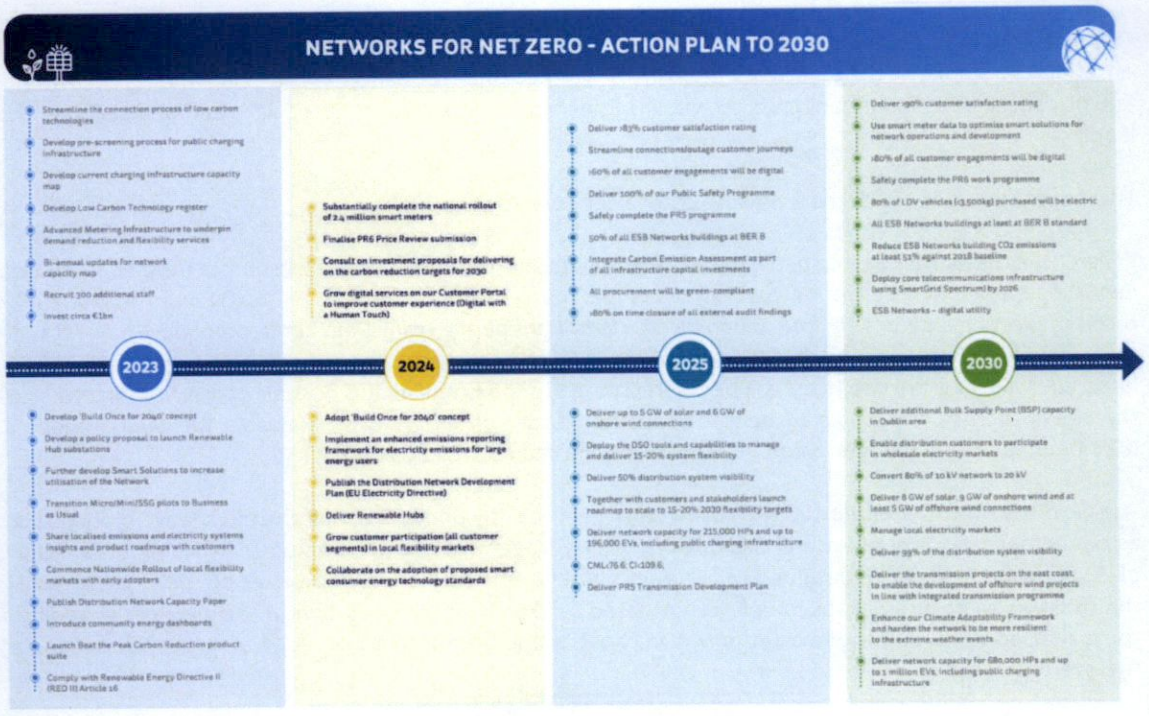

Figure 2 - ESB Action Plan to 2030

There is uncertainty around the timing of grid connection and the scenarios have been identified in this letter and in the EIAR. The on-site generation (gas plant or generators) will be able to assist with capacity management once DB8 is grid connected if required and able to support the ESB strategy. This principle has been highlighted in the Material Assets Chapter and assessed in the Climate Chapter of the EIAR. We note the actual use and deployment of the capacity by ESBN is not known at this moment in time. Our understanding is that this will form part of the connection agreement with ESBN.

Item No. 2b

b) In terms of adaptation of the plant for alternative energy supply, the applicant appears to be reliant upon GNI proposals for alternative energy and has not put forward any site specific proposal in this regard. No renewable energy on site is proposed. The applicant is requested to set out any details of proposed on site renewables, in light of the requirements of Policy EDE7.

Applicant's Response to Item No. 2b

In response to the above, we note that solar, wind and bio-diesel were considered as alternative renewable fuel options but discounted as viable alternatives, as outlined in response to Item No. 1 above.

The On-Site Power Generation (OSPG) is delivered by Gas Generators (reciprocating engines) and it is the intention that the primary energy will be supplied by energy provided by Gas Networks Ireland (GNI) Network. Additionally, the plant also incorporates a Battery Energy Storage System (BESS) as well as the gas engines to provide stability.

The OSPG plant will operate in island mode, without any connection to the public power distribution/transmission grid, with power generation being obtained at the expense of natural gas engines. The designed solution includes gas engines, to which two redundant BESS units of 2MW/1MWh are added for grid stabilization. This system will be managed by a microgrid controller capable of ensuring the start-up of the network and managing the operation within the parameters and limits defined by Equinix for the Data Centre.

The system will integrate the two BESS units, 2MW/1MWh each, with these two units responsible for ensuring the stability of the network in terms of voltage and frequency, within the limits established by Equinix. These BESS redundant units are vital for the stabilization of the grid specially during fast demand of load.

This proposal is in line with the following criteria set down by the CRU;

"The CRU expects that any dispatchable on-site generation that uses fossil fuel sources developed by Data Centre operators, will use natural gas (NG) as it's fuel source. The CRU considers NG to be a transitional fuel in terms of meeting Ireland's Climate Action Plan targets. Considering many Data Centre operators mandates are to use 100% renewable energy, the CRU expects that fossil fuel powered dispatchable on-site generation that is installed by Data Centre operators will be futureproofed to the extent that is possible at this time and will have the ability to run, or capable of being retrofitted to run, on alternative renewable fuel sources such as NG/biomethane, NG/hydrogen blends, 100% biomethane and 100% hydrogen."

The On-Site Power Generation (OSPG) plant can run efficiently on Natural Gas and alternative biofuels such as biomethane, Hydrogen/Natural Gas mix or pure Hydrogen when GNI commence distribution. The OSPG plant equipment has been designed to accommodate flexible fuel, should advances be made to the grid in the future. This ensures the plant is future proofed to align with the evolution of the gas grid. In addition, the proposed OSPG does not exceed 10MW in capacity and therefore is not required to provide secondary fuel storage.

The delivery of sustainable gas is presented in Gas Networks Ireland 2050 vision. This presents a clear strategy to transition to a zero carbon grid through the use of renewable gas, carbon capture and hydrogen to ensure sustainable gas delivery. In addition the Climate Action Plan 2023 includes KPI for 20 AD plants producing 1TWh of biomethane per year by 2025 and 5.7TWh by 2030 from up to 200 AD plants which the plant has been future proofed to utilise.

On site renewables in the form of PV together with heat pump technology are incorporated into the design for the administrative areas. These areas do not have the specific reliability requirements of the data hall and allow for the incorporation of PV and heat pumps. However, the best use of renewable energy for a project of this type, is made at the utility level. Whilst the use of on-site renewable energy was assessed for this project, the site constraints do not facilitate the installation of large scale on-site renewables to support the entire Data Centre (such as wind or significant quantities of PV). However as previously noted it is the applicant's intent to review the procurement of renewable energy for the project where available through biofuels such as biomethane, Guarantees of Origin (GO's) and Corporate Power Purchase Agreements (CPPAs) for the electrical grid connected solution once a grid connection is available.

We refer to our response to Item No. 1 which outlines the details in relation to the applicants strategy to utilise Corporate Power Purchase Agreements (CPPAs).

Item No. 2c

c) ***"As requested by CFI 1, the applicant is requested to demonstrate that there is sufficient capacity within the relevant water, wastewater and electricity network to accommodate the use proposed, in line with EDE 7."***

Applicant's Response to Item No. 2c

We note that this item has been fully addressed in response to Item No. 1 above. For completeness, we reiterate compliance with EDE7 insofar as it relates to sufficient capacity in the water, wastewater and electricity network.

On the 13 January 20231, Irish Water issued a letter in response to a pre-connection enquiry, which confirmed that a Water Connection and Waste Water Connection are both feasible, without infrastructure upgrade by Irish Water. We have enclosed a copy for your reference.

Water Connection

It is intended to serve the proposed development via connection off the 150mm Ø network, as located in Falcon Avenue.

Water demand for the development has been based on Irish Water's criteria = 0.113 litres/second.
Avg. Demand = 0.141 litres/second
Peak Demand = 0.705 litres/second

Water meters, sluice valves and hydrants, in line with Irish Water requirements and specifications, will be installed at the connections onto the aforementioned existing water mains, as required.

The domestic water demand for the project is very low and is not a burden on the existing infrastructure. On site water storage is employed with a 24 hour capacity based on the average day peak demand. The total demand for this development is limited to the building occupants use of water in the washrooms and for cleaning purposes only.

The demand on the Irish Water connection is reduced further by the rain water harvesting system employed on the project. Rain water is harvested through a piped collection system and stored in a central reservoir where the water is treated and re-used for the toilet flushing.

Potable water is not used in the cooling process employed in the data halls and therefore large storage volumes are not required to support the cooling process.

Wastewater

South Dublin County Council record drawings have identified 3 No. 150mm / 225mm Ø spur connections, located adjacent to the western boundary of the property and Profile Park. These spur connections were left out to facilitate development of these lands. These spur connections are joined into the reticulation network for Profile Park.

As confirmed by Irish Water, the existing foul sewer reticulation network has adequate capacity to cater for the proposed effluent discharge from the subject site.

It is proposed to discharge foul water from the proposed development, via a 225mm Ø gravity foul sewer outfall, laid from a discharge manhole at the end of a 100mm Ø pumped main and discharge into the existing 225mm Ø spur connection laid across Falcon Avenue, which is connected to the existing foul sewer network laid along the western edge of Falcon Avenue.

Based on Irish Water's Code of Practice of 150ltr/hd/day, the peak wastewater flow will not be in excess of circa 0.66l/s.

The proposed network connects into the Profile Park reticulation network.

All on-site foul sewers have been designed to be a minimum 225mm Ø diameter pipes, with gradients designed to achieve self-cleansing velocities.

Electricity Network

Currently, there is no technical or commercial offer received from the System Operator (SO) ESB Networks (ESBN).

The application for permanent power is for a power supply capacity of 9MW.

There have been a number of discussions with ESBN but the current verbal direction is that a power supply will be available to the development in 6-8 years, which is why an On-Site Power Generation (OSPG) Plant is proposed to power the development until such time that ESBN can provide a connection.

There have been discussions with ESBN representatives to understand in principle the likely supply arrangement and optimum entry points to the site, but nothing is confirmed in writing.

Below is a summary of discussions and correspondence issued to date, which is included in Appendix 14 of the EIAR.

October 2022 – Preliminary discussions held with ESB Distribution Engineers which led to the following Energy Concept being prepared for the development which shows direct 10kV feeders terminating into a metering station located on the site.

4 November 2020 – Power supply application lodged with ESBN.

15 February 2021 – Email received from ESB that application for supply was now live in their system and that they would seek approval from EirGrid for this application and the process would likely exceed 90 days.

17 May 2021 – Following the 90 day period we contacted ESB for an update and were advised that EirGrid would need to undertake a network study and this could take several more months.

26 May 2022 – Received update from ESB advising *"all applications are paused and ESB will advise all applicants how to move forward with applications once direction has been received from EirGrid and CRU."*

3 August 2022 – Received email from ESB confirming that *"discussions with CRU have concluded but they need to finalise some further points with EirGrid and CRU. On this basis, a more detailed update will be provided in a few weeks".*

20 April 2023 – No further updates or information received from ESBN regarding the application for power.

We understand that GNI has paused any pre-contract applications. It is therefore important to note that the Applicant has received an agreed gas supply with GNI.

Item No. 2d

d) "The applicant has stated that there is no current agreement to connect to the grid, however, consultation has been undertaken with EirGrid. Therefore, no details of the long term plan for the power plant have been provided, i.e. whether it would be decommissioned etc. The applicant is requested to provide further details regarding the long term proposal for the plant."

Applicant's Response to Item No. 2d

In the absence of an electricity grid connection the proposal is to utilise On Site Power generation (OSPG) with energy supplied via the Gas Networks Ireland grid. The purpose of the plant is to generate power until such time that ESB/ EirGrid can make a formal technical and commercial proposal to supply power to the site in approximately 6-8 years. The intent with the OSPG plant is that:

- The plant would be operational to bridge the gap in electrical utility availability i.e. be operational until electrical utility supply is available,
- The plant would act in a flex capacity to allow the DB8 demand to be removed from the grid if required by the utility provider.

Once the electrical utility is available and there is not a requirement for flex the intent is that the OSPG plant would be decommissioned. It is Equinix strategic target for Climate Neutral Data Centre and the current operational Data Centres in Ireland operate entirely on renewable energy so it is Equinix's preferred solution to have a grid connection to help meet the company's global strategic targets.

However, there is uncertainty in relation to a grid connection. The medium and long-term options for the OSPG are inserted below.

1. Medium Term Option: Decommission the OSPG plant

   In the next 6-8 years, the grid will be upgraded by ESBN and they may decide that there is sufficient capacity in the network to serve and support this development. In this instance, OSPG plant may no longer be required.

2. Medium Term Option: Retain the OSPG with a grid connection after 6-8 years of full operation

   ESBN could request that the plant is retained on a permanent basis and operate on the terms and requirements of the CRU in order to support the security of the new de-carbonised national grid. In this case, the Consumer would have a "flex" agreement with ESBN and would be required to operate the OSPG on a limited time period to support the decarbonised grid at times when renewable energy supply to the grid is at low levels. As the OSPG hours of operation are currently unknown for this option, the hours of operation have been estimated based on an existing/similar OSPG development that is currently in a flex agreement which operates for 500 hours of the year.

3. Long Term Option: Retain the OSPG with no grid connection

   If the grid is not upgraded by ESBN in the next 6-8 years and connection is not available for the permitted Data Centre, the proposed OSPG would remain operational for the long term (+15 years). This scenario has been assessed in the Climate Chapter of the accompanying EIAR.

These scenarios have been assessed for each chapter in the EIAR, where relevant.

3.0 Clarification of Item No. 8

"The Planning Authority do not agree with the EIA screening assessment provided. Having regard to the nature of the proposed modifications to power the Data Centre by gas instead of electricity, the number of similar exiting and permitted Data Centres close to the proposed development and the potential impact on Material Assets, it is considered that the proposal is likely to result in significant effects on the environment. The need for environmental impact assessment cannot, therefore, be excluded at preliminary examination.

The applicant is requested to undertake an Environmental Impact Assessment of the proposed development."

Applicant Response Clarification of Item No. 8:

In response to Item No. 3, a comprehensive EIAR has now been prepared and accompanies this application.

The EIAR assesses 2 no. developments which includes the proposed OSPG development and the overall project which includes the proposed OSPG development and the permitted Data Centre development. These 2 no. developments are described in summary below:

1. The Proposed Development for which consent is being sought under SDCC Ref. SD22A/0156 includes modifications to the permitted Data Centre granted under SDCC Ref. SD21A/0186 and the construction of an Onsite Power Generation Plant OSPG and associated site works. We refer to Section 2.3.1 of the EIAR for a full description of the proposed development. (Note: the Proposed Development (no. 1) is a subset of the Overall Project (no. 2))

2. The Overall Project which includes the granted development under SDCC Ref. SD21A/0186 comprising of a Data Centre Development and associated site works and the proposed amendments to it as per application SDCC Ref. SD22A/0156 - described in Section 2.3.2 of the EIAR.

4.0 Clarification of Item No. 9

"The applicant was requested to provide a report demonstrating that the proposal is in accordance with the South Dublin County Development Plan 2022-2028. The Planning Authority note the information submitted and consider that clarification is required.

The applicant is requested to demonstrate how the proposed amendments to the development proposed to SD21A/0186 are compliant with:

- ***EDE1 Objective 6 and EDE3 Objective 5***
- ***Policies QDP11 and E3, as well as their relevant objectives***
- ***Policy IE6 and the related objectives***
- ***12.4.2 Green Infrastructure and Development Management***
- ***12.5.1 Universal Design***
- ***'The Plan Approach' Compliance Report (paragraph 12.5.2):***
- ***12.7.5 Car Parking / Charging for Electric Vehicles (EVs)***
- ***12.9.2 Enterprise and Employment Areas and Table 12.27: Key Principles for Development within Enterprise and Employment Zones***
- ***12.9.4 Space Extensive Enterprises***
- ***12.10.3 Energy from Waste"***

Applicant Response Clarification of Item No. 9:

EDE1 Objective 6

"To ensure that economic and enterprise related development is provided in a manner which facilitates a reduction in greenhouse gas emissions by supporting and promoting the following measures:

- ⇒ ***An increase in employment densities within walkable distances of communities and on public transport routes;***
- ⇒ ***Promotion of walking and cycling and use of public transport through increased permeability and mobility management measures within and outside employment areas;***
- ⇒ ***The sourcing of power from district heating and renewables including wind, hydro and solar;***
- ⇒ ***Additional native tree planting and landscaping on existing and proposed enterprise zones and development sites to aid with carbon sequestration, contribute to the green infrastructure network of the County and promote quality placemaking."***

Applicant's Response

The permitted Data Centre is a multi-storey development that maximises the efficiency of the site. The administrative areas are located at the north western site corner enabling site accessibility to the surrounding pedestrian and cyclist network and nearby bus stops.

The site is served by two accesses. One vehicular/pedestrian access to the south west and one pedestrian access to the west from the Profile Park estate road. The location of the access points align with the desire lines in the surrounding pedestrian environment.

The site's internal areas are highly permeable to staff and visitors. Circular routes around the building and amenity/open spaces promote movement for staff and visitors alike.

PV panels at roof level provide to the administrative offices of the permitted Data Centre. Excess waste heat arising from the facility can be processed for use by a district heating should one be developed in the future. A heat recovery building and all necessary space for ducting has been incorporated into the layout and design.

We refer to the landscape plan submitted with the application and note that extensive tree planting is provided in the central amenity/open space, green area and buffer zone to the south east of the site. Perimeter planting contributes to green infrastructure and placemaking of the development.

EDE3 Objective 5

"To promote, through good placemaking, the delivery of places and communities which encourage employers and workers alike to live in the County, closer to their workplaces, promoting more sustainable travel and a good quality of life."

Applicant's Response

The permitted Data Centre has been carefully designed to marry functional Data Centre requirements with features that promote placemaking and contribute to employee wellbeing.

The site is proximate to good road infrastructure and rail and bus services. The pedestrian network in Profile Park promotes walking and cycling and the internal environment encourages employees to utilise the outdoor environment. Existing site features such as the green space along ditch to the south east of the site are bounded by perimeter pathways that create an inviting and attractive outdoor amenity space.

Policies QDP11 and E3, as well as their relevant objectives

Policy QDP11: Materials, Colours and Textures
"Promote high-quality building finishes that are appropriate to context, durable and adhere to the principles of sustainability and energy efficiency."

QDP11 Objective 1:
"To require the use of high quality and durable materials and finishes that make a positive contribution to placemaking."

QDP11 Objective 2:
"To promote the use of structural materials that have low to zero embodied energy and CO2 emissions and ensure a wood-first policy on public buildings funded or part-funded by the Council."

QDP11 Objective 3:
"To promote the reuse and recycling of materials to promote the circular economy and reduce construction and demolition waste."

Applicant's Response

The design team has carefully chosen a select range of materials and finishes that not only stand the test of time in terms of their durability and longevity but help to create a high quality built form at this prominent location with dual frontage to the Nangor Road and Profile Park estate road.

We refer to the materials and finishes that are identified on the elevation drawings and described in the Architects Design Statement prepared by RKD Architects for more information.

The designers of the permitted and proposed development are cognisant of the environmental obligations to support and facilitate a circular economy. We refer to the Construction and Environmental Management Plan Appendix 11 and Waste Management Plan Appendix 13.1 and chapter 13 of the EIAR for more information.

Policy E3: Energy Performance in Existing and New Buildings
"Support high levels of energy conservation, energy efficiency and the use of renewable energy sources in new and existing buildings including the retro fitting of energy efficiency measures in the existing building stock in accordance with relevant building regulations, national policy and guidance and the targets of the National and South Dublin Climate Change Action Plans."

E3 Objective 1:
"To reduce the need for energy, enhance energy efficiency and secure the use of renewable energy sources in refurbished and upgraded dwellings, and other buildings through the design and location of new development, in accordance with relevant building regulations and national policy and guidance."

E3 Objective 2:
"To prioritise the retrofitting of buildings over demolition and reconstruction where possible to reduce the large quantities of embodied carbon energy generated from building materials when building from the ground up."

E3 Objective 3:
"To require all new development to be designed to take account of the impacts of climate change, and that energy efficiency, energy provision and renewable energy measures are incorporated in accordance with national building regulations and relevant policy and guidelines."

Applicant's Response

The subject site forms part of the Profile Park Business Park Estate. As such, the subject site was free from development to enable future development for enterprise. No retrofitting of existing buildings will occur on site. The following energy efficient measures are employed as part of the permitted and proposed development: pv panels, waste heat recovery, rainwater harvesting etcetera.

We refer to the Energy Statement and Part L Compliance Report prepared by RED Engineering Design Limited submitted as part of the Parent permission on site under Ref. SD21A/0186 for more information on the Energy Efficiencies associated with the permitted development. We have enclosed a copy for your reference.

In addition, Equinix are the first operator of colocation Data Centres to commit to introducing sustainability measures to operate the temperature of their Data Centres at A1A conditions. This will reduce its overall power use by increasing operating temperature ranges within their Data Centres.

As a part of this new efficiency initiative, Equinix expects to operate its facilities closer to 27°C (80°F), aligning operating limits across its global Data Centre portfolio with the globally accepted boundaries of the A1A standards from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). When combined with existing Equinix initiatives such as optimising the use of outside air temperatures to cool its Data Centres, this new initiative will contribute to the overall sustainability of its Data Centres through efficiency improvements measured through Power Usage Effectiveness (PUE). PUE represents the total amount of power being used by a Data Centre divided by the power used to run the IT equipment within the Data Centre, providing an industry standard for Data Centre energy efficiency.

E2 Objective 4:
"To support and facilitate the actions and targets of the National and South Dublin Climate Action Plans where they relate to private and public buildings in the County."

Applicant's Response

We refer to the response outlined in response to Item No. 2a above for more information.

Policy IE6 and the related objectives

Policy IE6: Electricity Infrastructure
"Protect the existing electricity infrastructure and support the development of a safe, secure and reliable supply of electricity and the development of enhanced electricity networks as well as new transmission infrastructure projects subject to the relevant environmental assessments."

IE6 Objective 1:
"To support roll-out of the Smart Grids and Smart Cities Action Plan enabling new connections, grid balancing, energy management and micro grid development in line with RPO 10.19."

IE6 Objective 2:
"To support the reinforcement and strengthening of the electricity transmission and distribution network to facilitate planned growth and transmission / distribution of a renewable energy focused generation in line with RPO 10.22."

IE6 Objective 3:
"To support the sustainable development of Ireland's offshore renewable energy resources in accordance with the Department of Environment, Climate and Communications 'Offshore Renewable Energy Development Plan' and any successor thereof including any associated domestic and international grid connection enhancements in line with RPO 10.24."

IE6 Objective 4:
"To ensure that the design of energy networks achieves the least possible environmental impact and that where such impacts are inevitable, they are mitigated to the greatest possible extent."

IE6 Objective 5:
"To protect existing infrastructure and strategic route corridors, where they have gone through appropriate social, environmental and cultural impact assessments, for identified energy networks from encroachment by development that might compromise the performance of the networks."

<u>Applicant's Response</u>

In response to the above policies, the Applicants note that a typical ESBN connection will be made to facilitate internal electrical connections and street lighting etcetera.

In the absence of a grid connection, the permitted Data Centre will be powered by gas, as agreed by the connection agreement with Gas Networks Ireland. The proposal does not therefore compromise the performance of the national electricity grid.

12.4.2 Green Infrastructure and Development Management
"All planning applications shall demonstrate how they contribute to the protection or enhancement of Green Infrastructure in the County through the provision of green infrastructure elements as part of the application submission, having regard to the following:

- ***In the case of small-scale developments this may consist of a simple landscape plan which includes objectives to protect or restore existing on site GI assets, provides for connection to local or primary GI corridors or includes elements which allow the site to act as a local stepping stone;***
- ***Where the development site is located within or close to a Core or Corridor the development should, at a minimum, protect any existing GI assets and enhance same (for example, not breaking a GI Corridor but enhancing same with a connecting piece of planting, retaining hedgerows or woodlands);***
- ***The characteristics and assets of the proximate GI Core, Corridor or Stepping- Stone should be reflected within proposed development, for example continuation of hedgerows, tree planting, waterways;***
- ***Development should seek to enhance or restore features that act as ecological corridors, particularly water features, hedgerows, tree lines, areas of un-cultivated land. These, or some element of them, should be incorporated into the proposed development to create pathways for wildlife and / or increase amenity value;***
- ***Development sites which are not located proximate to designated GI Cores or Corridors should identify the nearest designated GI Core, Corridor or Stepping Stone and make provision for GI interventions on the site which could eventually provide a link to local Stepping Stones, Cores or Corridors;***

- ***Developers should be aware that ecological corridors can also act to quickly spread non-native invasive species. Therefore, identification and control of invasive species site should be included in planning applications and the GI Plan. All development proposals shall be accompanied by a Green Infrastructure Plan, which will normally be submitted as part of the suite of Landscape Plans that are required for a development. Plans shall include the following:***
- ***Site location plan showing the development site in the context of the wider GI as shown on the Council's GI Plan for the County;***
- ***Site survey and analysis, identifying existing GI Infrastructure and key assets within the site;***
- ***Indicate how the development proposals link to and enhance the wider GI Network of the County; Proposed GI protection, enhancement and restoration proposals as part of the landscape plan, where appropriate, for the site;***
- ***Proposals for identification and control of invasive species."***

Applicant's Response

We refer to the comprehensive landscape and visual impact chapter of the EIAR, accompanying this response. The landscape plan include in appendix 11 of the accompanying EIAR and ecological enhancement measures outlined in the Biodiversity chapter of the EIAR for the Overall Project will be implemented as part of the works. This landscape plan includes wildflower and wetland habitats designed with pollinators in mind, tree and hedgerow planting and green roofs and trellises. Hibernacula and habitat piles will also be installed onsite. The landscape plan is in line with policies NCBH5, GI2, GI4, GI5 of the SDCDP.

Chapter 5 of the EIAR provides a description and assessment of the potential, likely and significant impacts of the Proposed Development on ecology and biodiversity where a detailed ecological appraisal has been carried out by a fully qualified and experienced Ecologist.

A full tree survey was prepared and submitted with the application.

We note that the Green Space Factor GSF for the Overall Project is 0.44. We refer to the accompanying calculation attached with this cover letter and the sections below provided by Murray & Associates in relation to the Overall Projects Green Space Factor.

The site is currently a greenfield and would be classified as 'improved agricultural grassland'. The site has been managed to keep the vegetation under control for many years and has some features of landscape interest such as trees, hedgerows or woodland all of which are being retained. There are no hydrological or topographical features. It should be noted that the aerial photography record shows that the site has been in this condition since at least the late 1990s. No vegetation was removed from this site by the applicant. The site is zoned EE.

International best practice would suggest that 30% of the site should be given over to green cover. This site has achieved 22.5% green cover and 12.5% Permeable GI (35% total green/blue infrastructure). [SDCC CDP does not give a percentage cover but the City Edge Strategic Framework plan looks to achieve a total of 50% Green Cover for the plan area, which would include parks and green spaces, so it follows logically that the typical EE zoned site would not be expected to achieve 50% within its site area.] Much of the planting and vegetation proposed in this application is of high biodiversity and environmental value, including Miyazaki-style mini-woodlands. Further, the site aids in the achievement of several GI policies, objectives and aspirations in the CDP and City Edge Strategic Framework plan.

As has been demonstrated elsewhere in the planning submission, all available building roof space free from plant has been greened as intensive green roofs with substantial native planting, not just sedum. We also note that part of the roofs are used for solar panels which is part of the Applicant's wider commitment to sustainability.

It is our view that this development goes further than many similar developments in recent times and will create a positive effect on local biodiversity. We appreciate the urgency of environmental reform in terms of planning for the county in the context of climate change and accept that all development should contribute to positive environmental change to the greatest possible extent.

The Green Space Factor Objective "SDCC CDP GI5 Objective 4: Green Space Factor (GSF)" proposes a mathematical system for the evaluation of the green infrastructure on sites. The factor required for this site – zoned EE – is 0.5. A calculator is provided to allow the GSF to be calculated. Following the methodology prescribed, the result for this site is 0.44, i.e. the proposed development fails to meet the necessary factor. With regard to the calculation of GSF, we respectfully submit the following theoretical ways in which the factor could be achieved:

1. The site has no existing vegetation and the mathematics of the calculator are heavily weighted towards the retention and protection of existing vegetation, assigned a factor of 1.2 in the scoring calculator. So, if this c.7-hectare site had 3 hectares of vegetation to retain and protect, it would reach the factor of 0.5.
2. The site has no existing water bodies and the mathematics of the calculator are heavily weighted towards the retention of open water, assigned a factor of 2.0 in the scoring calculator. If the site had a retained body of water of 1.8 hectares, it would reach 0.5.
3. In order to achieve the GSF of 0.5 with new planting alone, the total surface area of greening factors could be achieved by the following:
    a. New Trees (0.6 calculation factor) – 60,000sq.m (i.e. 85% coverage)
    b. Tall Lawn, Vegetation- Shrub / Hedgerow, Vegetation- Pollinator-friendly planting (0.6 calculation factor) – entire site would have to be planted
    c. Green Roofs – Intensive (0.7 calculation factor) – c.50,000 sq.m (i.e. 71% coverage)
    d. If the entire proposed roof area (c.2.1 hectare) could be converted to green roof, an additional 3.5 hectares of New Trees would be required (i.e. 78% coverage, combined total).
    e. Green walls could increase the greening factor, but it would take an additional 5.7 hectares of green wall to achieve the GSF, in combination with the current site proposals.

Sites considered to have existing landscape features are capable of passing the GSF. Even then, only those with substantial areas of trees to be retained are passing. The Applicant has made every effort to increase green infrastructure on site while balancing the viability of the scheme as permitted and proposed.

The CDP goes on to note that *"Where site-specific constraints do not allow for adequate landscaping features in line with minimum requirements (for example, for infill development or certain brownfield sites) a developer will be permitted to provide alternative GI interventions or contributions to make up for this shortcoming..."*

We would submit that the proposed development:

- Complies with the GI policies and objectives of the CDP and the non-statutory City Edge Strategic Framework plan;
- Creates a positive effect on local biodiversity in comparison with the existing;
- Delivers c.40% green/blue cover on the site, which is in line with international best practice;
- Delivers a huge diversity of landscape types – native hedgerow & mini-woodland, water and wetland elements (integrated with SuDS proposals), street trees, pollinator planting, green roofs planted with native shrubs, green facades with pollinators.

We also note several SuDS features have been incorporated into the permitted development on site including:

1. Perimeter landscaping;
2. Bioretention Tree Pits;
3. Flow Control Devices;
4. Interceptors;
5. Permeable Paving;
6. Permeable Gravel Areas;
7. Green Roofs;
8. Rain Water Harvesting (Office Building Area);
9. Swale 1;
10. Swale 2; and
11. Attenuation Pond

The attenuation storage volumes for each of the SuDS features including pond, swales, permeable paving and gravel areas are clearly indicated on Dg. No. DB080-PIN-00-ZZ-DR-C-PLAN-1295 Rev. P03 submitted with the permitted application under Ref. SD21A/0186 and summarised in the Table below. We note that the SuDS design is based on a 1:100year storm event + 20% climate change.

No.	SuDS Feature	Attenuation Storage Volume (m3)
1.	Bioretention Tree Pits	Circa 4
2.	Permeable Paving	237
3.	Permeable Gravel Areas 1 & 2	93 (30 and 63)
4.	Green Roofs	Circa 4
5.	Rain Water Harvesting (Office Building Area)	Circa 4
6.	Swale 1	30
7.	Swale 2	70
8.	Attenuation Pond	756
Total		1198

Table 5 –Attenuation Storage Volume Rates

We note that the bioretention tree pits, green roofs and rainwater harvesting SuDS features, when full, will overflow and drain into the main attenuation storage elements including permeable paving/gravel areas, swales 1 and 2 and the attenuation pond.

Extensive SUDS measures, soft landscape proposals and green infrastructure measures incorporated into the scheme under the permitted development vastly improve the existing condition of the site. We therefore conclude the GFS is acceptable in this particular instance. Having regard to the development's compliance with the wider policies and objectives of the plan in relation to green infrastructure, we ask that the proposal is considered on its merits.

12.5.1 Universal Design

"Larger scale development proposals should include an Access Statement setting out how universal design approaches will be featured within the development. All development proposals should incorporate best practice design including the elements set out below, where relevant (it should be noted that some of these areas are regulated by other local authority functions such as Building Control):

- ***Promotion of lifetime housing design;***
- ***Incorporation of adaptable home offices to facilitate working from home;***
- ***Provision of designated accessible parking and set down points for people with disabilities and parents with children;***
- ***Level pedestrian routes with sufficient width;***

- ***Use of surfaces suitable for wheelchairs and buggies;***
- ***Use of tactile and blister paving;***
- ***Use of colour contrast, particularly in the public realm;***
- ***Provision of wayfinding and signage at appropriate levels, particularly in the public realm;***
- ***Ensuring level access to buildings from the street that is suitable for wheelchairs and buggies;***
- ***Provision of automatic doors."***

Applicant's Response

The objectives outlined above, relate largely to residential development and publicly accessible schemes. We note that the permitted and proposed development which is a secure facility will be accessible by employees and verified visitors only. Notwithstanding the above, accessible parking and tactile paving areas are incorporated into the landscape design to facilitate wayfinding and ease of access for all staff and visitors to the site.

'The Plan Approach' Compliance Report (paragraph 12.5.2):

Design Statements:
"In line with the provisions of Policy QDP7 Objective 1, all medium to-large scale and complex planning applications (30 + residential units, commercial development over 1,000 sq m or as otherwise required by the Planning Authority) shall be accompanied by a Design Statement."

Materials, Colours and Textures
"In addition to the above, design statements shall address the following criteria:

- ***Where individual larger buildings are proposed, they should generally be of contemporary architectural design and finish (including use of colour);***
- ***The proposal should provide a richness to the detailing and high-quality materials;***
- ***A material palette should be created that is simple and clear, sympathetic to surrounding urban fabric, has a connection to its context, builds and the established sense of place, whilst also creating order between the elements;***
- ***Reflecting the material character of the surrounding neighbourhood can create a dialogue with the surrounding buildings, forging a connection;***
- ***Materiality should be considered in conjunction with facade proportions."'***

Applicant's Response

We refer to the design statement that is attached with this cover letter and the drawings submitted previously for the proposed development and permitted data centre development prepared by RKD, demonstrating compliance with the Plan Approach.

12.7.5 Car Parking / Charging for Electric Vehicles (EVs)

"EV charging shall be provided in all residential, mixed use and commercial development and shall comprise a minimum of 20% of the total parking spaces provided, with higher provision within this range required in urban areas.

- ***The remainder of the parking spaces should be constructed to be capable of accommodating future charging points.***
- ***In residential and mixed-use schemes EV charging should be provided in blocks or pods unless it can be satisfactorily demonstrated that it can be provided in a more satisfactory and efficient manner.***
- ***It should be designed and located in such a way as to ensure passive surveillance and avoid anti-social behaviour.***
- ***The applicant should indicate the mechanism for EV charging and payment (for example, fob / credit card or other means) and should ensure that it is available to residents and visitors.***
- ***EV charging facilities should not impinge on shared parking allocation.***
- ***EV charging facilities should not obstruct or impinge on walking or cycling paths.***

- ***Charge points should avoid areas which are already restricted by existing street furniture for example, bollards, road signs, benches, bike racks.***
- ***Charge points should not impede lower carbon forms of passenger transport.***
- ***Charge points should not be located at the back of the footpath (that is, the side furthest from the road) to avoid cables becoming a trip hazard.***
- ***For residential multi-unit buildings, the necessary ducting for all car parking spaces should be installed, allowing provision for additional electrical infrastructure.***
- ***For new dwellings with in-curtilage parking, appropriate infrastructure should be provided to allow for installation of a charging point at a later date."***

Applicant's Response

We note that all spaces are provided with EV ducting to facilitate EV charging spaces as required and the requirement of 20% of the total parking spaces have now been provided for the Overall Project with installed EV charging points.. We refer to the section of the updated site plan prepared by RKD Architects below which outlines 5 no. new EV charging spaces to add to the 8 no. EV charging spaces to provide the 20% requirement as per the South Dublin County Development Plan Standards.

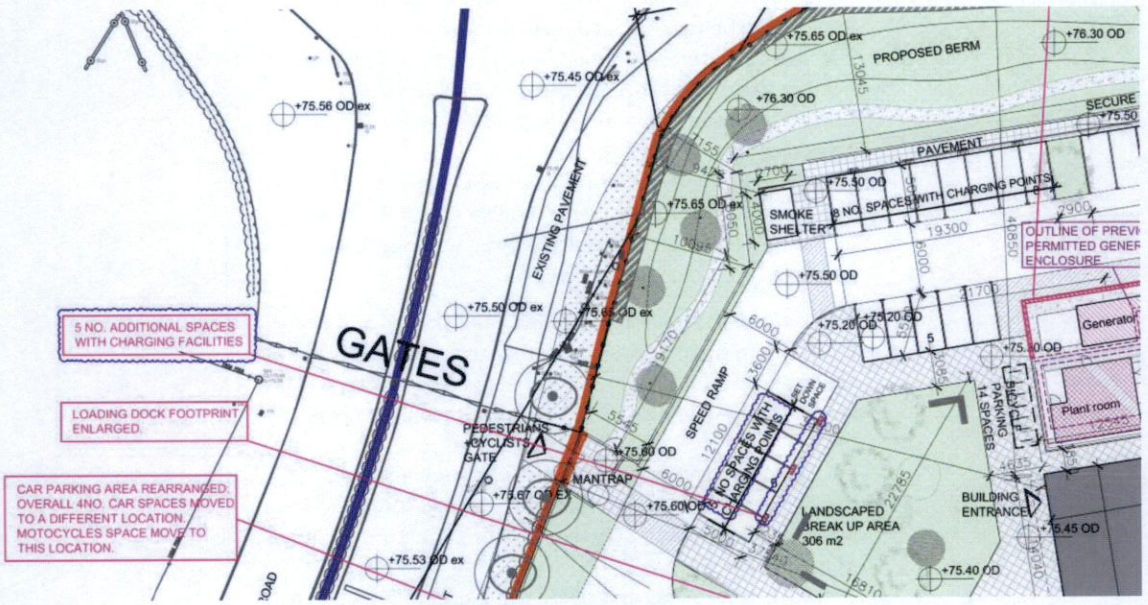

Figure 3 - Additional Car Parking Space circled in blue

12.9.2 Enterprise and Employment Areas and Table 12.27: Key Principles for Development within Enterprise and Employment Zones

12.9.2 Enterprise and Employment Areas:

Table 12.27: Key Principles for Development within Enterprise and Employment Zones

Key Principles for Development within Enterprise and Employment Zones		
Access and Movement	→ Major links to and through a site are provided as identified within the County Development Plan or relevant Local Area Plan, Masterplan and / or as determined by a site analysis process and / consultation with the planning authority; → The street network is easy to navigate with a clear hierarchy of streets identifying the function of each street; → Individual streets are designed in accordance with the requirements of the (DMURS) *Design Manual for Urban Roads and Streets*; → Large areas of parking (in particular staff parking) is located to the rear of buildings and screened from the street. Smaller areas of parking may be located to the front of buildings provided they are well designed (including areas of planting) and do not result in excessive setbacks from the street; → The design and layout of new business parks shall promote walking, cycling and the use of public transport, including adequate provision of cycle and pedestrian linkages.	✓
Open Space and Landscape	→ Provision of a detailed **landscape plan** showing site appropriate open space which may include a hierarchy of spaces suited to a variety of functions and activities. The landscape plan will also incorporate GI elements (see GI below); → Important natural features of the site such as trees, hedgerows and watercourses are retained, integrated within the landscape plan and reinforced with the planting of native species; → Natural buffer zones and defensive planting are used to define private space and the use of fencing to the front of buildings is minimised. Where fences interface with the public domain they should be of a high quality and incorporate elements of landscaping (for screening); → Development within business parks shall maintain and promote a parkland-like setting with high quality landscaping	✓

Green Infrastructure (GI)	All development proposals shall be accompanied by a **GI Infrastructure Plan**, which will normally be submitted as part of the suite of Landscape Plans that are required for a development. Plans shall include the following: → Site location plan showing the development site in the context of the wider GI as shown on the GI Strategy for the County; → Site survey and analysis, identifying existing GI and key assets within the site; → Indicate how the development proposals link to and enhance the wider GI network of the County; → Proposed GI protection, enhancement and restoration proposals as part of the landscape plan, where appropriate, for the site; → Proposals for identification and control of invasive species. Regardless of development size or type, applicants must submit an overall site summary quantifying and detailing the following: → tree and hedgerow removal; → tree and hedgerow retention; → new tree and hedgerow planting. This information will be submitted in a digital format agreed with the Council to allow amalgamation and reporting on tree and hedgerow cover within the County over time.	✓
Built Form and Corporate Identity	→ Building heights respond to the surrounding context with transitions provided where necessary which reinforce the urban structure with taller buildings located along key movement corridors, gateways and nodes; → Individual buildings should be of contemporary architectural design and finish (including use of colour); → Various treatments, finishes and colours should be employed to reduce the bulk, massing and scale of larger buildings; → The layout and design of buildings should maximise frontages onto the public realm and enclose private external spaces (such as service yards and car parks) and storage areas behind them; → Signage should be simple in design and designed to integrate with architectural features and / or the landscape setting (see also Section 12.5.7 Advertising, Corporate Identification and Public Information Signs).	✓

Applicant's Response

We confirm that the proposal complies with Table 12.27 of the County Development Plan, as demonstrated above.

12.9.4 Space Extensive Enterprises

"Insofar as possible, space extensive enterprise should be located on lands which are outside the M50 and which do not compromise labour intensive opportunity on zoned lands adjacent to public transport, as per EDE7."

Objective 1.
"To require that space extensive enterprises demonstrate the following:

- ***Strong energy efficiency measures to reduce their carbon footprint in support of national targets towards a net zero carbon economy, including renewable energy generation;***
- ***Maximise onsite renewable energy generation to ensure as far as possible 100% powered by renewable energy, where on site demand cannot be met in this way provide evidence of engagement with power purchase agreements (PPA) in Ireland;***
- ***Sufficient capacity within the relevant water and wastewater and electricity network to accommodate the use proposed;***
- ***Measures to support the just transition to a circular economy;***
- ***Measures to facilitate district heating or heat networks where excess heat is produced;***
- ***A high-quality design approach to buildings which reduces the massing and visual impact;***
- ***A comprehensive understanding of employment once operational;***
- ***A comprehensive understanding of levels of traffic to and from the site at construction and operation stage;***
- ***Provide evidence of sign up to the Climate Neutral Data Centre Pact."***

Applicant's Response

This item has been addressed in response to Item No. 1 above.

12.10.3 Energy from Waste

"Development proposals for new industrial and commercial developments and large extensions to existing premises, where the processes associated with the primary operation of the proposal generates significant waste heat, must:

- ***Carry out an Energy Analysis of the proposed development and identify the details of potential waste heat generated and suitability for waste heat recovery and utilisation with adjoining sites;***
- ***Include heat recovery and re-use technology on site;***
- ***Include heat distribution infrastructure above or below ground, (including future proofing of the building fabric to facilitate future connection, safeguarding any pipe work routes up to the boundary to adjoining sites); or***
- ***Provide evidence that heat recovery and distribution has been fully explored and is not feasible.***

Ensure that appropriate conditions are attached to planning applications to achieve district heating in identified areas having regard to above."

Applicant's Response

In response to the above, we note that a waste heat recovery building is already permitted under Ref. SD21A/0186. We refer to the energy and particulars submitted with the permitted application and further details included previously in this cover letter in.

In accordance with Policy E6 of the County Development Plan, the Applicant has provided a heat recovery building as mentioned above. The wate heat recovery building is located to the south west of the OSPG compound to facilitate waste heat arising from the data centre. All infrastructure including plant and ducting is provided in the event that a district heating system is developed in the area.

7.0 Conclusion

The Applicant has addressed all items raised as part of the Request for a Clarification of Further Information and we trust that the Planning Authority will duly consider this submission in full in their assessment of this response to the clarification of further information.

Overall, the subject proposal delivers a high quality development on this commercially zoned site earmarked for Data Centre development at Profile Park.

It is our considered opinion that the information now submitted addresses all concerns raised by the Planning Authority and we are of the view that any potential issues that may arise following consideration of this submission can be appropriately addressed by condition.

We request that this cover letter is read in conjunction with all drawings and reports accompanying this response, as outlined in the table above.

We trust that the Planning Authority will look favourably on the proposed development and grant permission for the proposal as appropriate.