MARSTON
PLANNING CONSULTANCY

Senior Administrative Officer,
Planning Department,
South Dublin County Council,
County Hall,
Town Centre,
Tallaght,
Dublin 24

Our Ref: 21047

9th March 2022

Re : Planning and Development Act 2000-2021 and the statutory regulations (as amended). Application by Vantage Data Centers Dub 11 Ltd. for development for the demolition of the abandoned single storey dwelling and associated outbuildings (206sqm); and the construction of 2 no. two storey data centres with plant at roof level of each facility and associated ancillary development that will have a gross floor area of 40,589sqm, plus a temporary gas powered generation plant if required; at this site of 8.7 hectares to the south of the New Nangor Road (R134); and on land within the townlands of Ballybane and Kilbride within Profile Park, Clondalkin, Dublin 22.

Reg. Ref. SD21A/0241

Date of additional information request: 26th October 2021

ADDITIONAL INFORMATION

Dear Sir / Madam,

We, Marston Planning Consultancy, 23 Grange Park, Foxrock, Dublin 18 are instructed by Vantage Data Centers Dub 11 Ltd. to submit this formal response to the request for Additional Information that was dated the 26th October 2021 in relation to the planning application for the development as described above.

This response and accompanying reports and drawings, have comprehensively addressed all the elements of the Additional Information request in a reasonable manner fully justifying the development. Our response is submitted fully within the six month timeline for dealing with such issues. However, due to the complexity of the application that included an EIAR and timing of our response, we have requested and have been granted an extension to this timeline to the 8th August 2022 in accordance with the provisions of Article 33(3) of the Planning and Development Regulations 2001 (as amended).

The response is undertaken following consultation with various departments of South Dublin County Council and Casement Aerodrome. This later consultation led to a request from the Aerodrome for the applicant to undertake an Aviation Impact Report that includes a Glint and Glare assessment based on the PV panels proposed at roof levels; aircraft hazard due to wildlife; as well as an assessment of the flue emissions from the proposed stacks. These documents are submitted with this Additional Information response within the updated and revised EIAR document as a matter of clarity for the Council. A full list of enclosures is included with all drawings and within Appendix A of this covering letter.

Addressing the Addition Information request

This response has comprehensively addressed the concerns of the Planning Authority in terms of all elements but particularly in relation to balancing the development with climate action and resilience. However, prior to addressing this recognised complex issue, it is important to set out for the clarity of the Planning Authority the significant design changes that have been made in comprehensively and robustly responding to the Additional Information request.

Following receipt of the Additional Information request the applicant has undertaken a comprehensive review of the overall master planning of the site. This has resulted in some significant layout and design changes.

This includes the removal of the need for the Temporary Power Plant from the application. The reasons for this are due to the aligning of the timelines for the planning process and decision on the Strategic Infrastructure Development (SID) application for a 110kV GIS substation and 2 no. underground transmission lines; as well as the ability to utilise a fully renewable source of energy for c. 15 months.

The substation and connections into the national grid has already been agreed with Eirgrid and has been determined as a Strategic Infrastructure Development under section 182 (A) of the Planning and Development Act 2000 (as amended) by An Bord Pleanála under its statutory Pre-Application Consultation process under Ref. ABP-311009-21. The SID application was lodged to An Bord Pleanála on the 17th February 2022, and is due to be determined by the Board by the 17th August 2022.

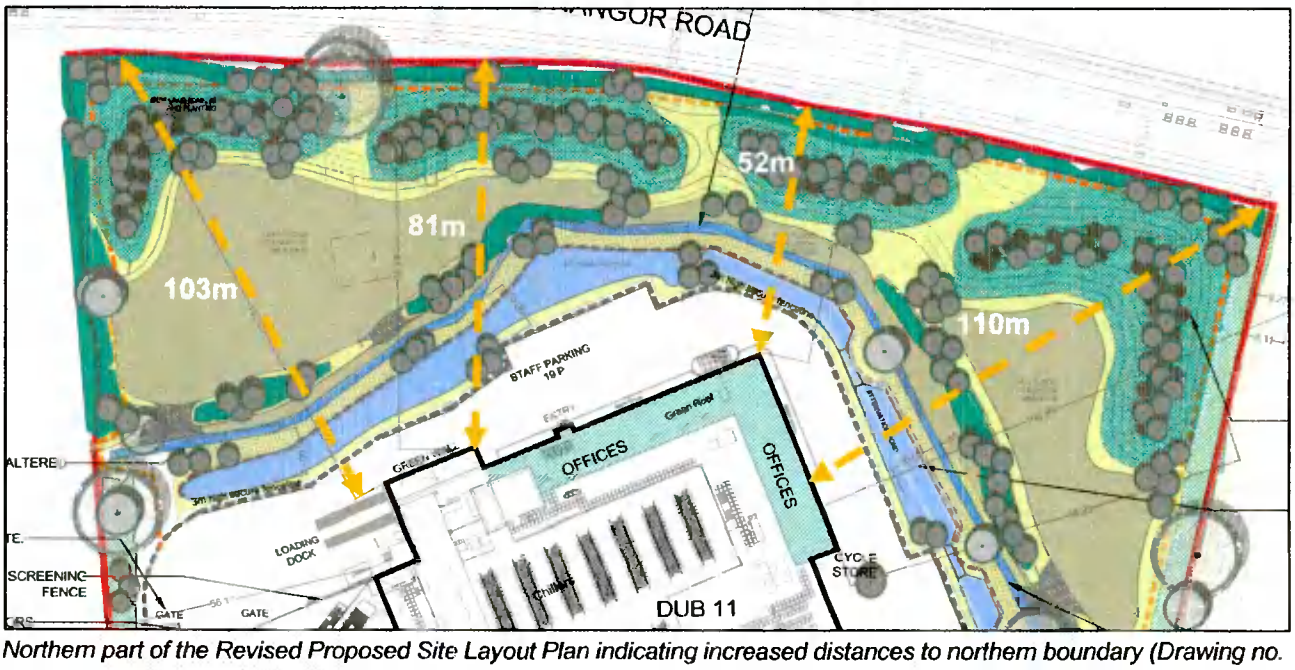
As the SID application is now a live planning application prior to the Planning Authority determining this response, for which there is a grid connection agreement with Eirgrid; and that there is grid connection agreement from Gas Networks Ireland (GNI) then the application cannot be considered as being premature. This will be dealt with comprehensively under point 1 of the AI response.

Design response

The revised master planning layout for the entire site has enabled the applicant to retain the stream in its current alignment with the data centers now being located to the south and west of the existing stream. The revised layout has also repositioned the main buildings on the site.

This has resulted in DUB11 being relocated to the north so that its further animated north and north-east elevation, that contains its office component, face the New Nangor road; and that DUB 12 is relocated to the south so that its southern and south-east elevation faces onto Falcon Avenue. This change has also required a slight realignment of the data centers so that they do not sit in a north to south alignment. DUB 11 is now aligned in a north-west to south-east alignment; which as well as aiding the focussing the animated elevations towards the New Nangor Road to the north when viewed from all directions; it also enables the emergency generators (which are now double stacked) to be hidden from the north; which will have a double height screen to the north.

These changes have pushed the most northern data center (DUB11) a significant distance away from the public road and enabled the retaining of a 10m riparian strip either side of the existing alignment of the Baldonnel stream fully in accordance with Policy G3, Objectives 1, 2 and 5 of the County Development Plan.



Northern part of the Revised Proposed Site Layout Plan indicating increased distances to northern boundary (Drawing no. DUB11-DR-SP-A004-V1-PL-BMD)

The revised layout has resulted in the most northern data center (DUB11 now) having been pushed 16.15m further away from the northern boundary, so that it is now 52.74m away from the boundary with the New Nangor Road at its nearest point. By rotating the alignment of the building, the north-west corner of the building

has been moved c. 26m away from this same boundary so that it is now c. 81m from the New Nangor Road and 103m away from the north-west corner of the site. These issues are comprehensively addressed under our response to points 2 and 3 of the AI response, and are set out under the accompanying design report made by the project architects – Burns and McDonnell.

These changes to the overall proposed site layout plan have required additional flood and surface water attenuation that has been incorporated within the wider design with a revised landscaping design ensuring that the good principles of the screening and biodiversity gains proposed under the original application are further enhanced under this AI response.

Phasing of development

As a matter of clarity we wish to confirm that the data center element of the application is to be built in two buildings – DUB 11 and DUB 12. DUB11 being the larger and will contain four data halls at ground floor and four data halls at first floor. The currently projected phasing of construction works can be summarised as:

Phase 1 – DUB 11 and 50% of the Multi-Fuel Generation Plant projected to be completed in Q3, 2023, and the start of operation in Q4, 2023; and

Phase 2 – DUB12 and 50% of the Multi-Fuel Generation Plant projected to be completed in Q4, 2024, and the start of operation in Q1, 2025.

All other substantive elements that form part of this application are proposed to be completed within Phase 1.

Grid connection and purpose and function of the new Multi-Fuel Generation Plant

We can confirm that the applicant has received and executed a grid connection agreement with Eirgrid. The long-term primary supply of electricity will come from the national grid infrastructure with the on-site power plant, which is proposed as a Multi-Fuel Generation Plant in this AI response, feeding the national grid.

Eirgrid have stipulated under the Data Centre Connection Offer Process and Policy 2019 that in order for the data centre to receive a firm grid connection, it must install on-site generation to the requested firm capacity. Therefore, to get a connection to the national grid, the data centre must install on-site dispatchable generation and Eirgrid have stipulated that this generation must be capable of running continuously for an extended period of time not limited by fuel reserves. This would be in multiple individual intervals during peak daily usage in winter that is estimated up to 500 hours per annum, to meet this requirement, dual fuel engines have been chosen because no other renewable or storage technology can provide this on a non-intermittent basis. This is the function of the Multi-Fuel Generation Plant.

In moving to a Multi-Fuel Generation Plant this will enable it to utilise a wholly renewable fuel source in operating continuously and solely on Hydrotreated Vegetable Oil (HVO), a second generation biofuel, in the short-term; and also enables HVO to provide a back up to the Multi-Fuel Generation Plant to be fuelled by a wholly renewable fuel source.

Regarding the need for grid reinforcements and large demand connections in this area, as raised by the Planning Authority under the AI request, the installation of a Multi-Fuel Generation Plant will support the resilience of the grid through the provision of flexible and dispatchable generation into the national grid thus meeting one of the key requirements of the CRU in their recently published document of the 23rd November 2021 "*Direction to the System Operators related to Data Centre grid connection processing*".

By providing a Multi-Fuel Generation Plant available at scale at the immediate point of demand, this actually reduces the requirement for future grid reinforcements and relieves constraints in the locality. The new Climate Action Plan 2021 also recognises the need for a diversified portfolio of generation up to 2030 and beyond in order to deliver grid stability and system services arising from increasing renewable energy penetration.

High efficiency multi-fuel power plants (such as is being proposed in this instance), along with storage and interconnection are recognised as contributing to this solution and facilitating greater levels of renewables as a manner in which to supplement the transition to renewables as the mainstay of Ireland's energy supply.

We respectfully submit that it is not the case that there is an absence of power supply available via Eirgrid. However, there is currently a lack of the wrong type of supplies currently that do not provide sufficient stability

to the national grid. There has also been a lack of new conventional generation being added to the grid over the past decade. This is why the need for Gas plants / Multi-Fuel plants form part of the Government strategy in the short to medium term to bridge the gap to a more renewable energy supply in 2030. By bringing new flexible generation to the point of demand, not only does this ease grid constraints, it will also provide much needed flexible capacity on the grid to facilitate the increased level of renewables aspired to in the Climate Action Plan 2021. Additional detail is provided in Chapter 13 of the EIAR.

In addition to the details on the submitted architectural drawings as part of this Additional Information response we have submitted a revised Environmental Impact Assessment Report (EIAR) that addresses the changes to the scheme, and the additional assessment required in relation to noise and air quality to reflect the revised layout, and new photomontages and visual impact assessment undertaken as part of the revised EIAR that also addressed point 3(g) of the AI request.

Requirement for new planning notices
We have considered the submitted Additional Information in the context of Article 35 of the Planning and Development Regulations 2001, as amended. It is our considered opinion, and following discussions with the Senior Planner, that due to the changes being proposed and the revised EIAR that new notices are required in this instance. In the interest of transparency and good practice, new planning notices are submitted with this AI Response in accordance with Article 35(1)(c) of the Planning and Development Regulations 2001 (as amended). One no. copy of each notice accompanies this response.

Our written response, which should be assessed in conjunction with the submitted details listed above, is provided below in respect of each point raised in the Council's request.

ADDITIONAL INFORMATION RESPONSE
This response is broken down point by point to address each element of the Additional Information request from the Council.

1. The Planning Authority considers that there is a need to balance the demand for development with climate action and resilience as well as the capability of the national grid to provide for such developments. The Planning Authority is seriously concerned with the current proposal to power the data centres with a gas generator due to the absence of capacity in the national grid. The applicant is advised that the Planning Authority has concerns in relation to the number and extent of large demand connections in this area and the demand for future grid reinforcements. It is noted that Action 20 of the Climate Action Plan, 2019 states:
'Implement energy actions under the Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy to ensure that large demand connections are regionally balanced to minimise grid reinforcements'.
The absence of power supply via Eirgrid to commence operation and the apparent shortfall in power supply from the temporary and permanent power plants appears to contribute to a future demand for grid reinforcements. In this context, the applicant is advised that the proposed development may be premature pending a stable connection to the national grid and the use of gas powered generators conflicts with the macro policies in the Development Plan around Energy and Climate Action.
In light of this, the applicant is requested to address the following:

RESPONSE
This part of the response has been undertaken in collaboration with the applicant Vantage Data Centers DUB 11 Ltd. and Found Digital DS Ltd. Following the submission of the original application on the 31st August 2021, the applicant has undertaken a comprehensive review of their overall energy strategy for the proposed development site. This has included the following changes that are being submitted and assessed under this AI response:

- Removing the temporary power plant as a temporary power source and its replacement with 50% of the Multi-Fuel Generation Plant, which has been split into two separate elements under this AI response, that will operate primarily on Hydrotreated Vegetable Oil (HVO) for the period from Q4, 2023 to Q1, 2025.
- Introduction of a long-term power strategy in accordance with the new policy of the Commission for Regulation of Utilities (CRU) that will provide on-site dispatchable energy generation to support the security of supply of the national grid at a scale and level above that of the demand of the data center development. The revised design of the Multi-Fuel Generation Plant will supply and reinforce the national

grid on a permanent basis under the aforementioned EirGrid DCCOPP, which comes into effect in January 2025. In simple terms, the proposed development will result in a greater security to, and a net gain of power on the national grid.

This application will run concurrently with a Strategic Infrastructure Development (SID) application to be lodged at the end of January 2022 that will facilitate a new 110kV GIS Substation (to be known as Kilcarbery) to be located to the south of the proposed development and to the south of Falcon Avenue within Profile Park. The SID application will also include 2 no. underground 110kV transmission lines between the new substation and the Castlebaggot to Barnakyle circuits to two locations c. 274m and 492m to the west (ABP Ref. ABP-311009). A Pre-Application Consultation led to the Board determining that the development amounted to a SID, and is due to be applied for in Q1, 2022 and determined by the Board in Q3, 2022. It is currently projected to be built and operational in Q4, 2023.

We respectfully submit that prior to addressing the various questions requested under this part of the Additional Information (AI) request, it is important to clarify the function of the proposed Multi-Fuel Generation Plant as well as the nature of the grid connection agreement.

The Multi-Fuel Generation Plant is dual purpose as follows:

1. It is currently projected to provide continuous power to DUB11 of the Proposed Development via the use of Hydrotreated Vegetable Oil (HVO) between Q4, 2023 to Q1, 2025 at which point it is projected that the gas connection will be in place. This period will also utilise a small degree of power from the National Grid.
2. Once the gas connection is in place, which is currently projected to be in Q1, 2025 then the Multi-Fuel Generation Plant will be utilised by Eirgrid and the data centre where required, to reinforce the national grid equivalent to or greater than the demand of the Proposed Development, under DCCOPP participation.

Currently all Data Centre connections being offered by Eirgrid in the Dublin region are being offered on a flexible basis. Flexible demand is where the electrical load for a data centre must be reduced on instruction from Eirgrid under the DCCOPP, via the National Control Centre (NCC).

Eirgrid have also noted the following in relation to Data Centre Connections:

1. Flexible demand will be available to customers seeking to connect in constrained areas.
2. Capacity review to be performed following the annual T-4 capacity auction to determine if additional firm access can be been made available.
3. Firm capacity will be provided for data centres where on-site dispatchable generation is made available to Eirgrid.
4. Connection offers are based on planning permission for a site and must line up with the capacity sought.
5. Flexibility will be allowed for MIC ramping in constrained areas.

These policies of Eirgrid are driving **the need for on-site dispatchable generation on all data centre sites** to ensure security of supply for the grid as a whole, until such time as transmission and generation capacity short-falls are addressed.

Eirgrid have published plans to increase the available capacity on the grid by 50% by 2030 that takes into consideration both the existing number and expected future data centres that will come on stream during this period (that includes this proposal) as well as the aim to move significantly towards more renewable sources of energy generation during the period to 2030.

Eirgrid have stipulated under the Data Centre Connection Policy 2019 that in order for the data centre to receive a firm grid connection, it must install on-site dispatchable generation to match its requested firm capacity. Therefore, to get a connection to the national grid, the data centre must install on-site generation and Eirgrid have stipulated that this generation must be capable of running continuously for an extended period of time not limited by fuel reserves. This would be in multiple individual intervals during peak daily usage in winter that is estimated up to 500 hours per annum, to meet this requirement, dual fuel engines have been chosen because no other renewable or storage technology can provide this at a commercial scale.

Due to this stipulation, the applicant is required to utilise gas and HVO to reinforce the grid by dispatching power as per DCCOPP requirements once the development is in operation. This will be provided by a combination of gas that will be backed up by HVO once the gas connection is made in Q1, 2025.

Changing policy

Policy in terms of both climate change and data centres has significantly altered over the last few years. This has been incorporated within the publication of the Climate Action Plan 2021 at the start of November 2021; and the publication on the 23rd November 2021 by the Commission for Regulation of Utilities (CRU) of their "*Direction to the System Operators related to Data Centre grid connection processing*". Furthermore, we note that it is established Government policy (as stated in the Policy Statement on Security of Electricity Supply that is dated November 2021) that it is a national priority to construct gas fired power plants to combat the squeeze on electricity supplies in the short to medium term. These documents are the most up to date policy documents governing climate action and grid connections for data centres and power plants.

We respectfully submit that the applicant, in making this response, recognises the need to balance the demand for development with climate action and resilience that is reflected in both the Council's own Climate Action Plan 2019; as well as the recently published national Climate Action Plan 2021. This more recent Climate Action Plan has replaced the Climate Action Plan 2019, that contained Action 20 relating to data centres that was raised in this part of the AI request. A far broader policy approach now applies to data centres under Climate Action Plan 2021, and our response has therefore been tailored on addressing the current Climate Action Plan.

The policies and long term aims of Climate Action Plan 2021 are based on continuing to facilitate data centre development, subject to certain criteria, and future reviews, up to 2030. The Plan recognises, and takes account of the changes in demand for electricity over the next 10 years; and that this will alter the profile for demand and recognises that the forecast growth in data centres will represent a challenge to Ireland's emissions targets.

The Government policy set out under the Climate Action Plan 2021, states that the strategy on data centres will be reviewed (but with no set date for such a review) to ensure that growth of such users can only happen in alignment with sectoral emission ceilings and renewable energy targets. There are currently no planned reviews and this document and the recent CRU policy document clearly set out that each data centre must be considered on its own individual merit, and must, due to Eirgrid's DCCOPP requirement, have an on-site back-up power source. We respectfully submit that it is in this context that the current application must be considered by the Planning Authority.

These documents provide greater clarity to the Planning Authority in terms of the justification for the form of energy production and how that ties into the short, medium and long term Government and Eirgrid strategies in terms of energy production and capacity, and added detail on the feasibility of renewable energy technology being used in the development. Before addressing the points raised, it is incumbent that the roles and functions of the statutory bodies involved in energy production, and policy changes, and how the proposal falls into these are outlined.

What is the CRU's role in energy policy and data centre connections?

The Commission for Regulation of Utilities (CRU) mission is to protect the public interest in Water, Energy and Energy Safety and one of their four strategic objectives is to deliver sustainable low-carbon solutions with well-regulated markets and networks. In their decision paper of the 22nd November, the CRU have confirmed that it will work with Eirgrid and ESB Networks, government and wider industry to facilitate the delivery of an electricity generation fleet that can meet Ireland's Climate Action Plan 2021 (CAP) target of up to 80% of electricity demand from renewable energy sources by 2030, whilst ensuring Ireland's energy needs are met. These targets align with the *National Development Plan 2021 – 2030* which commits to increasing the share of renewable electricity up to 80% by 2030.

We respectfully submit that these changes to a greater reliance on renewable electricity are clearly outside the control of the applicant, but are strongly welcomed as the applicant will source 100% renewable power through a supplier via the national grid. The Multi-Fuel Generation Plant has also been future proofed, not only to run on HVO or gas, in both the short-term; but also as the back-up power to gas in the medium to long term (as opposed to diesel being used); and has the capacity to operate with biogas and / or hydrogen which is

transported through the high pressure gas connection when the GNI change the gas mix to include biogas or hydrogen. We refer the Council to the fact that diesel remains the fuel being used by the temporary generators that are attached to the western elevation of the data centers that are to be utilised in the event of a grid failure in an emergency operation situation only.

The CRU in their decision paper have outlined criteria that both Eirgrid and ESB Networks will need to consider in assessing data centre connection applications to determine whether to make a connection offer. In this regard we note that the applicant already has an accepted Flexible Demand Connection Agreement with Eirgrid, a copy of which accompanies this response.

Irrespective of this, and for the clarification of the Planning Authority we have provided an assessment of the current proposal having regard to the four criteria set out by the CRU in their decision paper entitled "*CRU Direction to the System Operators related to Data Centre grid connection processing*" issued on the 22nd November 2021. This has directed Eirgrid and ESBN to assess future applications for the connection of data centres by reference to the following assessment criteria to determine whether a connection offer can be made within the system stability and reliability needs of the electricity network. Any need to increase the agreement with Eirgrid would be subject to these criteria, as follows:

The location of the data centre applicant with respect to whether they are within a constrained or unconstrained region of the electricity system

The Greater Dublin Area has been identified as a constrained region in terms of the national grid following the publication by Eirgrid of the *'Data Centre Connection Offer Process and Policy'* Document published in July 2019. As the Eirgrid offer to the applicant was made subsequent to this date it is reasonable to conclude that the offer was made with full regard to this constraint, and that the application as now proposed fully meets the conditions of that connection agreement.

The ability of the data centre applicant to bring onsite dispatchable generation (and/or storage) equivalent to or greater than their demand, which meets appropriate availability and other technical requirements as may be specified by the relevant SO, in order to support security of supply.

The proposed Multi-Fuel Generation Plant that forms part of this AI response will provide onsite energy production that will supply and reinforce the national grid that will ensure the security of supply of electricity to the wider national grid if and when required; irrespective of the demand on power of the proposed data centers. The Plant is scaled to ensure that it has capacity to dispatch energy equivalent to, or greater than the data centers capacity agreement with Eirgrid into the national grid. This will provide security of power within the local and wider area that will have significant benefits in facilitating other developments in the local area with significant benefits to the local economy.

The ability of the data centre applicant to provide flexibility in their demand by reducing consumption when requested to do so by the relevant SO 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 the relevant SO, in order to support security of supply.

The proposed Multi-Fuel Generation Plant that forms part of this application will enable the applicant to provide flexibility in their demand for power by reducing the net consumption from the wider national grid when requested to do so in times of systems constraint when power will be dispatched from the plant into the national grid. The nature of the multi-fuel generation plant is designed to meet the appropriate availability and other technical requirements in order to reinforce the national grid that will ensure the security of supply of electricity to the wider national grid if and when required.

The ability of the data centre applicant to provide flexibility in their demand by reducing consumption when requested to do so by the relevant SO, in times of system constraint, in order to support security of supply.

We can confirm that the applicant. through the provision of the Multi-fuel generation plant, will be able to reduce their net requirement of power from the national grid when requested to do so through the Multi-fuel generation plant.

Summary

We refer the Planning Authority to the fact that the CRU has not afforded priority to these criteria and that the CRU have indicated that Eirgrid and ESB Networks need to be afforded flexibility in considering the

assessment criteria to decide whether it is appropriate to make a connection offer; and that each connection must be considered on its own merits.

We respectfully having regard to these new criteria the applicant clearly meets the new requirements. Irrespective of this, they already have a Fixed and Flexible Demand offer from Eirgrid to the data center development and an offer from GNI to provide power to the Multi-Fuel Generation Plant. These offers were made in the context of the full knowledge of Eirgrid working to a greater reliance on renewable power by 2030.

Eirgrid offer to Vantage

We respectfully submit that in this instance the applicant is already in receipt of a connection offer from Eirgrid to connect the proposed development with the proposed substation (known as Kilcarbery) that is subject to a separate SID application by the same applicant, as is required under legislation, into the national grid. This offer was executed with Eirgrid on the 1st April 2021 in the full knowledge of the constraints within the Greater Dublin Area. This delivers a ramped connection that is planned to start in Q4, 2023 when it is intended that the first data center (DUB11) is expected to be in operation. This current connection agreement provides an initial low import of power and then is ramped up to the final Maximum Import Capacity (MIC) over a number of years.

Given this was made following both the *'Data Centre Connection Offer Process and Policy'* Document published in July 2019 by Eirgrid and the National Climate Action Plan 2019; it is only reasonable to conclude that the locational requirements and other criteria in place at the time, were considered to have been met.

The absence of power supply via Eirgrid to commence operation and the apparent shortfall in power supply from the temporary and permanent power plants appears to demonstrate that the proposed development will contribute to a future demand for grid reinforcements

We respectfully submit that it is not the case that there is an absence of power supply available via Eirgrid and this is an incorrect interpretation of the current system issues. Grid constraints (as opposed to grid reinforcements) are created through a combination of factors, including the lack of any new conventional generation being added to the grid over the past decade. By bringing new flexible generation to the point of demand, not only does this ease grid constraints, it will also provide much needed flexible capacity on the grid to facilitate the increased level of renewables aspired to in the Climate Action Plan; and meets the requirements of the CRU policy in terms of new grid connections for data centers.

Additional Information Point 1(a)

The applicant is advised that the Planning Authority has significant concerns in relation to the justification and site suitability for a gas powered data centre (both permanent and temporary) proposal, in the context of national, regional and local policy on energy and climate resilience and adaptability. The applicant is requested to submit the following additional information in order for the Planning Authority to undertake a proper assessment of the proposed development:

(i) Justification for the form of energy production proposed in relation to climate change and renewable energy policy.

The policy relating to climate change and renewable energy policy is set out under the South Dublin County Council Climate Change Action Plan 2019; and the recent Government publication of "*Climate Action Plan 2021: Securing Our Future*". We note that the SDCC Climate Change Action Plan 2019 was prepared having regard to the wider *A Strategy towards Climate Change Action Plans* for the Dublin Local Authorities, published in 2017; and must therefore be considered to be in accordance with this strategy.

We respectfully submit that the subject development is fully in accordance with the principles and targets of the South Dublin County Council Climate Change Action Plan 2019, which seeks to improve the energy efficiency and reduce greenhouse gas emissions; whilst making South Dublin a more climate resilient region.

In order to align with these policies the Power Plant will be amended under this AI Response to be a Multi-Fuel Generation Plant. This means that it can be run on natural gas and / or HVO (Hydrotreated Vegetable Oil), that is a second generation biofuel which means a reduction in NOx, SOx CO (Carbon Monoxide) and particulate matter (i.e. GHG emissions) and is capable of running on bio-gas once it is introduced into the pipeline.

This change in the energy strategy of the applicant will ensure the following:

- There is no longer a requirement for the temporary gas powered generation plant to be providing power to the data centers for a period of two years as proposed under the original application that will be replaced by one half of the Multi-Fuel Generation Plant running on HVO for a similar period;
- The proposed development will generate less emissions due to the Multi-Fuel Generation Plant running on solely HVO initially, and then when running on gas, being backed up by HVO over the timeline of the permission;
- The Multi-Fuel Generation Plant will be future proofed to accommodate it running on any biogas / hydrogen gas mix that Gas Network Ireland adds to mains supply in the future.

Furthermore, we note that it is established Government policy (as stated in the Policy Statement on Security of Electricity Supply that is dated November 2021) that it is a national priority to construct (and therefore by default grant permission for) gas fired power plants to combat the squeeze on electricity supplies in the short to medium term. The latest bid auction has identified several suppliers that will add capacity through operating on gas. The focus on gas as a short to medium term solution will enable the closure of coal and peat burning plants; and will bridge the gap to renewables achieving 80% by 2030. The Policy Statement by Minister Ryan is fully in accordance with CRU policy, and whilst recognising the significant projected growth in energy demand, which is only partly due to data centres concludes 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;*
- *it is appropriate that existing conventional electricity generation capacity, including existing coal, heavy fuel oil and biomass fired generation, should be retained until the new conventional electricity generation capacity is developed in order to ensure security of electricity supply;*
- *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;*
- *it is appropriate for additional electricity transmission and distribution grid infrastructure, electricity interconnection and electricity storage to be permitted and developed in order to support the growth of renewable energy and to support security of electricity supply; and*
- *it is appropriate for additional natural gas transmission and distribution grid infrastructure to be permitted and developed in order to support security of electricity supply."*

This Policy Statement supports the Commission for Regulation of Utilities (CRU) and EirGrid as they carry out their statutory roles to ensure security of electricity supply in Ireland. It provides clarity to investors and planning authorities that the Government fully supports the actions being taken by the CRU and EirGrid, including the need to develop new gas-fired generation capacity. The proposed Multi-Fuel Generation Plant, will support the further decarbonisation of the grid as more renewable sources are brought on line.

Furthermore, we refer the Planning Authority to the fact that the applicant has incorporated energy efficiency into its buildings and use of plant; has sought to maximise transport accessibility by non-car users wherever possible; ensured flood resilience; is proposing Sustainable Urban Drainage Systems and proposes a 60-80m wide biodiversity strip created from existing farmland, between the Baldonnel Stream and the New Nangor Road. These all add to providing a more sustainable development within a more climate-resilient county.

Energy production

There are two energy production elements to consider having regard to the above that relates to energy production from the national grid and the use of gas with a back-up of HVO to directly fire the Multi-Fuel Generation Plant on-site. The site is currently provisioned to utilise PV panels above the Administration block of both data centers. The applicant seeks to implement a cooling system design for its data centres that minimises use of water.

Climate Action Plan 2021 seeks to increase the proportion of renewable electricity to up to 80% by 2030, and therefore the applicant will be drawing from this reserve and this significant shift to a more renewable based electricity production to serve the national grid. The aim to also increase the capacity of the national grid to take account of data centres already subject to connection agreements is fully allowed for under the Climate Action Plan 2021. These strategies are to run parallel to each other to ensure that future connections of data centres is in alignment with sectoral emissions ceilings and support these renewable energy targets.

The use of electricity as a fuel source for heating and cooling the building was examined, along with other options to reduce the reliance on fossil fuel use on-site given the increased levels of wind farm connectivity. However, none of the other options explored were considered to adequately meet the requirements that Eirgrid or HVO and gas can provide.

In that regard, the applicant proposes to utilise new, high-efficiency engines within the Multi-Fuel Generation Plant. These plants are required, irrespective of data centres, as they supply grid balancing services which in turn facilitate greater levels of renewables to connect to the grid; and to replace older, less efficient and higher carbon intensity fossil fuel generators, such as coal, peat and oil generation that are currently operating but with a plan to de-commission them over the coming years. This will aid the move across to a more renewable energy production as we move to 2030.

In addition, the Irish gas grid operator, Gas Networks Ireland, in its Vision 2050 strategy from 2020, sets out a clear trajectory for transitioning the Irish gas grid to net zero over the coming decades, which includes increased volumes of green renewable gas, carbon capture and storage along with green hydrogen production, all of which are recognised and supported in the Climate Action Plan. Therefore, as the gas grid transitions to lower carbon intensity, so too will the flexible Mutli-Fuel Generation Plant deployed onsite for the benefit of the wider grid, including corporate power purchase agreements for the supply of renewable natural gas.

High efficiency gas, as is proposed to be used for the power plant in this instance, is a lower carbon generation solution (compared to coal, peat and oil generators currently on the Irish grid) which balances the grid and provides stability and flexibility during times of low wind / solar (addressing the unreliability and intermittency of renewables), along with critical inter-seasonal capacity over a longer duration that storage, for example.

Having such flexible low carbon generation facilitates greater levels of renewable penetration, along with supporting the decarbonisation of the Irish gas grid through carbon capture and storage, green biomethane, and green hydrogen going forward. The plant has the capacity to operate under other fuel sources going forward that will enable it to continue to reinforce the grid on fully green fuel supplies such as green biomethane and green hydrogen. The plant is therefore future proofed to utilise more renewable sources of fuel when they become readily available in Ireland.

The Climate Action Plan also notes the requirement for an additional 5,000MW of new generation by 2030 at least 2,000MW coming from conventional generation. By making high efficiency flexible gas generation available at scale at the immediate point of demand, this actually reduces the requirement for future grid reinforcements and has the potential to relieve congestion in the locality. The Climate Action Plan also recognises the need for a diversified portfolio of generation up to 2030 and beyond in order to deliver grid stability and system services arising from increasing renewable energy penetration. High efficiency engines, along with storage and interconnection are recognised as contributing to this solution and facilitating greater levels of intermittent renewables.

We respectfully submit that the energy strategy set out by the applicant is governed by Eirgrid who operate under and in accordance with Government policy and strategy that is set out under Climate Action Plan 2021

Additional Information Point 1(a)(li) & (iii)
(ii) provide more detail regarding the alternative sources of power generating assessed as part of the alternatives.
(iii) consider whether it is possible to incorporate a significant portion of renewable energy generation for the development.

Response to point 1(a) ii and iii
We respectfully submit that in responding to this matter the applicant has undertaken an assessment of several alternative sources of power generation. The review assessed the possibility of utilising various renewable sources of power and they were ranked in terms of their viability for use as part of the Proposed Development.

The various renewable sources of power were considered having regard to the following criteria and whether they offered a high (green), moderate (orange) or low potential (red) to be utilised. The criteria were:

1. Fuel – is the source of the fuel sufficient to generate power for 8,760 hours a year and are there potential supply chain risks?
2. Power density – is a large amount of land required to generate sufficient power?
3. Technology – can the technology be considered reliable? Has there been sufficient operational hours of the installed base?
4. Output – can the technology operate 24 / 7 as is required by a data center?
5. DCCOPP Compliance – would the technology be considered intermittent by Eirgrid?

	INPUT	LAND	TECHNOLOGY	OUTPUT	DCCOPP	Rank
	Fuel	Power Density	Maturity	Intermittency	Compliance	
Solar Farm						4=
Solar Roof						5
Onshore Wind						4=
Energy from Waste						3
HVO						1
Hydrogen						4=
Fuel Cell						2

This assessment indicated that the three most viable technologies were:

- Hydrotreated Vegetable Oil (HVO) – a second generation biofuel;
- Fuel Cells: powered by natural gas – a solid oxide based technology; and
- Energy from Waste – technologies such as Pyrolysis or Gasification.

The ability to utilise energy from waste was rejected due to the risk of sourcing sufficient tonnage of black bag waste, which was considered to be significant in the medium to long-term. The applicant also considered the potential of fuel cells, but these were rejected on the basis that the technology was not sufficiently mature to be considered bankable. Additionally, fuel cells run on natural gas and selecting this technology would have limited future flexibility to run on increasing levels of more renewable energy sources such as biomethane / hydrogen supplied by Gas Networks Ireland. HVO fuel is more expensive than red diesel but has a much lower carbon footprint and emissions are significantly reduced. It can also be used in existing generator technology without modification.

Additional Information Point 1(a)
(iv) Information on whether the existing site is serviced in terms of gas utilities and if not, the proposals for undertaking the development required to facilitate servicing
(v) Information on proposals to connect the power plant and site to the national gas grid and the source of gas proposed. Details of consultation with Gas Networks Ireland should also be set out.

Response to point 1(a) iv and v
We can confirm that the applicant submitted a connection application to Gas Networks Ireland (GNI) to access a high pressure gas connection located in a location to be determined between the applicant and GNI but within a short distance from the site. This has led to GNI providing a gas connection offer to the applicant on the 13th October 2021. The offer compromised:

- Connecting to the existing 70bar Transmission Pipeline;
- Laying circa 1km new 70bar Transmission pipeline to the site;
- Construction of a new Above Ground Installation (AGI) on the site; and
- That GNI undertake all of the development relating to the connection works

The applicant and GNI are currently agreeing terms to accept the offer, which is currently projected to be completed in Spring 2022.

Additional Information Point 1(b)
(b) The applicant is requested to provide an assessment of the potential to serve the site with renewable energy. Where this is not possible, the applicant is requested to set out the following:
(i) The ability of the on-site gas generation to serve DUB11.1, DUB11.2 and DUB12

Response to point 1 b(i)
We respectfully submit that as already outlined, the applicant has re-examined the original gas power plant and now proposes a Multi-Fuel Generation Plant which is capable of being fuelled by either HVO (Hydrotreated Vegetable Oil) or natural gas. As outlined in our response to point (a) iv and v, the applicant is progressing a connection agreement with GNI to provide gas to the Multi-Fuel Generation Plant.

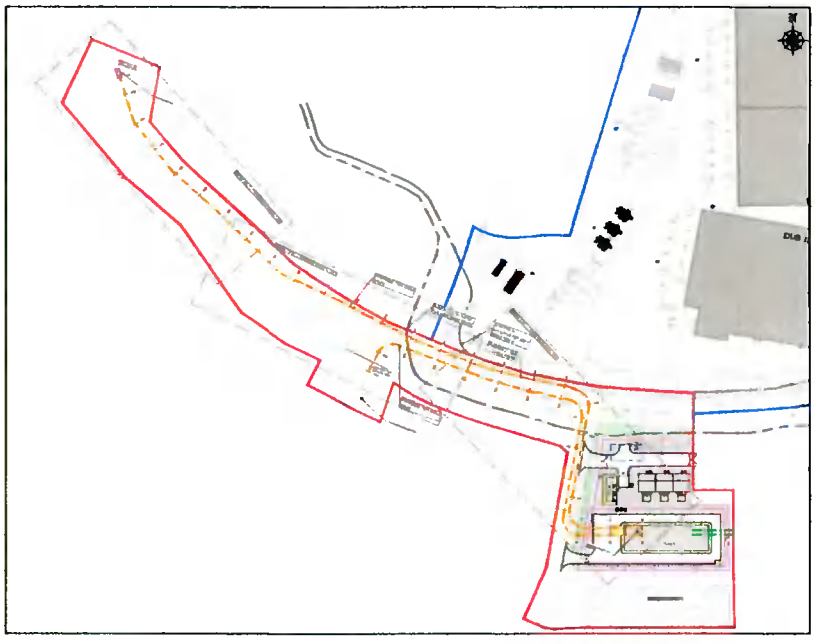
We can confirm that the function and capacity of the Multi-Fuel Generation Plant is sized to provide adequate power to serve DUB 11 and DUB12 in every planned scenario. It is also sized, in accordance with the new policy of the CRU and DCCOPP, to provide onsite energy production that will supply and reinforce the national grid that will ensure the security of supply of electricity to the wider national grid if and when required; irrespective of the demand on power of the proposed data centers. The Plant is scaled to ensure that it has capacity to dispatch energy equivalent to, or greater than the data centers demand into the national grid.

(ii) Proposal/timeframe for decommissioning on site generators

Response to point 1 b(ii)
We respectfully submit that having reviewed the planners report and other accompanying reports that led to the AI request, it would be our considered opinion that this part of the request related to the temporary power plant. As this has been removed, and that no other elements are proposed to be decommissioned on site then we are of the opinion that this matter has been comprehensively addressed.

(iii) Proposed route/location of grid connection

Response to point 1 b (iii)
As outlined previously in this response the applicant has been engaged in preparing an SID application to An Bord Pleanála, that will be for a 110kV GIS substation and compound and two no. 110kV transmission lines that will connect into the Castlebaggot-Barnakyle circuit and Barnakyle substation to the west. These transmission lines are 492m and 274m in length respectively. These connection points have been agreed with Eirgrid and will be subject of the SID application to be made in January 2022. The planned GIS substation (to be known as Kilcarbery) and transmission routes, subject to final agreement from Eirgrid and ESB Networks, prior to the making of the SID application are shown in the diagram below. The Proposed Development will connect into the proposed Kilcarbery substation via 20kV infrastructure under Falcon Avenue that will traverse under the wayleaves either side of the road and then pass through the site to the various parts of the Proposed Development site.



Proposed SID application layout plan showing the current application site outlined in blue (with amended scheme), and the SID application site outlined in red, with the two transmission lines show in orange

(iv) Correspondence from the Commission for Regulation of Utilities/Eirgrid that connection is feasible and the timeline for the connection, as well as details of any consultation undertaken with these bodies

Response to point 1 (b) (iv)
We attach with this AI submission evidence of the connection agreement between the applicant and Eirgrid. This is a redacted novation agreement between Eirgrid, the applicant and Profile Park (who were in receipt of the original offer from Eirgrid). Some elements of the agreement are redacted from a commercial sensitivity perspective but we can confirm that connection is feasible to both the national grid and the gas network.

The site has access to two existing substations which will feed into a new-build Eirgrid substation called Kilcarbery. This will then serve the Proposed Development. The applicant accepted an Eirgrid connection agreement on 1st April 2021. The connection is due to be operational in Q4 2023 and will be phased. From January 2025, the connection will come under the DCCOPP strategy and the site will have a fixed and flexible demand offer.

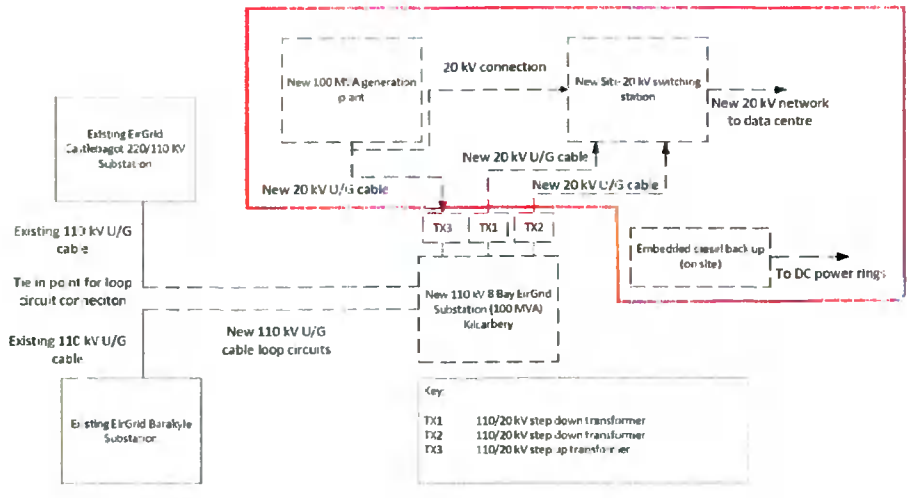
The connection offer is currently at stage 2 due to the extant permission that exists on site. The applicant currently has additional Modification Applications in place with Eirgrid which are currently under consideration. These are:

1. to become an auto producer and to enable the export of power;
2. to increase the ramp rate (phasing if increasing import capacity); and
3. to increase grid maximum import capacity.

We can confirm that Eirgrid have in December 2021 confirmed that HVO is acceptable as a secondary fuel for DCCOPP compliance. The applicant is currently in consultation with Eirgrid on how does plant registration work under the DCCOPP regime. These discussions are ongoing and complex since the DCCOPP is still in consultation and Eirgrid are yet to formerly confirm the operational context of the DCCOPP.

(c) The applicant is also requested to provide details of the following:
(i) Information on whether the existing site is serviced in terms of utilities and if not the proposals for undertaking the development required to facilitate servicing.

Response to point c (i)
We respectfully submit that agreements are in place to connect the site to utilities (gas network and national electricity grid). Under an agreement for GNI to undertake works to connect the site to the gas network, which are targeted to be in place by Q4, 2024. The concurrent SID application to be lodged in January 2022, will facilitate the substation known as Kilcarbery to connect to the national grid, which will provide power via 20kV connections to the data centers. We can therefore conclude that the site has agreements in place to be fully serviced by utilities. The interconnection of the different elements are summarised below, with a red line what forms the application.



(ii) Details of the connection to the surrounding area and national gas grid

Response to point 1 (c) (ii)
As per our response to point 1(a)(v) we can confirm that the applicant submitted a connection application to Gas Networks Ireland (GNI) to access a high pressure gas connection in close proximity to the site. This has led to GNI providing a gas connection offer to the applicant on the 13th October 2021. The offer allows the applicant to connect to the to the existing 70bar Transmission Pipeline; allows for the laying of circa 1km new 70bar Transmission pipeline to the site; Construction of a new Above Ground Installation (AGI) on the site; and that GNI will undertake all of the development relating to the connection works. The applicant and GNI are currently agreeing terms to accept the offer, which is currently projected to be completed in January 2022.

(iii) Clear proposals for decommissioning of any temporary plant

Response to point 1(c) (iii)
As the applicant has removed the temporary plant from the Proposed Development there is no requirement for the decommissioning of any temporary plant.

(iv) Details of the energy which each phase will be supplied from.

Response to point 1(c) (iv)
We respectfully submit that the energy phasing of the scheme has now been broken into three phases that will be dependent on customer demand. The currently projected timelines for the two phases of construction that are clearly set out in the revised EIAR, can be summarised as follows:

Phase 1 – DUB 11 and 50% of the Multi-Fuel Generation Plant due to be completed in Q3, 2023, and the start of operation in Q4, 2023

Phase 2 – DUB12 and 50% of the Multi-Fuel Generation Plant due to be completed in Q4, 2024, and the start of operation in Q1, 2025.

All other substantive elements are proposed to be completed within Phase 1.

Energy strategy - Phase 1
The first data centre (DUB11) and first half of the Multi-Fuel Generation Plant will be built and planned to come into operation in Q4, 2023. The Multi-Fuel Generation Plant will then run solely on HVO for a period of less than two years, up to when the gas connection is planned to come online by Q1, 2025. The Multi-Fuel Generation Plant during this period has the potential, if required, to directly power the data center (DUB11). Given the intended phasing of the energy demand of the data center during this period it will mean that the power to serve DUB11 during this period will be from a renewable source that is 100% sustainable non-toxic, bio-degradable diesel fuel which can be used as a direct replacement for traditional fossil and earlier generation biodiesel. Additionally, HVO produces less NOx and SOx emissions than fossil fuels. The scale of the Multi-Fuel Generation Plant will also enable power from the plant to reinforce the national grid during this period.

Energy strategy - Phase 2
The second phase of the energy strategy is aligned with the gas connection coming online and with the operation of the second data center (DUB12) and the second part of the Multi-Fuel Generation Plant in Q1, 2025. This phase will see the national grid providing an increased level of power to serve the data centers as part of the agreement with Eirgrid.

The flexible element of the connection agreement comes into place on the 31st December 2024. This connection agreement allows the fixed element to be dropped to 11% of the full agreement.

Based on the policies above, to get a connection to the national grid, the stipulation of Eirgrid is that a data centre must install on-site dispatchable generation, as is proposed in this instance. This on-site generation must be capable of running continuously for an extended period of time not limited by fuel reserves. This would be in multiple individual intervals during peak daily usage in winter that is estimated up to 500 hours per annum. It is this policy that prompted the applicant to include an onsite generation plant in the planning

application for the data center. This gives the Multi-Fuel Generation Plant the ability to provide extra power and to reinforce the national grid when it comes under stress at peak load.

Energy strategy - Phase 3
This phase of the strategy is aligned with the full operation of the entire data center campus and where the continual ramping up of power from the national grid will be supplemented by power from the Multi-Fuel Generation Plant, when and if required.

Sustainable approach to power generation
HVO (Hydrotreated Vegetable Oil) is a renewable low carbon, second generation biofuel which can be used as a direct replacement for traditional fossil and earlier generation biodiesel. HVO can also be stored for longer, up to 10 years, than diesel. Both emissions and smoke are significantly reduced when used in standalone generation, as is proposed in this instance.

We refer the Council to the fact that the applicant is also reviewing the possibility of replacing diesel with HVO to serve the back-up generators.

As a result of the proposed change to dual fuel, the applicant has drastically reduced its reliance on grid electricity to power the data center. Additionally, the Multi-Fuel Generation Plant provides additional resilience and re-enforcement to the national grid should it ever become unstable. This is the flexibility the Climate Action Plan calls for and is stipulated by Eirgrid's DCCOPP.

Whilst the proposed development will draw power from the national grid, this will be positively off-set by the power generated by the Multi-Fuel Generation Plant at times of system stress within the national grid only and not on a permanent basis.

Emissions will be reduced in line with current sector requirements and there is sufficient flexibility in the way the data center and dual fuel plant operate to meet future requirements, particularly when GNI change the gas mix to include biogas or hydrogen.

The proposed Multi-Fuel Generation Plant running on HVO and gas is in line with the ambitions of the Climate Action Plan and is compliant with Eirgrid's DCCOPP. The applicant are also of the considered opinion that their plant will be a catalyst to forming an HVO supply market in the South Dublin and wider Irish market - they would commit, when available, to sourcing their demand from this local market. It is envisaged that this will contribute to job creation for the local community and the creation of a sustainable, indigenous renewable resource.

Sustainability
The applicant is engaged in and committed to reducing their impact on the climate. They will achieve Net Zero Carbon by 2030. They will do this by implementing and investing in projects and processes that reduce Green House Gas (GHG) emissions while investing in technologies that actively remove carbon from the atmosphere equal to their annual Scope 1 and 2 emissions.

They are also a signatory of the EU Climate Neutral Datacenter Pact. This is a self-regulatory initiative of operators and trade associations 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.

The applicant is also actively engaging directly with developers of renewable generation plant to secure long term, green energy for all their facilities. Furthermore, they are working with their stakeholders to leverage their demand to accelerate the maturity of nascent technologies. By providing a sufficiently large demand, they can help drive down the cost of clean technologies to a price point that makes them attractive to a wider and more diverse user base.

2. A primary element of the proposed development, which it is stated to be required to accommodate the full extent of the data centre structures on site, is the realignment of the existing Baldonnel Stream, which currently travels northwards along the eastern boundary before meandering westwards close to the northern boundary. The stream is an established feature, with existing trees and vegetation along its banks, particularly along the eastern boundary. It is noted that under Reg. Ref. SD20A/0124, that it was proposed to realign the stream and that under an AI request the applicant was required to redesign a development more suitable for the site where the alignment of the stream was retained; this was successfully achieved and the development for warehousing was subsequently granted with the stream intact.

(A) In light of this, the applicant is requested to reconsider the proposed development on the site, as follows:
(i) constructing all required structures on the site in a more southerly/south-westerly direction, by relying more on the internal road network within Profile Park (Falcon Avenue). The planting scheme and landscaped area proposed at the southern end of the site could be relocated at the northern end alongside the existing stream. The applicant is requested to submit a revised layout plan indicating this.

Response
The applicant and their design team that was led by Burns & McDonnell Architects have, following the request for Additional Information, undertaken a thorough review of the master-planning of the site. This review has enabled the existing Baldonnel Stream alignment to be retained in situ; fully in accordance with the principles established under Reg. Ref. SD20A/0124.

This has been undertaken, whilst retaining some of the landscaping at the southern end of the site, but also in enhancing the landscape strip either side of the stream; creating new flood attenuation meadows and heavily landscaped bunds within the northern part of the site. A revised Proposed Site Plan accompanies this response – Drawing no. DUB11-DR-SP-A004-V1-PL-BMD.

(ii) If (i) cannot be achieved, the applicant should consider the omission of one of the datacentre structures.

Response
We respectfully submit that as the request under point 2(i) has been achieved then there is no requirement to omit one of the data center structures.

The applicant should note that the proposal to realign the stream to accommodate the datacentre development may be considered to be an overdevelopment of the site and would not be looked upon favourably by the Planning Authority.

Response
We respectfully submit that the ability of the applicant to accommodate the data centre development without having to realign the stream has comprehensively addressed the issue of overdevelopment raised under this part of the Additional Information request. The more compact layout enables both the stream to remain along its current alignment but also within a significantly enhance biodiversity corridor. The footprint of development now reflects, or is less than other similar examples of data center development within the local area. It is incumbent on the Council to therefore conclude positively in relation to this change to the overall layout plan in this instance.

(B) The applicant is requested to submit a revised drawing in plan and cross section of the stream to include details of the ecological enhancement value of the stream above its existing condition. The hydromorphology of the stream diversion should be varied to create ecological diversity and enhanced amenity, water quality improvement and attenuation. A landscaped area with SuDS features should be provided as part of a treatment train that provides multifunctional benefit.

Response
Whilst the applicant no longer proposes to realign the stream, in accordance with this part of the Additional Information request, a set of cross-sections of the stream in its existing and continued alignment are included

for the information purposes of the Council as outlined on Drawing nos. DUB11.1-DR-SP-C313-V0-WS4-PIN, DUB11.1-DR-SP-C313-V0-WS4-PIN and DUB11.1-DR-SP-C313-V0-WS4-PIN prepared by Pinnacle Consulting Engineers. The existing stream alignment will now pass through a significantly enhanced landscaped and biodiversity area that includes additional landscape planting, proposed bio-swales /attenuation areas with native wetland meadow and riparian planting edge along the southern edge of the stream. This area will include a living willow wall to the edge of the existing stream; with the stream to be enhanced with native riparian planting. The existing riparian vegetation and trees are to be retained with a new hedgerow linking new habitats with existing biodiversity corridors running to the north of the stream.

(C) The applicant is requested to clarify that a 10m riparian strip (measured from the top of each of the banks) has been provided and does not include any built development and is taken from the top of the bank.

Response
We can confirm that the revise site layout plan (Drawing no. DUB11-DR-SP-A004-V1-PL-BMD) clearly indicates that a 10m wide riparian strip (measured from the top of the bank on either side) has been provided along the entire length of the existing stream, and does not include any built development, apart from ecological enhancements, fully in accordance with Policy G3, Objective 2 of the County Development Plan and this part of the AI request.

(D) If the Applicant, after considering Item A above, still considers proposing the realignment of the watercourse, the applicant is requested to provide:
- **(i) further details of the watercourse as existing and as proposed, providing an overlay and indicating culverts to be removed etc. Gabions, concrete beds/supporting walls and other heavy engineering solutions should be avoided in all revised proposals.**
- **(ii) details that the proposal complies with the requirements of Inland Fisheries**
- **(iii) details confirming a Section 50 licence can be obtained from OPW.**

Response
As the applicant is no longer proposing to realign the Baldonnel Stream, we respectfully submit that the details required under points i, ii and iii of this part of the Additional Information request are no longer required. As the stream is remaining in its current alignment there is also no need to consult directly with Irish Fisheries.

We can also confirm that the existing culvert on site will be removed as part of the revised scheme under this AI response in order to aid biodiversity of the stream. This is fully in accordance with the aim of Objective 4 of Policy G3 of the County Development Plan, which is to uncover existing culverts and restore watercourses to acceptable ecological standards and for the passage of fish, where possible. The culvert will be replaced in accordance with Section 50 of the Arterial Drainage Act 1945.

(E) Significant reduction in soil sealing and hard surfacing across the entire site should be achieved within the revised design

Response
The applicant has proposed a significant reduction in soil sealing and hard surfaces throughout the site and this is further addressed under the Pinnacle Consulting Engineers response to Point 6 of the Additional Information request. The proposed hard surfaces have been reduced by 21.2% from 15,079sqm to 11,883sqm with the use of additional permeable paving; gravel areas as shown on Drawing no. DUB11.1-DR-SP-C130-V0-WS4-PIN produced by Pinnacle Consulting Engineers. In addition the applicant has proposed green roof's above both the office elements of DUB11 and DUB12 as well as additional SUDS measures throughout.

3. (a) The proposed size, bulk, scale and mass of the development and the land coverage the buildings are significant and may be deemed to be an overdevelopment of the site. Any development proposed on lands zoned for Enterprise and Employment is required to comply with policies and objectives contained within the current County Development Plan. Chapters 7 and 8 require natural solutions and significant green infrastructure to form planning proposals on EE zoned land. It is apparent that there is a significant level of hardstanding across the site and 'greener' solutions may be more appropriate in some instances. The applicant is requested to reconsider the overall layout.

Response
As outlined under our response to Point 2(A) under this AI submission, the applicant has undertaken a comprehensive reconsidering of the overall layout in order to retain the existing alignment of the stream. This has reduced the overall footprint with a slight increase in the overall gross floor area from 40,589sqm to 41,105sqm but with the significant benefit of reducing hardstanding areas across the site and introducing greener solutions to all parts of the proposed development.

(b) The Planning Authority notes from a site inspection that the site is set below the existing internal road network and this change in levels is not apparent in the section that was submitted. It is also noted there will be cut and fill on this site and the applicant has provided a plan indicating how the levels will change across the site. In addition to this information, the planning authority require existing and proposed cross sections. It is apparent that there are retaining structures proposed and details of these should be provided on plans and sections provided.

Response
In accordance with the Council's request a set of cut and fill sections of the site accompany this AI response. Please refer to Drawing no. DUB11.1-DR-SP-C312-V0-WS4-PIN for the sections and Drawing no. DUB11.1-DR-SP-C130-V0-WS4-PIN for the external works plan as prepared by Pinnacle Consulting Engineers. These engineering drawings are shown at a horizontal scale of 1:500 and at a vertical scale of 1:100 to provide added emphasis to the changes in levels.

(b) The site is highly prominent, with significant blank facades.
(i) The data centre buildings are significantly taller than the landscaping. The Planning Authority has significant concerns regarding the visual impact of this element of the proposal, given the prominence of the data centres along New Nangor Road and also within Profile Park, on Falcon Avenue. The applicant is, therefore, requested to consider how the visual impact could be reduced, in terms of both the design of the buildings, reduction in footprint of the buildings and also the provision of significantly additional green infrastructure and landscaping. The applicant is also requested to consider:
- Reorientating buildings to increase the visual prominence of active facades;
- Redesigning buildings to reduce the monolithic appearance from New Nangor Road and Falcon Avenue;
- Provision of further green walls.

Response
We respectfully submit that the applicant has addressed this issue comprehensively in a number of ways. These issues are further addressed under our response to points 2 and 3 of the AI response, as set out under the accompanying design report made by the project architects – Burns and McDonnell.

The retaining of the stream in its current alignment has meant that the data centers have been relocated further south and are now positioned further away from the public domain along the New Nangor Road. The revised layout has resulted in the most northern data center (DUB11 now) having been pushed 16.15m further away from the northern boundary, so that it is now 52.74m away from the boundary with the New Nangor Road at its nearest point. By rotating the alignment of the building, the north-west corner of the building has been moved c. 26m away from this same boundary so that it is now c. 81m from the New Nangor Road and 103m away from the north-west corner of the site.

In addition to the above, the location of the DUB11 and DUB12 data centers have been swapped so that DUB11 is located to the north of DUB12. This ensures the reorientation of the buildings on the site so that its northern elevation; which contains its office component; and therefore its most active facade, faces towards the north of the site, and additional glazing has been added to the northern part of the eastern elevation. Whilst

the shrinking of the footprint of the buildings was considered; the business case of the applicants but more importantly, the revised layout and orientation of the buildings more that adequately addressed the concerns over the visual impact to a degree that did not require the shrinking of the footprint of any building.

Similarly, although less prominent due to its location within Profile Park, DUB 12 has also been reorientated so that it now has its office element facing Falcon Avenue; with additional glazing added to the southern end of its eastern elevation so that it provides a stronger façade as it faces the entrance into the business park. Both office elements, which represent the most active facades, now face onto and towards their most visually sensitive viewpoint.

The reorientation of the buildings so that their most active facades are orientated towards New Nangor Road and Falcon Avenue, fully addresses the concerns of the Planning Authority in relation to the visual appearance of the proposed development from these viewpoints. This is further aided by the realignment of the data centers and also their positioning further away from the most sensitive public boundary along New Nangor Road. The provision of green walls under the originally made application was focussed on the external staircases of both data centers. In response to the AI request, additional green walls have been added as follows:

- Along the lower half of part of the southern elevation of DUB 11;
- Along the lower half of the northern elevation of DUB11 to the west of the office element;
- Along the lower half of the screen to the north of the temporary generator yard serving DUB11;
- Along the lower half of the southern elevation of DUB12 to the west of the office element; and
- To the south of the temporary generator yard serving DUB12.

We respectfully submit that the provision of green walls is orientated, in the majority of instances, towards the stream to be retained in its current position. This aids the ecological interaction between the revised scheme and the enhanced biodiversity corridor. This will aid the long term management of the enhanced biodiversity corridor fully in accordance with Policy G3, Objective 1, 3 and 5 of the County Development Plan.

(ii) The permanent power plant would be over 118m long and would have a significant presence on the western boundary of the site. It is noted that the western elevation is blank and monotonous, with flues. Whilst significantly shorter than the west elevation, the south elevation also appears blank. The Planning Authority request that the applicant consider adding detail to these elevations, to reduce the monolithic appearance.

Response
We note the concerns of the Planning Authority in relation to this part of the Proposed Development, and as part of this response, the permanent power plant, as well as being altered to a Multi-Fuel Generation Plant has been broken into two separate elements. It has also been sub-divided by the much lower step-up transformer compound that is 5.5m in height and switch building so that they sit c. 40m apart within the site. The air quality assessment undertaken as part of its revised design, and mitigation required within the plant has required the flues to be increased from 25m to 30m in height.

The northern Plant (now to be located to the west of DUB11) is to be constructed under Phase 1 of the proposed development and will measure 63m in length. The second Plant (now to be located to the west of DUB12) is to be constructed under Phase 2 of the Proposed Development and will measure 46m in length. In addition to the 9m reduction in overall length and the splitting of the plants into two separate elements; the applicant has added elevational details to both plants. It is proposed that there is a darker metal cladding on their lower elements and which the air exhaust units help to break down the horizontal scale at ground floor. This darker cladding helps to ground the plants within the landscape and overall site.

The first floor of the plant is to be encased in a lighter cladding; with a further differential in cladding of the structures encasing the flues, with the flues also to be finished in a different shaded detail. All these changes cumulatively aid the breaking down of the scale and previous concerns over the form of the Multi-Fuel Generation Plant that reduce their monolithic form. Furthermore, due to their siting within the site, and their height, which apart from the flues is significantly lower than the data centers themselves they will not be visible from any sensitive views.

(iii) There are concerns regarding the design of the temporary power plant. It is noted that the proposal would be temporary, however, there are still concerns regarding the presence of significant blank facades. The floorplans provided indicate a single access gate to the north and south and it is noted that these details are not reflected on the elevations. The Planning Authority request that the applicant consider adding detail to these elevations, to reduce the monolithic appearance.

Response
We respectfully refer the Planning Authority to the previous response to this issue, which outlined that the temporary power plant has been removed from the application in response to the overall AI request of the Planning Authority. As a result there is no need to address this part of the AI request.

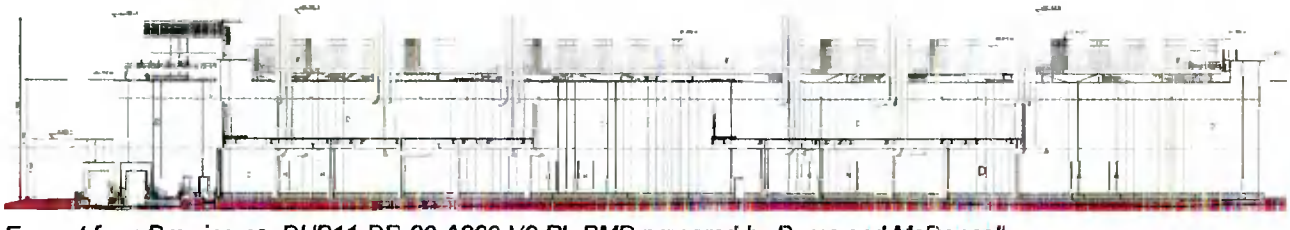
(c) The applicant is requested to provide:
(i) further details on the southern elevation of building 11. Details of temporary and final elevations should be provided, as it is proposed to construct this building under a number of phases.
(ii) further details on the northern elevation for the permanent power plant. Details of temporary and final elevations should be provided, as it is proposed to construct this building under a number of phases.

Response
We respectfully submit that it is now proposed to build DUB11 (building 11 as referred to in the AI request) in one single phase. The full extent of phase 1 is shown on the architectural Drawing no. DUB11-DR-SP-A005-V1-PL-BMD prepared by Burns and McDonnell. The southern elevation of DUB11 is provided as a permanent elevation to the data center and is outlined on drawing no. DUB11-DR-00-A200-V1-PL-BMD prepared by Burns and McDonnell. Additional green walls are proposed to this elevation in mitigation of it forming phase 1 and in case of any delay in the construction of phase 2.

It is also proposed to build DUB12 as a single entity in one phase. The change to the phasing will result in there will being no temporary elevations either as part of DUB11 or DUB12. Therefore no details of temporary phasing elevations are provided as part of this response.

(d) The applicant is requested to provide full details of all flues, in terms of location, scale and proposed materials. Details should be clearly set out in plans and elevations. Any temporary flues and the timeframe for removal should also be highlighted. It is noted that no roof plan has been provided for the temporary power plant.

Response
The Proposed Development will be served by two sets of flues. The first are those associated with the data centers and the back-up generators; and the second are those associated with the two parts of the Multi-Fuel Generation Plant. The 22 flues associated with the back-up generators associated with DUB11 are aligned along its western elevation and are 22.3m in height. They are grouped in four groups of 4 no. flues and two groups of 3 no. flues attached to the western elevation of DUB 11 (see below – refer to Drawing no. DUB11-DR-00-A200-V1-PL-BMD prepared by Burns and McDonnell for more details).



Excerpt from Drawing no. DUB11-DR-00-A200-V0-PL-BMD prepared by Burns and McDonnell

The 11 flues associated with the back-up generators associated with DUB12 are aligned along its western elevation and are also 22.3m in height. They are grouped in 2 groups of 4 no. flues and one group of 3 no. flues attached to the western elevation of DUB 12 (see Drawing no. DUB11-DR-00-A201-V1-PL-BMD prepared by Burns and McDonnell for more details). These flues associated with both data centers are to be constructed from 'Aluminium Curtain Wall System Schuco FWS50' and will be a light grey colour (RAL 7035).

The data center flues are partly hidden to their west by the now double stacked temporary generators (not shown on previous page) and their associated vents (20m in height) that are located along the western elevation of both data centers. The saw tooth arrangement of the vents provides an interesting articulation to the western elevation of both data centers.

The 11 flues associated with the Multi-Fuel Generation Plant have been required to be increased from 25m to 30m in height in accordance with the requirements of the air quality assessment with 6 no. flues associated with the northern plant and 5 no. flues associate with the southern plant. They are all located to the west of both plants. These flues are to be constructed from 'Aluminium Curtain Wall System Schuco FWS50' and will be a light grey colour (RAL 7035).

As the temporary plant no longer forms part of the Proposed Development, no details on these or roof plan of this element are therefore provided.

(e) It is noted that there are a number of inconsistencies between the description of development and the submitted plans and elevations:
(i) The permanent power plant, according to submitted plans provides the following:
Height – Ridge 11.55m and eaves 9.5m, chiller deck at 12.5m. It is noted that the description of development sets out that this building is 13m high.
(ii) The temporary power plant, according to the submitted plans, provides the following: Flue height 14.4m. It is noted that the description of development sets out that the flue are 25m high.

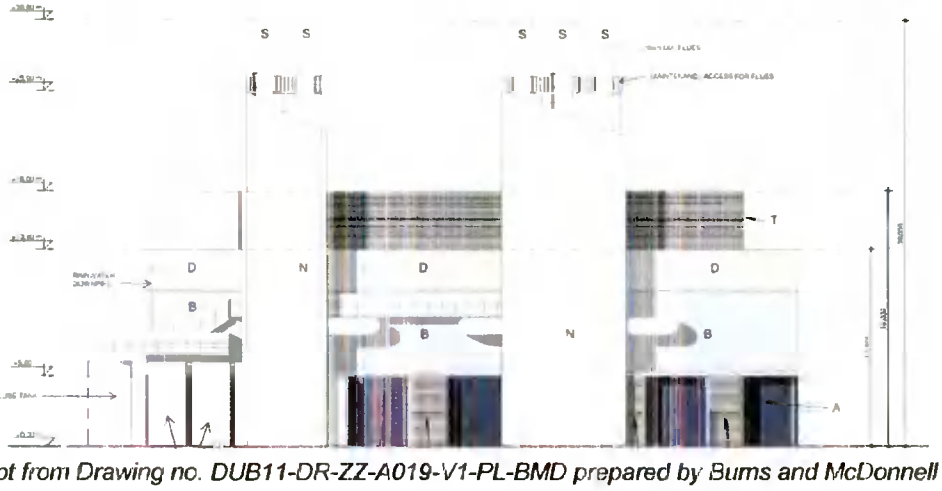
Response
We note the clarifications sought by the Planning Authority in relation to what was referred to as the Permanent power plant under the originally submitted application, and is now referred to as the Multi-Fuel Generation Plant under this AI response. Its redesign required it to be remodelled from a noise and air quality perspective. Their original height of 25m, due to their repositioning were resulting in them negatively impacting the cooling capabilities of the chillers on the roof of the data centers that would require more energy to cool the facility, which is a key component of the workings of a data centre.

We have therefore been required to increase the flues serving the two parts of the Multi-Fuel Generation Plant to 30m; which enables the flues to adequate disperse exhaust fumes away from the chillers and nearby residential properties. The revised height also ensures compliance with EN testing regimes required.

The assessment under the revised EIAR shows that this increase in height has addressed the previous failings from a noise and air quality perspective. We have also assessed the height of the flues from a visual impact perspective. The increase in height, due to the increase in set-back from the north will not alter the visual impact of the proposal from any public area; and is imperceptible from a medium to long distance perspective. The only change to the impact is from within Profile Park itself.

As a result of the change we have re-run the aircraft hazard study requested by Casement, and making them and the Department of Defence aware of these changes. Confirmation of their acceptance of same is attached.

The change to the new Plant has an overall height of 13.9m with the louvered screen that is set back from all elevations being at a height of 18m. The chimneys within which the flues are located are at a height of 22-25m with the flues rising to 30m in height. The below elevation provides clarity in relation to this issue.



Excerpt from Drawing no. DUB11-DR-ZZ-A019-V1-PL-BMD prepared by Burns and McDonnell

(f) The diesel-powered electrical generators located to the immediate west are housed on site in a screened equipment yard located adjacent to the building and separated by an internal road. The applicant states the usage is only to supply power in the event of a utility outage. The Planning Authority would request further details and cross-sectional views on the stated 'buried fuel tanks shall only be used where sub-base tanks are prohibited.

Response
There appears to be some confusion in this regard. The application was originally made, included emergency back-up generators to power the data center in the event of a national grid blackout, and the temporary plant that was originally required to continuously power the data center prior to the connection to the national grid. It is this temporary power plant that was located to the west of an internal roadway. This temporary power plant, as previously outlined, no longer forms part of this application. The emergency back-up generators to power the data center, which are now double stacked, include belly tanks that fit below each generator at ground level. Please refer to Drawing nos. DUB11-DR-00-A116-V0-PL-BMD prepared by Burns and McDonnell that provides further details and a cross-section of these belly tanks.

In addition and for the clarity of the Council the tanks containing HVO that are located under both the Multi-Fuel Generation Plants are indicated in sections on Drawing nos. DUB1-DR-ZZ-A018-V0-PL-BMD and DUB1-DR-ZZ-A016-V0-PL-BMD.

(g) there are a number of inconsistencies within the photomontages. The applicant is requested to provide the following:
- Location of view 1
- Proposed views for view 4 and 8
- Details of locations for 7a and 7b
It is noted that the proposed development would take place in a number of phases. The applicant is requested to provide photomontages which reflect the different phases. These should include an interim landscaping. It is noted that earlier phases may be in place for a number of years prior to the construction of later phases. All boundary treatment and landscaping should be included in the photomontages.

Response
The LVIA undertaken as part of the revised EIAR includes updated and revised photomontages for all view locations, with slight changes in certain viewpoints that provide a clearer representation of the visual impact of the Proposed Development. The Location of View 1 is clearly shown in Figure 2 of Volume 2 : Technical Appendices of the EIAR. The viewpoint is from the Grand Canal at a position c. 1.6km west of the R120 bridge over the canal at a gap in the canal boundary that offers long distance views towards Grange Castle and profile Park.

View 4 was previously not included within the set of photomontages as a verified view was not attainable at this location. A replacement view, that reflects the same view as this, is included within the revised EIAR submitted with this AI response.

View 8 is provided as part of the photomontages from the entrance into the Profile Park Business Park. Whilst the Proposed Development is not visible from this location; its nature and extend is outlined in red for the information of the Planning Authority.

The details of the location of Views 7a and 7b are provided as part of the EIAR. View 7A is taken from a position to the immediate south of the New Nangor Road some 30m to the east of the north-east corner of the site. View 7B is taken from a position to the north of the New Nangor Road to the immediate north of the eastern boundary of the site.

The revised scheme presented under this AI Response will be delivered in two phases and the photomontage assessment contained herein within the EIAR considers impacts at day 1 of operation of Phase 1 when all landscaping will be in place; and then at year 5 on completion of the Proposed Development.

The landscaping scheme as presented under this AI scheme will be implemented in totality within Phase 1 of the Proposed Development. The only interim landscaping will be the planting of wildflower meadow on the location of the two elements of Phase 2 (DUB12) and the southern Multi-Fuel Generation Plant that will remain in place until such time as Phase 2 is commenced. This has the potential to have a short-term biodiversity benefit. We can confirm that all boundary treatment and landscaping is included in the photomontages.

4. (1) It is apparent that there are a number of phases to the development. The Planning Authority request that a single phasing plan is provided, indicating all buildings and that these buildings are clearly labelled. A corresponding schedule should be provided stating which plans should be referred to for each building. A schedule providing details of ancillary uses in each of the data centres should also be provided, setting out the total sqm for each ancillary use.

Response
We respectfully submit that the revised Proposed Development under this AI response has a simplified phasing plan. Phase 1 is clearly set out in Drawing no. DUB11-DR-SP-A005-V1-PL-BMD prepared by Burns and McDonnell Architects. A schedule providing details of ancillary uses in each of the data centres is also provided within the Design Statement issued by Burns and McDonnell as part of this AI response, setting out the total sqm for each ancillary use. The two phases of development are:

Phase 1 – DUB 11 and the northern Multi-Fuel Generation Plant projected to be completed in Q3, 2023, and the start of operation in Q4, 2023 including all landscaping and development including the Gas Regulator Compound; step-up transformer compound; 2 no. switch rooms and all other ancillary works and development including parking.
Phase 2 – DUB12 and 50% of the Multi-Fuel Generation Plant projected to be completed in Q4, 2024, and the start of operation in Q1, 2025.

(2) The Planning Authority notes that a temporary power plant is proposed to be constructed in Phase 1A, alongside Building 11.1. It is then proposed to demolish this temporary plant. The southern portion of the permanent power plant would be constructed in Phase 1B. Phase 2A would involve the construction of Building 11.2. The final phase would involve construction of Building 12 and the northern portion of the permanent power plant. Notwithstanding the timeframes that have been submitted by the applicant to date, the Planning Authority requires a clear, full and unequivocal proposal, with timeframes, for assessment as part of this proposal. The applicant is requested to clearly state what development is sought and within what timeframe.

Response
As already outlined the phasing of the development has been simplified due to the omission of the temporary power plant and can be summarised as:

Phase 1 – DUB 11 and the northern Multi-Fuel Generation Plant projected to be completed in Q3, 2023, and the start of operation in Q4, 2023 including all landscaping and development including the Gas Regulator Compound; step-up transformer compound; 2 no. switch rooms and all other ancillary works and development including parking.

Phase 2 – DUB12 and the southern Multi-Fuel Generation Plant projected to be completed in Q4, 2024, and the start of operation in Q1, 2025.

Further details on this are provided within the revised EIAR that accompanies this AI response.

5. (a) Tree and Hedgerows Protection
The applicant is requested to submit a Tree Protection Plan and Arboricultural Method Statement, all in accordance with, BS 5837: 2012 Trees in relation to design, demolition and construction – recommendations. The method statement shall include no dig or other solutions to retain the existing trees within hedge number 5 along the western boundary.

Response
A Tree Protection Plan (Drawing no. PFP002) and Arboricultural Method Statement, all in accordance with, BS 5837: 2012 Trees in relation to design, demolition and construction recommendations are included with this response from Arborist Associates Ltd.. The Method Statement sets out clear design, demolition and construction recommendations for all of the site, and proposes the retention of hedge no. 5 and tree nos. 0817, 0818, 0822 and tree no. 1 along this western hedgeline and incorporated into the completed landscaped development. The method statement includes details of how construction of the western fenceline should be constructed in order to retain the hedge and trees. It is recommended that the holes for the fence uprights will need to be dug manually or with the aid of an augur with all machinery working from outside the root zones. Where there are changes in levels along its length, these are to be dealt with without encroaching into the root zone of the hedge and trees within. This fully meets this part of the AI request.

(b) Landscape Proposals
The applicant is requested to:

(i) clarify the discrepancy between trees to be retained as shown on the Landscape Masterplan versus those shown on the Tree Removal and Retention Plan.
(ii) provide a method statement to include no dig or other solutions to retain the existing trees within hedge number 5 along the western boundary.
(iii) Provide details of invasive species within native hedgerows referred to in page 1 of the landscape report and proposed necessary measures to remove/manage them.
(iv) Explain how the landscaped areas that are fenced off can be accessed by machinery for maintenance?
(v) Investigate opportunities to increase natural SuDs on the site.
(vi) Show how the design of the attenuation basin maximizes amenity and biodiversity.
(vii) All SuDS proposals to be shown on the landscape proposals with detail on how they work.

Response
In response to the AI Request from the Planning Authority a Tree Protection Plan has now been prepared by Arborist Associates Ltd. that accurately identifies all trees to be removed and retained. This Plan fully corresponds and aligns with the Landscape Masterplan prepared by Kevin Fitzpatrick Landscape Architecture and thus fully addresses point (i) of the AI request. We respectfully submit that point (ii) has been comprehensively addressed under point (a) of this FI response.

In relation to point (iii) of the above we can confirm that invasive species on the subject lands can be found predominantly in Hedge No. 4 as set out in the accompanying arborists report. Sycamore, an invasive, non-native tree species is noted as 'forming part of the bulking' of this mixed hedge. The management of invasive species will be carried out as per the arborists' advice and recommendation. Invasive species on the subject lands can be found predominantly in Hedge No. 4 as set out in the accompanying arborists report. Sycamore, an invasive, non-native tree species is noted as 'forming part of the bulking' of this mixed hedge. Management of this issue will be the removal of the Sycamore and replacement with appropriate native hedge/hedgerow species planted at 1.5 per square meter. Refer to Planting Plan and Schedule prepared by KFLA for details.

The landscape areas that are fenced off will be accessed across the extant stream via a 3.5m wide reinforced grass maintenance track that provides access to the lower level of the stream for maintenance vehicles to cross to the lands to the north of the stream in accordance to point (iv) of the AI request. This reinforced access is located to the north-west of DUB11 close to the culvert under the Bolands site. The landscape of the northern area is designed to require minimum landscape maintenance.

The landscape architect, Kevin Fitzpatrick Landscape Architecture (KFLA), have liaised with Pinnacle Consulting Engineers in ensuring that SUDS measures on site have the maximum biodiversity benefit fully in accordance with point (v) of this part of the AI request.

In accordance with point (vi) of this part of the AI request KFLA have produced a typical section of the proposed bio-swales now being proposed; as well as a typical wetland edge detail that is designed to maximise amenity and biodiversity (Please refer to KFLA Drawing no. DUB11.1-DR-SP-C150-V0-WS2-KFA for further details). Full details on how the SUDS proposals as now presented work, we refer the Planning Authority to the response under point 5(c) below.

(c) Sustainable Drainage Proposals
At present, the proposal is contrary to Policy G5 -Sustainable Urban Drainage Systems and Objective G5 1 and G5 2 in the County Development Plan. The applicant is requested to provide:
(i) Further natural above ground SUDS features, be incorporated into the proposed drainage system. The SUDS should be an integrated multi-disciplinary approach which locally addresses water quality, water quantity, and provides for amenity and biodiversity enhancement which meets the objectives of South Dublin County Council Development Plan 2016-2022. The use of underground tanks should be avoided.
(ii) A revised design and layout of the proposed development that proposes a comprehensive SuDS strategy that fully delivers a 'treatment train' maximizing the use of natural SuDS. The proposals shall incorporate as appropriate:
(i) green roofs, grass areas, SuDs tree pits in the car park/adjacent to hardstanding, channel rills, swales, rain gardens and other such SuDS and show what attenuation capacity is provided by such SuDS.

(ii) Maximise the amenity and biodiversity of the attenuation basin to provide a more natural habitat feature in the landscape.

Response
The applicant has provided significant additional above ground SUDS features as part of the AI response and has removed the underground attenuation tank from their proposal. The revised scheme under this AI response includes a significant increase in above ground surface water drainage features that include green roofs above the office elements of both data centers, and additional storage ponds. In addition it is proposed to utilise a significant level of permeable paving, and a series of on-site gullies and channels draining into a separate system of below ground gravity storm water. Please refer to Drawing No. DB11.1-DR-UG-C127-V0-WS4-PIN and DB11.1-DR-UG-C128-V0-WS4-PIN and the Engineering Planning Report by Pinnacle Consulting Engineers for further details.

6. The Planning Authority has serious concerns regarding the minimal natural solutions, SUDS and Green Infrastructure proposed and incorporated within the proposed development.
(a) The proposed attenuation on site includes underground attenuation. These are contrary to County Development policy and objectives. This is significant and unacceptable, especially when considering potential flooding. The applicant is requested to revise the proposals to incorporate natural solutions, to substantially increase SUDS and Green Infrastructure throughout the site and provide attenuation above ground in accordance with policy. Please note that above ground SuDS (Sustainable Drainage Systems) such as green area detention areas, or other such SuDS are required at this location. If SuDS atteutation is insufficient, then additional attenuation shall be provided by an arched type attenuation system. The applicant is requested to submit a report and drawing to show what capacity in m^3 revised attenuation provided.
(b) It is unclear how much surface water attenuation is provided because a drawing submitted-DUB11.1-DR-UG-G128-V1-WS3-PIN shows Attenuation Pond 1 with a capacity of 1,368m^3 but report submitted shows capacity of pond is 2,100 m3 in attenuation pond. Depending on what attenuation is provide the surface water attenuation is undersized by 57% for a 1 in 30 year storm event and under-sized by 86% for a 1 in 100 year storm event.
The applicant is requested to submit site specific rainfall data from Met Eireann. The applicant is requested to submit a report and drawing showing increased surface water attenuation by 57% for 1 in 30 year and increase by 86% for a 1 in 30 year as required above. Prior to submission of report, the applicant is requested to contact water services to discuss revised surface water attenuation calculations.
(c) The applicant is requested to clarify in a report and drawing what the expected depth of water in diverted stream will be at location North West of site at shallowest point of stream, if it is still proposed to divert the stream. Prior to submission of revised report and drawing of diverted stream, the applicant shall contact water services to discuss a revised stone design and width.

Response
In accordance with the request from the Planning Authority, the below ground attenuation tank in the north-western corner that formed part of the originally submitted application, has been omitted and replaced with a wide range of open pond / wetland features. We refer the Planning Authority to Drawing no. DUB11.1-DR-UG-C128-V0-WS4-PIN, for the surface water drainage layout, including for all attenuation areas, SUDS features and respective storage volumes. The additional capacity of the attenuation proposed to the south of the stream, which will remain in situ is set out in detail for each SUDS feature on page 10 of the revised Engineering Planning Report fully in accordance with the requirements of point (a) of this part of the AI request.

In relation to point (b) of this part of the AI request, we refer the Planning Authority to the civil package by Pinnacle Consulting Engineers. We refer the Council to Drawing no. DUB11.1-DR-UG-C128-V0-WS4-PIN for volumes of the attenuation wetlands and swales.

The revised design allows for 2,235m^3 of above ground SUDS attenuation storage in combination with the attenuation provided by the permeable paving. The current top water level in the pond relative to a 1:100yr storm event + 20% c/c is circa 73.100m. The proposed floor level of the Data Hall is set at 74.00m, which is circa 0.9m higher than the predicted top water level in the pond in excess of the 500mm freeboard as required in addressing point (b) of this part of the AI request.

The revised surface water layout is set out under Drawing no. DUB11.1-DR-UG-C128-V0-WS4-PIN prepared

by Pinnacle Consulting Engineers. The omission of the proposed diversion of the stream so that it remains in its existing state, clearly addresses this issue and requires no additional response in this instance.

7. The applicant is requested to engage with the Property Management Branch of the Department of Defence in terms of the construction and operation phases of development, to assess any potential impact on flight procedures and communication, navigation and surveillance equipment present at Casement Aerodrome, a letter of consent shall be obtained from the Department of Defence.

Response
In response to the above request, the design team made contact on the 2nd November 2021 with the Property Management Branch of the Department of Defence in terms of the construction and operation phases of development, to assess any potential impact on flight procedures and communication, navigation and surveillance equipment present at Casement Aerodrome. In response to our email correspondence the Department of Defence requested that we undertake an Aviation Impact Report that considered flue emissions from the proposed stacks; aircraft hazard due to wildlife (birds); and a glint and glare analysis of the roof PV panels.

This report was undertaken and submitted to the Department on the 15th December 2021, and updated and resubmitted to the Department following the increase in height of the flues of the Multi-Fuel Generation Plant to being 30m. A copy of this Aviation Impact Report by Ramboll accompanies this AI response within the EIAR. The Department of Defence confirmed by email that they were satisfied with the report and that they had no further observations at this stage. They noted in their original response that crane operations should be notified to irspaceandobstacles@defenceforces.ie no later than 28 days before use. We can confirm that the applicant would accept, if the Planning Authority are mindful to grant permission in this instance, a suitable condition to address the operation of cranes on site. This and other correspondence with the Department of Defence forms Appendix B of this planning report that comprehensively addresses point 7 of the AI request.

8. The applicant is requested to submit:
(a) a confirmation of feasibility letter from Irish Water of proposed development (for both water and foul) and (b) a pre-connection enquiry to Irish Water for the proposed development (for both water and foul).

Response
A pre-connection enquiry (PCE) was submitted to Irish Water and a positive response, and a Confirmation of Feasibility (CoF) (Ref: CDS21005426) and dated the 1st November 2021, has been received from Irish Water in respect of same. The water supply and foul sewer connections can be facilitated with no upgrades required to the network – Please refer to Appendix B of the cover letter from Pinnacle Consulting Engineers for full details.

CONCLUSION
It is our respectful submission that this response has comprehensively addressed all the issues raised by the Planning Authority in the Additional Information request.

In conclusion, for all of the foregoing arguments, reason and considerations, South Dublin County Council are invited to assess the subject scheme and our Additional Information response on its own individual merits and to grant planning permission for this development on the basis that by its nature and extent, the proposal would accord with the proper planning and sustainable development of this area including the preservation and improvement of amenities thereof.

We trust that everything is in order and look forward to a favourable decision in due course.

Yours faithfully,

Anthony Marston

Anthony Marston (MIPI, MRTPI)
Marston Planning Consultancy

Appendix A – List of enclosures

	Sheet Number	Sheet Name	ISSUE FOR PLANNING 2022.01.26	Revision	Checked by	Approved by
	DUB11 - DRAWING LIST FI RESPONSE					
	GENERAL					
	DUB11-DC-XX-G021-PL-BMD	DESIGN STATEMENT IN SUPPORT OF PLANNING APPLICATION	BMD	V1	JB	JM
		ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)	Barnwell			
		ARBORICULTURAL ASSESSMENT	Arborist Associates			
		LANDSCAPE REPORT	KFLA			
		TRAFFIC STATEMENT	Barnwell			
		BIODIVERSITY MANAGEMENT REPORT	Barnwell			
	DUB071	ENERGY STATEMENT	BMD	V3	JB	JM
		REPORT ON SITE SPECIFIC FLOOD RISK ASSESSMENT	Ferrada Consultancy			
	DUB-CL-XX-E013-V1-PL-BMD	DUB11 DIALUX CALCULATION	BMD	V1	MJ	PM
BUILDINGS	**ARCHITECTURAL**					
Site	DUB11-DR-SP-G050-V1-PL-BMD	LOCATION PLAN		V1	JB	JM
Site	DUB11-DR-SP-A001-V1-PL-BMD	SITE PLAN AS EXISTING		V1	JB	JM
Site - Demolition of existing structures	DUB11-DR-SP-A002-V1-PL-BMD	SITE PLAN AS EXISTING - DEMOLITION OF EXISTING STRUCTURES		V1	JB	JM
Site	DUB11-DR-SP-A003-V1-PL-BMD	AMENDMENTS TO EXISTING SITE PLAN		V1	JB	JM
Site - Phase 1 & 2	DUB11-DR-SP-A004-V1-PL-BMD	ARCHITECTURAL PROPOSED SITE PLAN		V1	JB	JM
Site - Phase 1	DUB11-DR-SP-A005-V1-PL-BMD	ARCHITECTURAL PROPOSED SITE PLAN Phase 1		V1	JB	JM
Site & Buildings Phase 1	DUB11-DR-SP-A006-V1-PL-BMD	SITE CONTEXT ELEVATIONS - PHASE 1				
Site	DUB11-DR-SP-A007-V1-PL-BMD	ARCHITECTURAL FENCING PLAN		V1	JB	JM
Site	DUB11-DR-SP-A008-V1-PL-BMD	ARCHITECTURAL EQUIPMENT YARD FENCE		V1	JB	JM
	DUB11-DR-SP-A009-V0-PL-BMD	Withdrawn				
	DUB11-DR-SP-A010-V0-PL-BMD	Withdrawn				
	DUB11-DR-SP-A011-V0-PL-BMD	Withdrawn				
Switch Substation	DUB11-DR-SP-A012-V1-PL-BMD	SWITCHROOM SUBSTATION Plans and elevations		V1	JB	JM
AGI Gas Regulator Compound	DUB11-DR-SP-A013-V1-PL-BMD	ARCHITECTURAL AGI GAS REGULATOR Plans and Elevations		V1	JB	JM
	DUB11-DR-SP-A014-V0-PL-BMD	Withdrawn				
Step-up Transformer Substation	DUB11-DR-ZZ-A015-V1-PL-BMD	TRANSFORMER COMPOUND & SWITCH BUILDING		V1	JB	JM
North Power Plant Building	DUB11-DR-ZZ-A016-V1-PL-BMD	MULTIFUEL POWER PLANT BUILDING - NORTH Plans and Sections		V1	JB	JM
North Power Plant Building	DUB11-DR-ZZ-A017-V1-PL-BMD	MULTIFUEL POWER PLANT BUILDING - NORTH Elevations		V1	JB	JM
South Power Plant Building	DUB11-DR-ZZ-A018-V1-PL-BMD	MULTIFUEL POWER PLANT BUILDING - SOUTH Plans and Sections		V1	JB	JM
South Power Plant Building	DUB11-DR-ZZ-A019-V1-PL-BMD	MULTIFUEL POWER PLANT BUILDING - SOUTH Elevations		V1	JB	JM
North Power Plant Building	DUB11-DR-ZZ-A020-V1-PL-BMD	FUEL CONTAINMENT VAULT - Environmental Compliance		V1	JB	JM
DUB 11 data centre	DUB11-DR-00-A100-V1-PL-BMD	ARCHITECTURAL LAYOUT GROUND FLOOR DUB11		V1	JB	JM
DUB 11 data centre	DUB11-DR-01-A101-V1-PL-BMD	ARCHITECTURAL LAYOUT FIRST FLOOR DUB11		V1	JB	JM
DUB 11 data centre	DUB11-DR-02-A102-V1-PL-BMD	DUB11 ROOF PLAN		V1	JB	JM
DUB 11 data centre	DUB11-DR-00-A200-V1-PL-BMD	DUB11 ELEVATIONS		V1	JB	JM
DUB 11 data centre	DUB11-DR-00-A300-V1-PL-BMD	DUB11 SECTIONS AA BB CC		V1	JB	JM
DUB 11 data centre	DUB11-DR-SP-A900-V1-PL-BMD	DUB11 MAIN ENTRANCE SITE PLAN		V1	JB	JM
DUB 11 data centre	DUB11-DR-00-A904-V1-PL-BMD	DUB11 - SITE CONTEXT ELEVATIONS		V1	JB	JM
Site - Lighting	DUB11-DR-SP-E120-V1-PL-BMD	LIGHTING PLAN TERRAIN		V1	PM	EP
DUB 12 data centre	DUB12-DR-00-A110-V1-PL-BMD	ARCHITECTURAL LAYOUT GROUND FLOOR DUB12		V1	JB	JM
DUB 12 data centre	DUB12-DR-01-A111-V1-PL-BMD	ARCHITECTURAL LAYOUT FIRST FLOOR DUB12		V1	JB	JM
DUB 12 data centre	DUB12-DR-03-A112-V1-PL-BMD	ARCHITECTURAL LAYOUT ROOF PLAN DUB12		V1	JB	JM
DUB 11 & DUB12 - standby generators	DUB11-DR-00-A116-V1-PL-BMD	STACKED GENERATORS		V1	JB	JM
DUB 12 data centre	DUB12-DR-00-A201-V1-PL-BMD	ARCHITECTURAL ELEVATIONS DUB12		V1	JB	JM
DUB 12 data centre	DUB12-DR-00-A301-V1-PL-BMD	ARCHITECTURAL SECTIONS DUB12		V1	JB	JM
DUB 12 data centre	DUB12-DR-SP-A901-V1-PL-BMD	DUB12 MAIN ENTRANCE SITE PLAN		V1	JB	JM
	LANDSCAPE					
	DUB11-1-DR-SP-C150-V0-VS2-KFA	LANDSCAPE MASTERPLAN		A	KF	
	DUB11-1-DR-SP-C151-V0-VS2-KFA	LANDSCAPE SECTIONS		A	KF	
	DUB11-1-DR-SP-C152-V0-VS2-KFA	PLANTING PLAN & SCHEDULE		A	KF	
	DUB11-1-DR-SP-C153-V0-VS2-KFA	LANDSCAPE PROPOSALS EARTHWORKS MODELLING		A	KF	
	DUB11-1-DR-SP-C154-V0-VS2-KFA	DETAIL AREA A STREAM AND BIODIVERSITY LANDSCAPE		A	KF	
	CIVIL					
	DUB11-1-DR-SP-C100-V0-VS4-PIN	GENERAL LAYOUT		V0	RK	JM
	DUB11-1-DR-SP-C101-V0-VS4-PIN	SIGHT LINES		V0	RK	JM
	DUB11-1-DR-SP-C102-V0-VS4-PIN	FIRE TENDER TRACKING		V0	RK	JM
	DUB11-1-DR-SP-C103-V0-VS4-PIN	LOW LOADER TRACKING		V0	RK	JM
	DUB11-1-DR-SP-C104-V0-VS4-PIN	CRANE TRACKING		V0	RK	JM
	DUB11-1-DR-SP-C105-V0-VS4-PIN	HGV ACCESS		V0	RK	JM
	DUB11-1-DR-SP-C106-V0-VS4-PIN	OIL TANKER TRACKING		V0	RK	JM
	DUB11-1-DR-SP-C107-V0-VS4-PIN	REFUSE TRUCK TRACKING		V0	RK	JM
	DUB11-1-DR-SP-C108-V0-VS4-PIN	CAR TRACKING		V0	RK	JM
	DUB11-1-DR-SP-C109-V0-VS4-PIN	LTM 1650 CRANE TRACKING		V0	RK	JM
	DUB11-1-DR-SP-C110-V0-VS4-PIN	HGV ACCESS - SOUTHERN DOCK		V0	RK	JM
	DUB11-1-DR-SP-C120-V0-VS4-PIN	EXISTING SITE LEVELS		V0		
	DUB11-1-DR-SP-C121-V0-VS4-PIN	PROPOSED SITE LEVELS & WATERMAIN LAYOUT SHT 1 OF 2		V0	SOR	JM
	DUB11-1-DR-SP-C122-V0-VS4-PIN	PROPOSED SITE LEVELS & WATERMAIN LAYOUT SHT 2 OF 2		V0	SOR	JM
	DUB11-1-DR-SP-C123-V0-VS4-PIN	PROPOSED CUT & FILL TO FORMATION		V0	SOR	JM
	DUB11-1-DR-SP-C127-V0-VS4-PIN	PROPOSED DRAINAGE LAYOUT SHT 1 OF 2		V0	SOR	JM
	DUB11-1-DR-SP-C128-V0-VS4-PIN	PROPOSED DRAINAGE LAYOUT SHT 2 OF 2		V0	SOR	JM
	DUB11-1-DR-SP-C130-V0-VS4-PIN	EXTERNAL WORKS PLAN		V0	SOR	JM
	DUB11-1-DR-SP-C140-V0-VS4-PIN	CUT & FILL SECTIONS		V0	SOR	JM
	DUB11-1-DR-SP-C310-V0-VS4-PIN	SECTIONS THROUGH EXISTING STREAM SHEET 1 OF 3		V0	SOR	JM
	DUB11-1-DR-SP-C311-V0-VS4-PIN	SECTIONS THROUGH EXISTING STREAM SHEET 2 OF 3		V0	SOR	JM
	DUB11-1-DR-SP-C312-V0-VS4-PIN	SECTIONS THROUGH EXISTING STREAM SHEET 3 OF 3		V0	SOR	JM
	DUB11-1-RP-00-C001-V0-VS4-PIN	ENGINEERING PLANNING REPORT		V1		
	DUB11-1-RP-00-C002-V0-VS4-PIN	SITE SPECIFIC FLOOD RISK ASSESSMENT		PL2		
	DUB11-1-RP-00-C003-V0-VS4-PIN	OUTLINE CONSTRUCTION TRAFFIC MANAGEMENT PLAN		V1		
	AI RESPONSE LETTER					