VDC Campus - Aerial View

DUB11 CAMPUS DEVELOPMENT

Design Statement in support of Planning Application

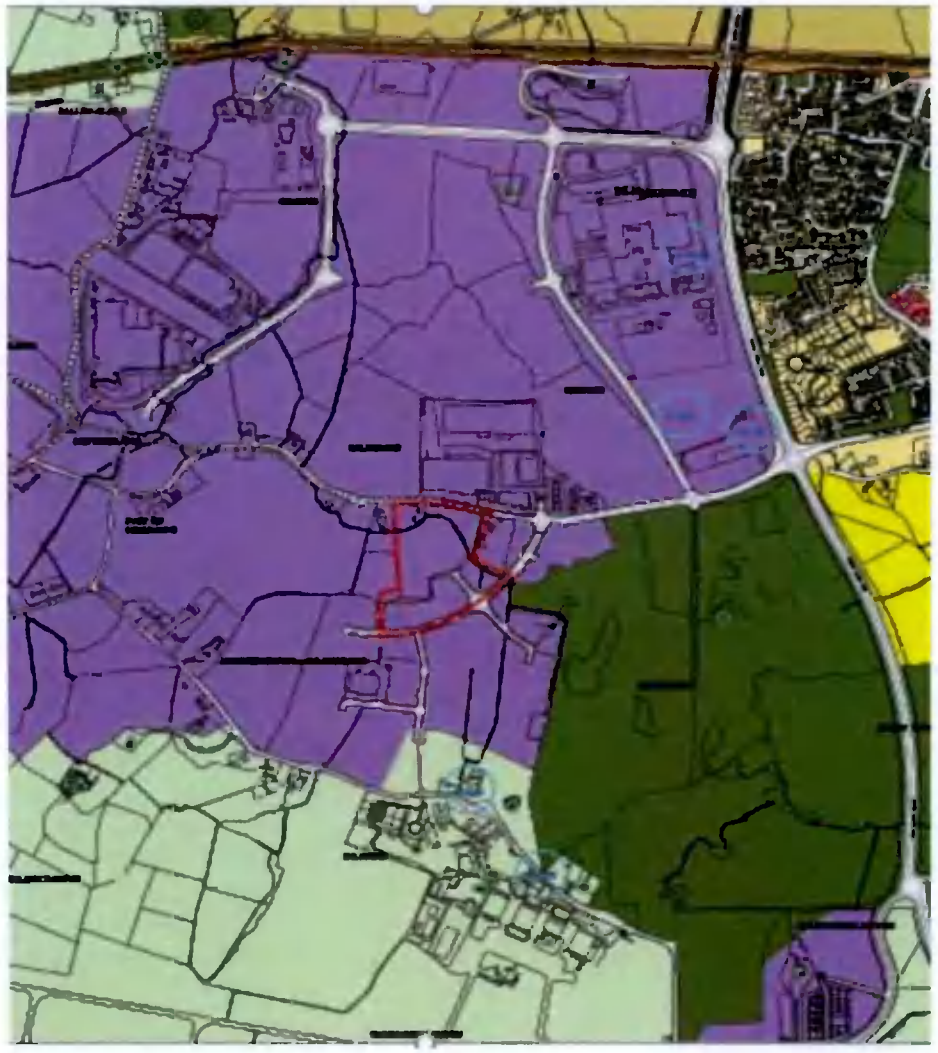
DUB11-DC-XX-G021-V0-PL-BMD

August 10, 2021

CONTENTS

BURNS McDONNELL.

Location



LAND USE ZONING

GRANGE CASTLE – DATA CENTRES

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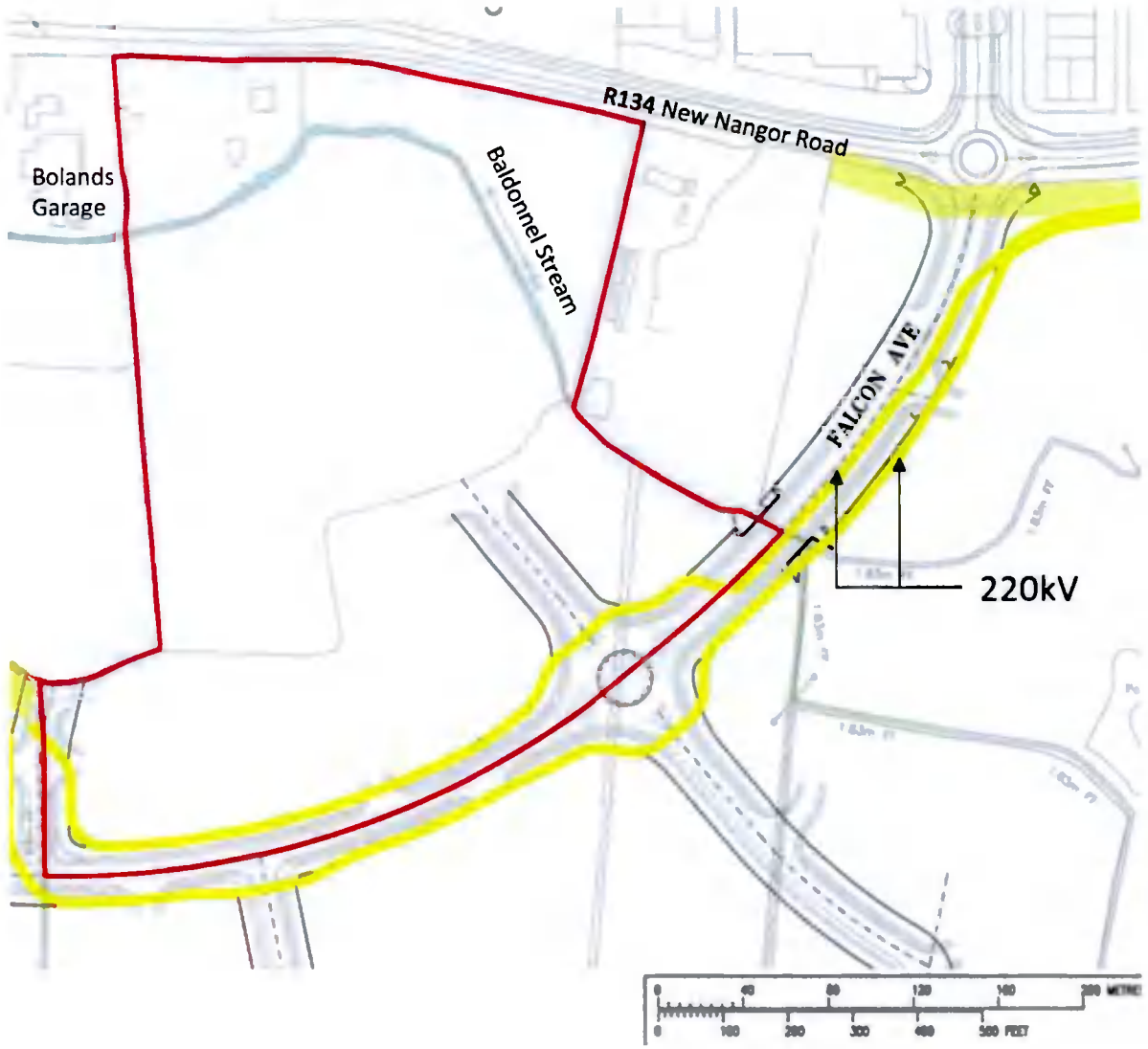
Site Location & Context



SITE PLAN AS EXISTING

Existing Site
The site is undeveloped land within the Profile Park Business Park, a private enclosed Business Park of 40.5 hectares with controlled access. The site area is 8.7 hectares.

Previous Land Uses
The land is undisturbed agricultural land with an abandoned single-storey house and outbuilding fronting New Nangor Road. There is no evidence of previous settlement within the site according to recent archaeology investigations in the Grange Castle area.

Adjacent Land Uses
There are several other Data Centres in the adjacent Grange Castle Business Park. The site to the East is also a greenfield site with a single residence. The land to the West is occupied by Bolands Garage a vehicle repair business. New Nangor Road forms the North boundary with industrial and data centre uses to the North. Falcon Avenue, the main route through Profile Park forms the southern boundary. The site opposite is designated for a new electrical sub-station which will form part of the infrastructure supporting this data centre.

Zoning
The area is zoned in the South Dublin County Council 2016-2022 plan for Enterprise Employment.

Appropriate Use
Several companies including Microsoft, Amazon, Google, Cyrus One, Edge Connex and Digital Reality have operational data centres in the immediate vicinity with more under construction. Policy XX of the SDCC 2016-2022 Local Plan identifies the Grange Castle area as suitable for Data Centre use.

Previous Consents
There is a valid consent on the site Ref: **SD20A/0124** dated 10-Nov-2020 for

(1)Demolition of existing single storey dwelling (c.108.5sq.m); (2) construction of a Distribution Warehouse Building comprising warehousing and ancillary areas at ground floor and support offices, staff areas and plant across two floors; (3) the development will be accessed from the existing Profile Park estate road; (4) provision of car parking, cycle parking, security gatehouse, landscaping and boundary treatments (including security fencing and gates); (5) all associated site development and services works (including diversion/culverting/reprofiling of existing stream on site); (6) total gross floor area of the development c.17,006sq.m.

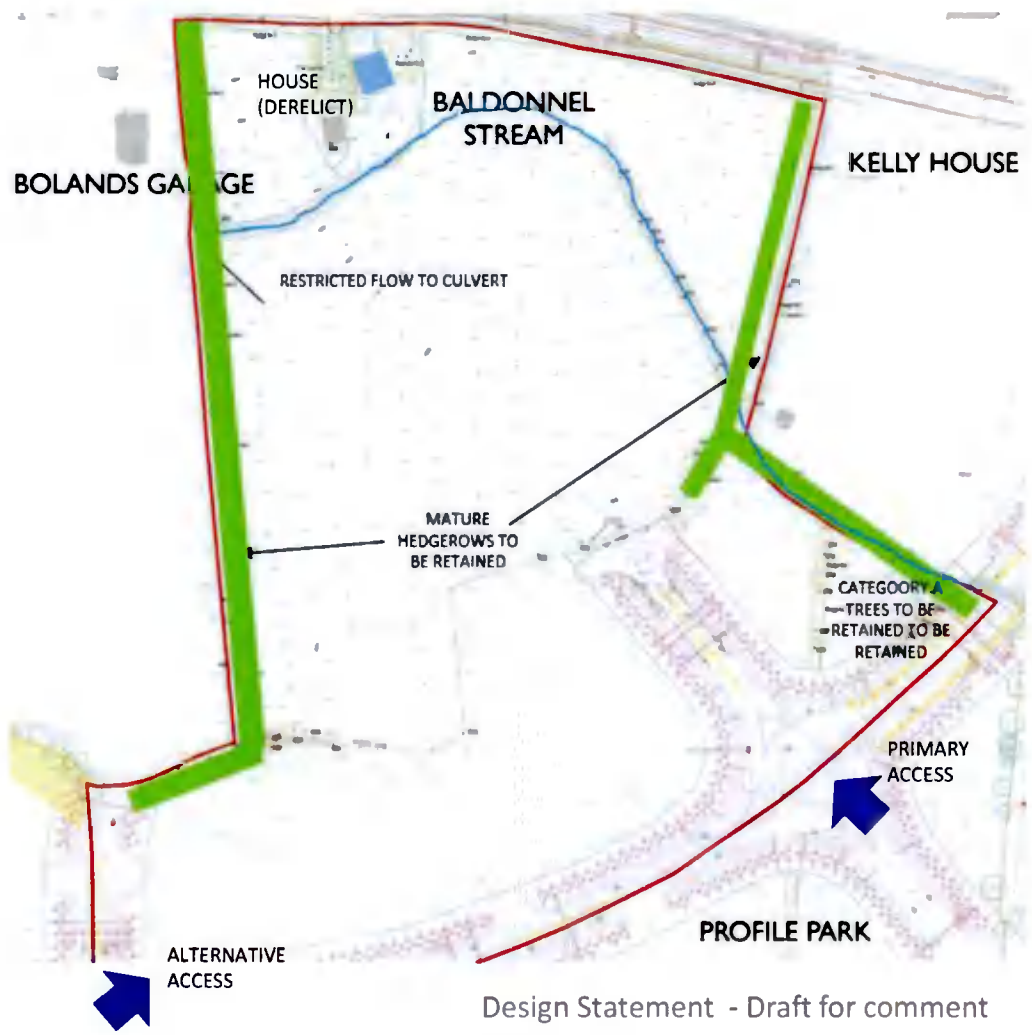
The Site

Site Description
The site is an irregular shape, traversed by a watercourse and with deep hedgerows and some trees along the East and West sides. There is a gentle slope from south to north and the land is level in profile with several trees sited around the perimeter. The Baldonnel Stream runs across the site from south-east to north-west, discharging into a culvert under the Boland Garage site. The culvert to the west restricts water flow from the site and has led to history flooding of the land which needs to be managed via solutions set out in this proposal.

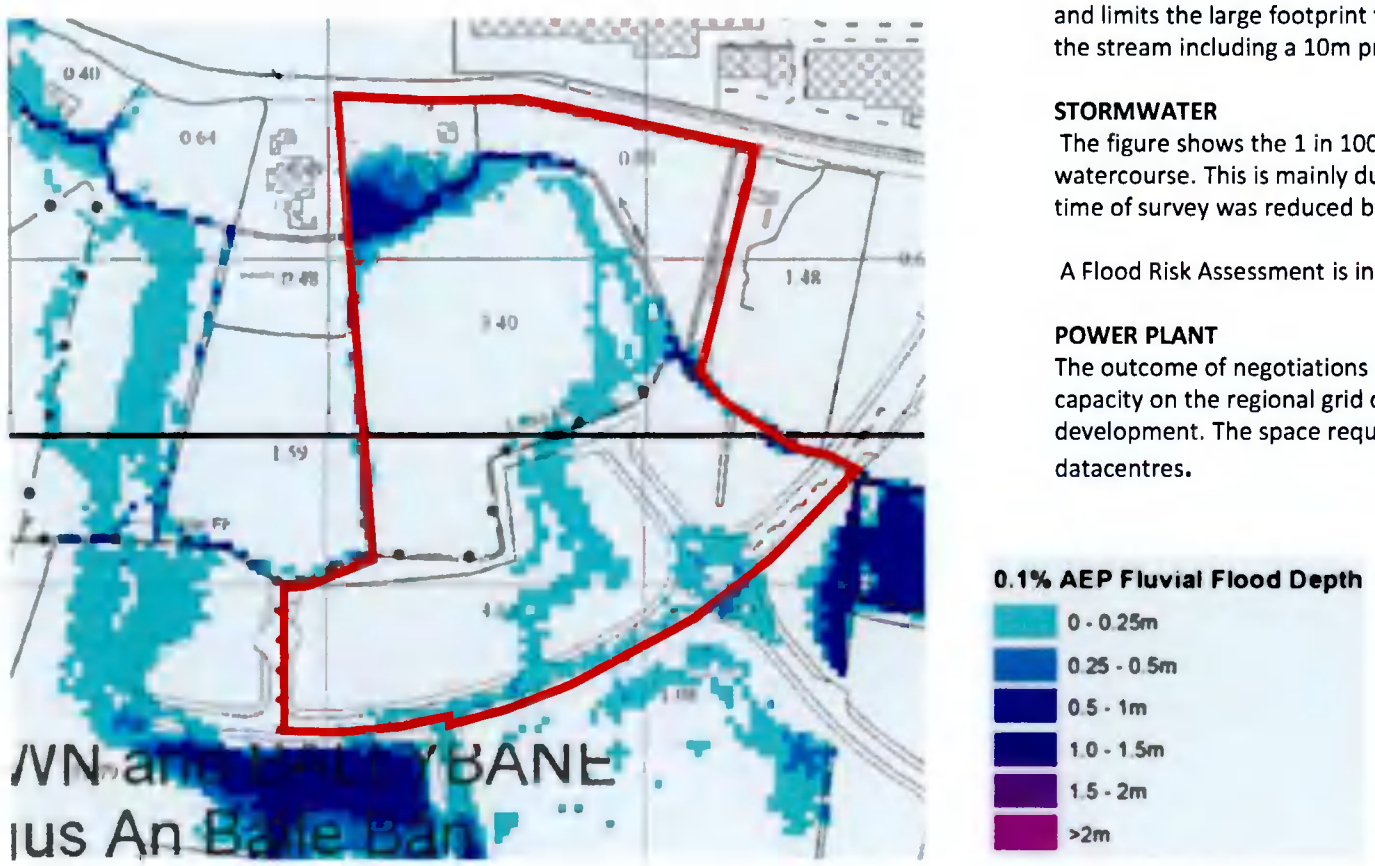
The site is clear of structures save for a single abandoned house on the New Nangor Road. Access is from the two road entrances off Falcon Avenue to the south.

Opportunities
The site is well-suited to the intended use as a Data Centre campus for the following reasons:

- 1.The zoning is appropriate
- 2.The surrounding area is home to several Data Centres
- 3.Fibre connectivity is very good
- 4.Road and public transport links are very good
- 5.The level terrain is suitable for large floorplate buildings
- 6.There is no evidence of site contamination
- 7.The Business Park already has controlled access.
- 8.There is a long-standing agreement for a future Eirgrid substation to be located to the immediate
- South of the site.
- 9. The dense hedgerows along the east and west boundaries creates a natural visual screen



Site Constraints



Flood Incidence Map 0.1%

BALDONNEL STREAM
The Baldonnel Stream is a major constraint on development in that it reduces the usable area of the site and limits the large footprint that is the basis of this hyperscale datacentre. The parcel of land north of the stream including a 10m protection zone comprises about 35% of the total site area

STORMWATER
The figure shows the 1 in 100-year flood incidence and indicates ponding at the west end of the watercourse. This is mainly due to the capacity of the culvert under the adjacent property – which at the time of survey was reduced by blockages of debris. Any design solution should address this issue.

A Flood Risk Assessment is include in the separate EIA Report

POWER PLANT
The outcome of negotiations for a power supply with the Utility company is that in order to ensure that capacity on the regional grid can be maintained, a gas-fired generator plant will be provided as part of the development. The space required is about 5,000 m2. This reduces the space available for the datacentres.

HEIGHT LIMITATION
Local Plan Policy IE8 Obj. 5 states that buildings inside the DoD Inner Zone exceeding 20m in height require prior consultation to ensure that the safety, efficiency or operations of Casement Aerodrome will not be affected.

ARCHAEOLOGY
The site lies in an area of long-established settlement where ancient structures or artefacts could be buried. Earlier studies indicate this to be a minor risk but further investigation will be required.

EMISSIONS
The scale of the data centres, the proximity of other useres and the on-site gas generation plant will create technical challenges to maintaining air-quality standards.

Alternative Options

DESIGN BRIEF
Every new project follows a defined sequence of steps. The starting point is an appraisal of the opportunities and constraints of the development site, both physical and regulatory against the development objectives of the investor.

We look also at alternative options to arrive at a balanced optimal outcome.

DEVELOPMENT OBJECTIVES
The specific development objectives for this development are to:
- Add to the national IT and data storage infrastructure
- Create employment;
- Provide a minimum of 12 data modules of the Vantage hyperscale model;
- Create a high-quality Business Park environment
- Increase biodiversity
- Enhance the ecological value of the Baldonnel Stream and
- Increase capacity of the local electrical grid network.

ALTERNATIVE OPTIONS
Three alternatives were considered:
- The 'Do-Nothing' alternative;
- Alternative locations and uses; and
- Alternative design/layouts of the proposed development.

Do-Nothing:
This option was briefly considered and rejected on the basis that
- The land under the Local Plan is intended to be re-purposed to an Employment Use
- A consent is already in place for a similar storage use
- The area has excellent fibre connectivity
- Do-nothing does not meet any of the Developer's objectives.
- There would be a substantial loss of economic opportunity value

Alternative Locations
No alternative sites have been considered by the Applicant for the following reasons:
- The site is owned by the Applicant and therefore the Applicant did not consider alternative sites which are the property of a third-party;
- The site is located within an area identified in SDCC's Development Plan 2016-2022 as an area for enterprise and employment uses (as previously stated);
- The site would provide a key development opportunity to contribute to the regeneration of an underutilised site and with the land use identified in ROP 8.25;
- The site sits within a wider area dominated by data centers which has good network provision and fibre suppliers, that suit the needs of the site and is thus an ideal location for the proposed development to be situated;
- There is a long-standing agreement for a future EirGrid substation to be located to the immediate south of the site;
- There is no evidence of site contamination; and
- The level terrain is suitable for large floorplate buildings.

Alternative Design & Layouts
Data centres are in general simple buildings with complex and dense services for IT, power distribution and mechanical cooling, all requiring a high input of engineering design and project management. This experienced developer has evolved standard designs to achieve consistently high quality reliable facilities Repetitive design helps improve safety at all levels for construction and management. A characteristic of the Vantage model is a single data-hall module with associated plant that can be replicated on a global basis.

This forms the building block for evaluating each site, matching the business case and achieving a best-fit outcome. The steps on the next page illustrate how this process has been applied to the Profile Park site.

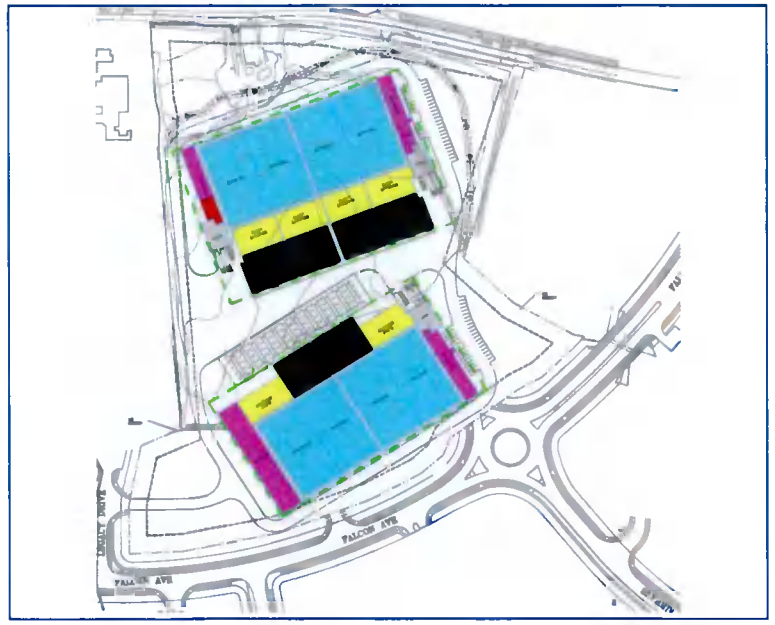
Design Evolution 1

Step 1 – Test consented scheme

Outcome: The standard design superimposed on the consented warehouse scheme yields an 8-hall datacentre.

Fail: Not enough data space to meet business case. Poor site utilisation and density

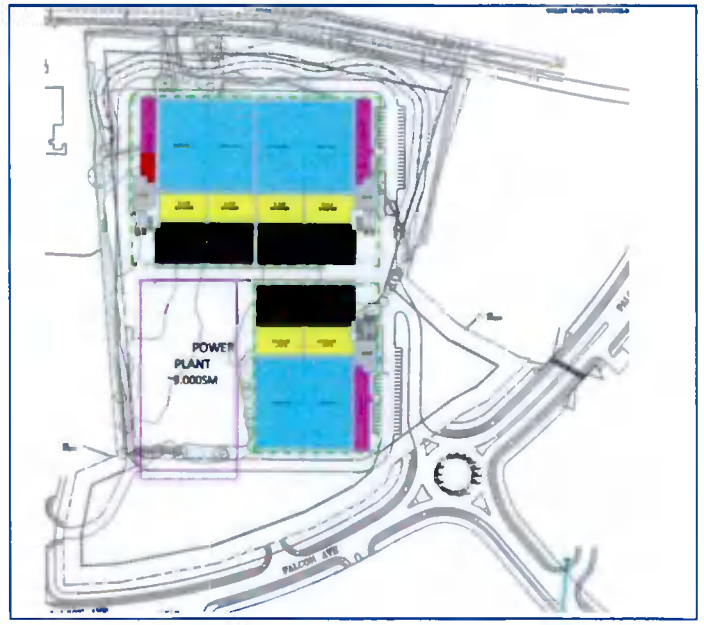
Step 2 – Maximum site coverage



Outcome: Spatial exercise to see how many halls can fit on the site by building over the stream and using standard design.

Fail: Achieves 16 modules but without space for parking and Power Plant. Inadequate for fully serviced modules.

Step 3 – Maximum including Power Plant

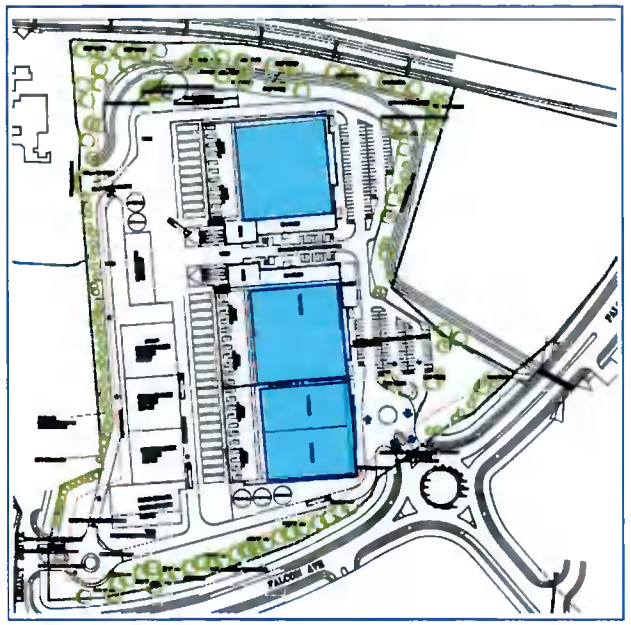


Outcome: Spatial exercise to see how many halls can fit on the site using standard design and with space for a Power Plant

Pass: Achieves 12 modules to meet the business case with space for Power Plant. Creates the challenge of the Baldonnel Stream alignment.

Design Evolution 2

Step 4 – Site Plan Development



Outcome: Design Evolution using CAD and with Power Plant. Stream re-aligned. Plant paced on least noise –sensitive side.

Fail: Meets business case. First consultation meeting with SDCC raises concerns notably around watercourse and loss of biodiversity.

Step 5 – Options to avoid stream diversion

Outcome: Several Options tested to see if stream diversion can be avoided while still meeting design brief.

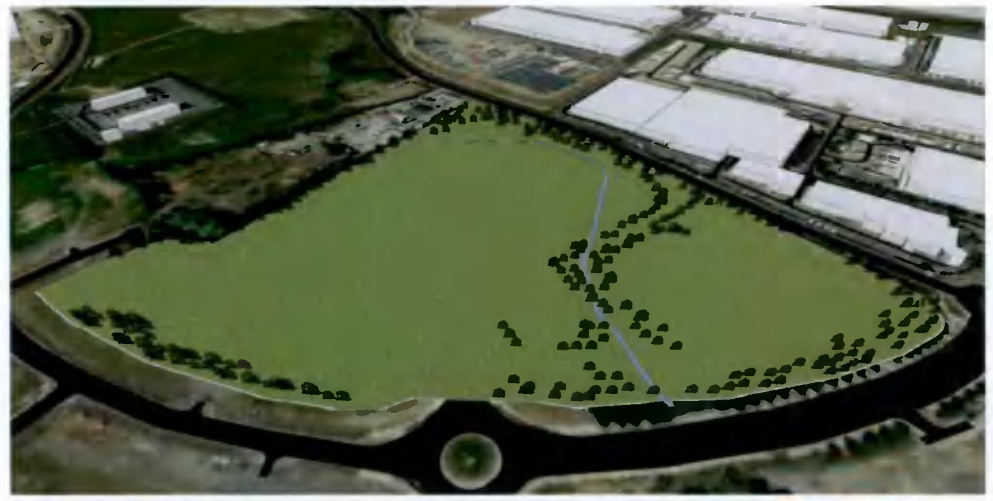
Fail: None of the options evaluated for retaining the current position of the watercourse achieved the business case for the site. It should be noted that the capital cost of the Power Plant means a minimum of 12 modules are essential. The only way to reduce the footprint enough to free space for the stream is to increase the number of storeys which conflicts with the general 20m height limit in the Local Plan and creates visual impact issues.

Step 5 – Refinement of Design

Outcome: Intensive design work on landscaping and ecology aspects of the scheme to create a new watercourse that is longer, wider and richer than the existing. Stormwater management to reduce below-ground attenuation and lower flood risk.

Pass: Best outcome to balance business drivers with biodiversity gains and long-term site improvement.

Design Phase Modelling



From an early stage in the design process the site and the surrounding properties were modelled to allow the massing of the data centre buildings to be tested.

Later the site model has been used to demonstrate how the construction could be phased to match customer demand and to allow space for the critical landscaping and watercourse alignment to mature along the northern frontage to New Nangor Road.

Design Proposals

The following sections look at how the proposed scheme addresses the constraints and opportunities of the site and fits within the framework of the approved Local Plan.

The main challenges to achieving a high-quality addition to the Profile Park Business Park include

1. Reducing the visual impact of large buildings
2. Compensation for the loss of green space and trees
3. Managing rainfall and localised flooding
4. Controlling noise from equipment
5. Controlling emissions from plant and equipment

The measures included in this proposal to address each of the challenges are:

1. **Stream Re-alignment**: providing sufficient measures to improve the ecology of the stream to offset the realignment of the watercourse
2. **Green space and Ecology**:- Intensive planting and tree replacement with landscape improvements for increased biodiversity.
3. **Visual Impact**:- Providing landscaped berms along the New Nangor Road. Careful treatment of the facades to visually reduce the scale and length by colour choices and pattern. Vertical trellises for climbing plants
4. **Rainfall**: Expanding the capacity of the stream to avoid culverting any part of the stream on site and give increased attenuation with limited underground storage to limit flow discharge rates
5. **Noise**: Careful design of the main plant with noise attenuation and screening to limit noise levels.
6. **Emissions**:- Selection of low-emission equipment with CFD modelling to validate the design

These are examined in more detail in the supplementary reports included in this proposal.

The Campus Masterplan

The campus is currently a greenfield site in an area zoned for industrial use with previous planning consent for a very large logistics Park. The data centre campus is master planned for an ultimate build of an 8-hall building in two phases (DUB11.1 &11.2) and a 4-hall building (DUB12) offering some 15,000m^2 of serviced IT space. Other buildings include a gas-fired Power Generation Plant, a Switch Sub-station, a Step-up Transformer compound and a Gas Regulator compound.

Site Access & Movement

Links to the Site
The main entrance to this site is located to the south of the site with two points of entry from Falcon Avenue which are both within the Prospect Park Business Park. Falcon Avenue has a security barrier and guardhouse close to the junction with New Nangor Road to restrict general access to the Park. Grange Castle has excellent links to the M50/M4/M7 motorway network. The impact on traffic movement is examined in detail in the Transport Assessment which concludes that the development of the campus will not have any significant adverse impact on the road network.

Street Network
There are no changes to the street network arising from this proposal other than some underground services.

Vehicle Access and Parking
Two separate entrances serve to manage safe entry for HGV's and deliveries and building equipment movements via the West Entry. The South Main Entry is a safe entry for employees, visitors by car, pedestrians and cyclists. There will be perimeter access roads around all the buildings for fire brigade access and to afford crane access for replacement of the rooftop plant. A Plant Replacement Report has verified that all main items of plant can be replaced during the life of the facility without disruption live operations.

A total of 144 spaces will be provided for cars and LGVs of which 14 are LV charging points (10%) and 8 (5%) are disabled spaces located close to the building entrances.

Pedestrians and Cyclists
A network of paths separates vehicles from cyclists and pedestrians from the road entrance to the buildings. The Profile Park roads have cycle paths on both sides of the internal roads and afford good connections to the wider public cycle network. The VDC campus is designed to encourage cycling by providing 66 covered cycle racks in three blocks near the entrances with dedicated path for cyclists and pedestrians. Showers are included in each building for staff. The main entrance has a pedestrian pass gate for access.

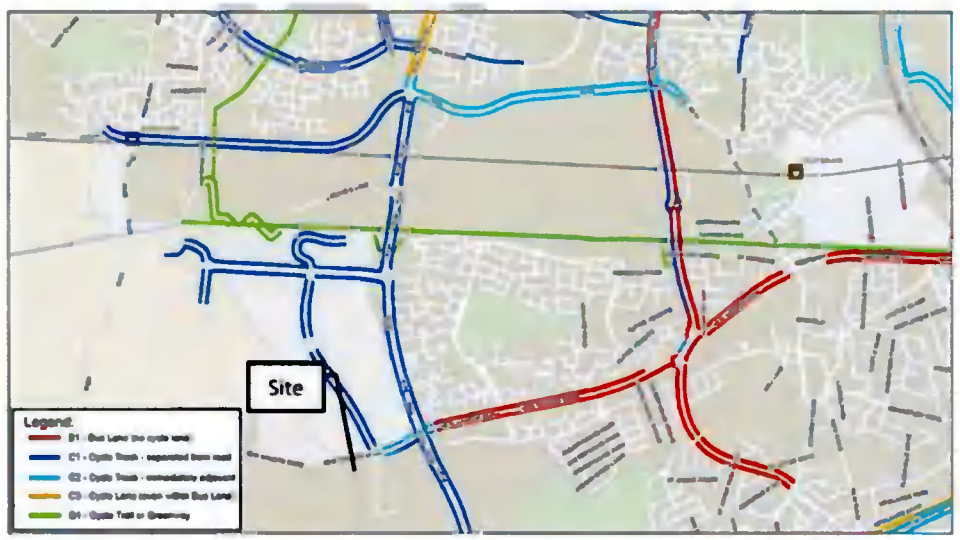


Figure 3 Existing cycle routes (Source: NTA)

Security
Entry control is an essential part of any datacentre. The site will be secured by entry gates and 2.4metre high security fencing with gated entry only possible from the South Entry points. An additional lower fence is proposed to the north boundary along the Nangor Road, similar in design with adjacent approved Datacentre developments.

Campus Masterplan

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The Initial Buildings

DUB11 Building

The DUB11 building is designed to constructed in two phases DUB11.1 and DUB11.2 . It will consist of two floors each 6 metres high, with roof top equipment installed on a platform to provide airflow for proper operation. The building can be fitted out in steps to match the take-up of the IT space. The ability to construct an initial Core & Shell phase with infrastructure fit-outs in later phases can also be accommodated.
The facility will house data processing equipment (telecommunications and computers), that will serve various businesses and enterprises that deliver on-line data services to the area. The building will have 24/7 operation with secure access, few visitors and occasional deliveries. Most of the building area will be comprised of data processing equipment rooms, and the air conditioning equipment which support those rooms. The building will include fire protection, sprinklers and smoke detection systems to provide early warning of any combustion events. The building will have a small administration component (offices and maintenance) for support personnel for the facility. Average staff on site per day will be approximately 44 people for the first phase increasing to about 90 for the full 8-hall building.

Deliveries and Waste

There are two entry points from Falcon Avenue planned for the site, with car parking near the building entrance. Deliveries will come to a two-bay truck loading dock during the initial deployment of IT and mechanical equipment and will be used for periodic replacement of equipment. These deliveries may generate some limited quantities of rubbish; which for the most part are from packaging materials. These will be compacted on site. Deliveries after the initial deployment will occur sporadically.

External Plant

A platform gantry located on the roof will support the air conditioning equipment(chillers) with suitable noise attenuation. Dry type, cast resin transformers will be provided above the roof of the building. These chillers and platform will be screened from view as required by code. In addition, a lift, stair tower and a small pump room will be extended to above the roof line to facilitate equipment maintenance and access. The diesel-powered electrical generators will be used only to supply power in the event of a utility outage. Each of the generators will be housed on site in a screened equipment yard located adjacent to the building. Individual sub-base tanks are the preferred fuel oil system for VDC. Buried fuel tanks shall only be used where sub-base tanks are prohibited.

Photovoltaic panels will be installed on the roof of the buildings to comply with Part L of the Building regulations with an approximate ratio of 1m2 per 20m2 of office space but will be verified.

No steam or heating water will be required for the building. The building will utilize water for toilets and showers for personnel usage. The building primary waste stream will come from toilets which is calculated at 45 staff per building phase so in total 135 permanent staff once completed.

The work will be phased so that the new planting and enhanced watercourse can be in place early in the construction phase. This is explained in the Biodiversity Management Plan.

All buildings on site including data centres, power generation facility, and switch rooms sum cumulatively to a gross floor area of 40,455m2.

Supplementary Reports

The supplementary Reports that describe the Campus and its buildings in more detail are:

- Environmental Impact Assessment Report (EIAR) by Ramboll;
- Planning Report;
- Architectural Drawings;
- Landscape Masterplan and Drawings;
- Engineering Planning Report;
- Energy Statement;
- Site Lighting Plan; and
- Flood Risk Assessment.

Development Summary

Transport & Parking
The site layout is designed to support the delivery and replacement of equipment and primary plant and to enable access for appliances in the event of fire. There are two security-controlled entrances to the site to afford 24-hour access. Each building will have two loading docks suitable for HGVs.
144 parking spaces will be provided, of which 6 will be for disabled users and 14 will be charging points for EVs. There will be 66 double-stacked spaces for covered cycle storage. The maximum allowable parking under the Local Plan is 1 per 100m2 of GFA. The provision proposed equates to 40% of the maximum, reflecting the staffing numbers on the campus. This type of facility can experience short-term peaks depending on IT equipment installation.

Landscape Strategy
The strategy for the landscape is set out in some detail in the Landscape Report and drawings.

Environmental Impact
A full Environmental Impact Assessment Report (EIAR) has been prepared by Ramboll as a separate study of the campus development

The key elements of the development is shown in the table below.

Item	DUB11 (2 phases)	DUB12	Total DUB1
Development Site area			87,053 m^2
Building area- Data centres and power generation facility	14,031 m^2 +10,636 m^2 +678 m^2	12,915 m^2	37,582 m^2
Building height to roof	14.5m/18.5m	14.5m/18.5m	14.5m/18.5m
Roof top equipment & platform height above roof	6m	6m	6m
Building Occupants	45-90 persons	45 persons	135 persons
campus parking spaces	**98**	46	144
Delivery vehicle spaces	2	2	4
Cycle Spaces	44	22	66
Structure	Precast concrete columns, beams, slabs or steel frame and concrete slabs.		
External wall	Insulated metal cladding on metal framing		
Elevators	3	2	5
Fire Suppression	Sprinkler	Sprinkler	Sprinkler
Emergency generators	22	11	33no.
Fuel Storage	22 x 18,000 liters above ground	11 x 18,000 liters above ground	594,000 liters total
Air-cooled chillers	24	12	36
Total Building electrical load	48MW	24MW	72MW
Projected annual water demand to EN 806.2 (2005)	2,043,808 litres (11.1) 539,606 litres (11.2)	2,043,808 litres	4,627,222 litres
Projected peak flow rate	2.82 litres/sec	Peak flow rate from fixture demand to BS 6700(2006)	
Sprinkler Tanks (NFPA-01 type II construction) most stringent requirements.	2 x 240 m^3	2 x 240 m^3	4 x 240 m^3

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Key Issues 1

BALDONNEL STREAM RE-ALIGNMENT

The Options Study and the design development shows that there are substantial benefits to re-aligning the watercourse that crosses the site. More detail is contained in the Planning Report, the Flood Risk Assessment and the Landscape Reports but it is worthwhile here to set out the key aspects.

Policy
The point of departure is the Local Plan Green Infrastructure G1 Objective 1:
To establish a coherent, integrated, and evolving Green Infrastructure network across South Dublin County with parks, open spaces, hedgerows, grasslands, protected areas, and rivers and streams that provide a shared space for amenity and recreation, biodiversity protection, flood management and adaptation to climate change.

This overarching objective is further elaborated by Policies ET3 Objective 5 and G3 Objectives 2,3 and 4.

Local Context
The stretch of the New Nangor Road from its roundabout junction with Falcon Ave to the east and the Grange Castel Estate Road North roundabout to the West is fronted by existing and proposed datacentres for about 75% of its length. This is all private land with no public access but in every case, there will be a deep landscape strip with berms and planting and on the south side a re-aligned stretch of the Baldonnel Stream. Further East is the Grange Castle Golf Club which is another valuable resource for wildlife. As the industrial estates extend to the west along New Nangor Road this strip of land to the north of the present watercourse will become part of a valuable corridor for biodiversity and wildlife.

Stream Re-alignment
Until this development proposal, the quality of the many realignments of streams around Grange Castle have been utilitarian with little effort to exploit the potential of a new streambed to improve water quality and planting.

Landscape Quality

The reason for changing and lengthening the Baldonnel Stream is to make the bulk of the site more usable for the type of development envisaged in the Local Plan. It does bring other significant benefits.

Flood Management & Attenuation:- there is a significant floor risk in the NW corner of the site that will remain if there is no modification of the watercourse. By taking a pro-active approach the design eliminates the floor risk and creates a seasonal wetland opportunity.

Long-term Stream protection:- siting the watercourse further away from the developed area and with a much wider protected landscape area than the 5m reserve required, will help secure the long-term micro-environment

Bio-diversity corridor:- This site is a key link in the natural corridor extending from the Golf Course out west to open countryside. By making a substantial landscape impact, the corridor can flourish.

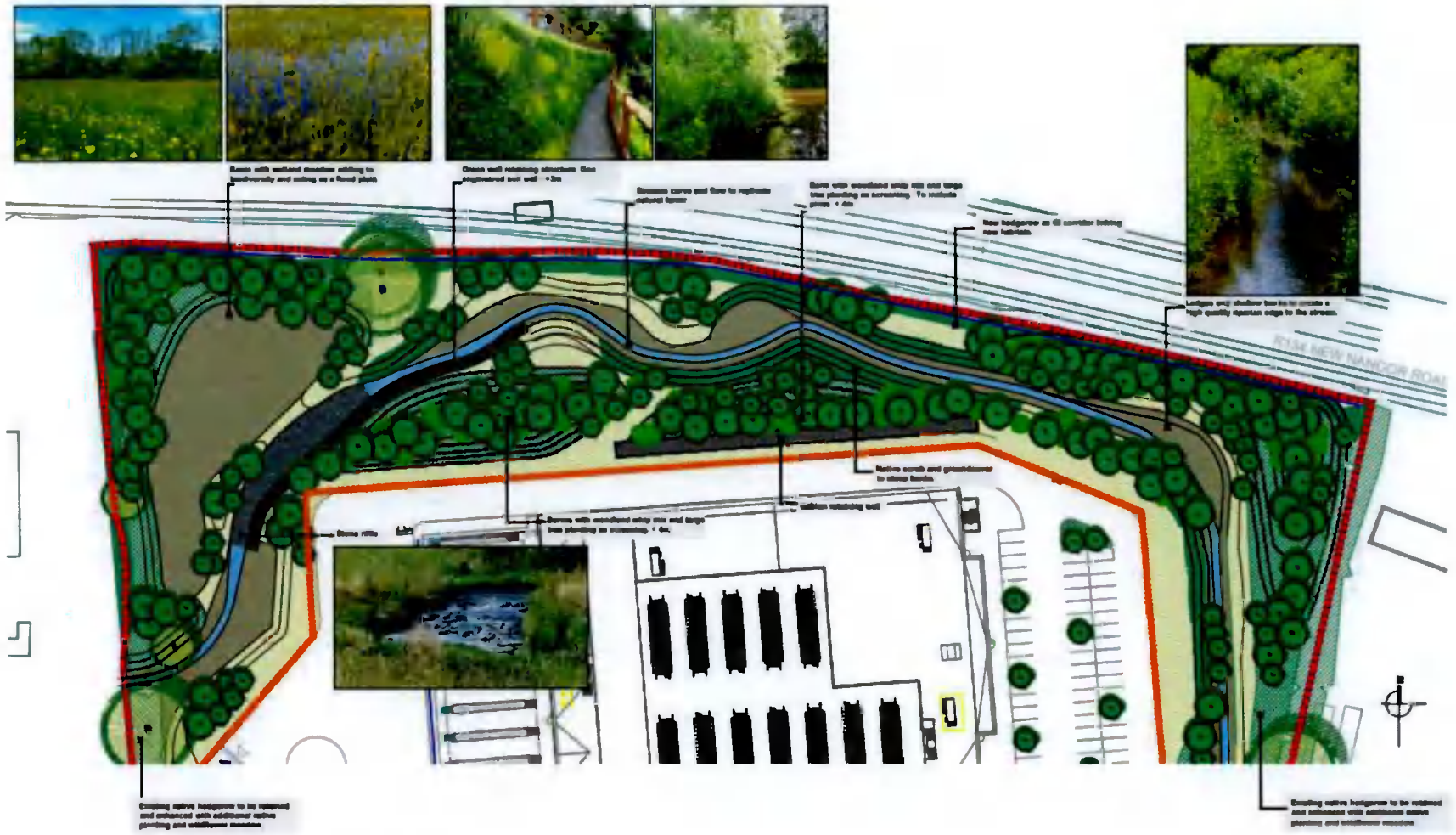
Construction phasing:- Concentrating the landscape buffer along the northern boundary of the site means that this landscaping work will be carried out in advance of any building occupation and there will be time for it to be well-established before the later building phases are completed.

Visual Buffer:- The Verified Views in the EIAR demonstrate that the landscaped re-alignment will be sufficient to soften views into the campus both for vehicles, cyclists and pedestrians in the roadway.

Landscape & Stream

BALDONNEL STREAM RE_ALIGNMENT

Refer to Landscape Report and drawings. Stream alignment proposal shown here.



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Key Issues 2

MASSING AND APPEARANCE

Data Centres like other large storage buildings are BIG. Part of the designer's challenge is to choose the place on site that mitigates the bulk of the data centre. For this site the New Nangor Road is identified as the primary frontage as it fronts a main public road. The frontage to Falcon Avenue is secondary in that the road is a controlled private road with limited access. The optimal placing from the Options Study aligns the two buildings at right angles to New Nangor Road and moves the North building DUB12 as far back as possible. This both reduces the apparent bulk and leaves a landscape reserve. Electrical plant is sited on the west side furthest from the nearest noise receptors

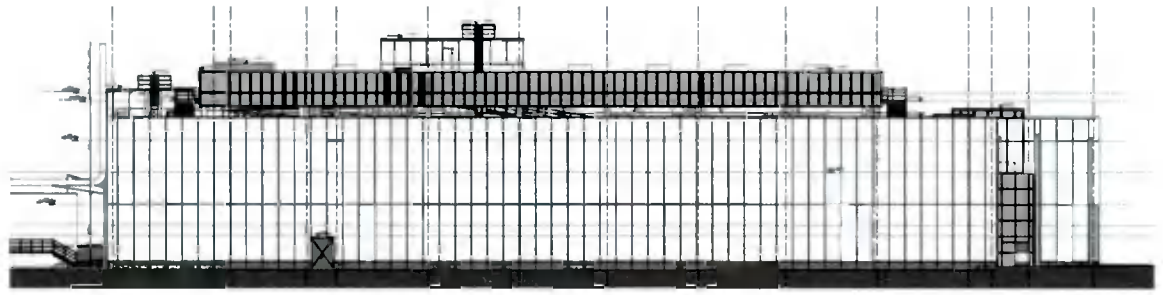
Building Orientation

A conventional approach to streetscape would encourage offices to face the street frontage. This was one of the alternatives considered in the Options Study. On balance it was rejected in favour of the layout shown where the offices of DUB11 & DUB12 face each other. The reasons are:

- The geometry of the buildings favours a rectilinear layout
- Creating an internal street unifies the staff on the campus
- Security is easier to control with oversight from either security office
- Parking for disabled is in a single area giving more availability for users
- The deep landscape along the North side means that passers-by will have very few views into the site

Façade Treatment

The data centres have a floor-to-floor height of 6 metres to allow for the IT equipment and overhead services. The data halls are enclosed in fire-rated walls and like many storage buildings are windowless. This presents a challenge to the designer in attempting to reduce the apparent bulk and add visual interest. The default elevation is shown below with white insulated metal panel cladding and a dark metal mesh screen around the rooftop plant.



Materials Palette

The approach to materials is to use good-quality materials in a restrained way with a limited palette of colours and finishes.

Elevation to New Nangor Road

Façade Proposal

The New Nangor Road frontage is the most visible from the public realm and the default blank façade is not a strong enough representation of the quality of a Vantage Data Centre. The measures adopted to enhance the façade include:

- Changing the panel format to a vertical module.
- Varying the width of the panels to change the horizontal rhythm
- Adding coloured glazing to the corridors
- Adding colour gradations to the panels
- Framing the cladding at the west end with projecting fascia
- Dark grey louvres to the chiller plant screen and the generator enclosure
- Climbing plants on the mesh screen to the stair towers.

SITE PHASING

The campus will be built out as phased development to match the demand for data modules. The sequence will start with the re-alignment of the Baldonnel Stream and the associated landscape works to give as much time as possible for the new alignment to mature. The north part of DUB11 will be the first building together with the temporary power generation plant (Phase 1A).

PHASE 1A

Phase 1B sees the permanent connection to the grid, the switch sub-station and the replacement of the temporary plant with the first part of the Gas Generation Plant.

PHASE 1B

SITE PHASING

Phase 2A will be the construction of the southern part of DUB11

PHASE 2A

Phase 2B will see the construction of the DUB12 datacentre and the second part of the gas generation plant.

PHASE 2B

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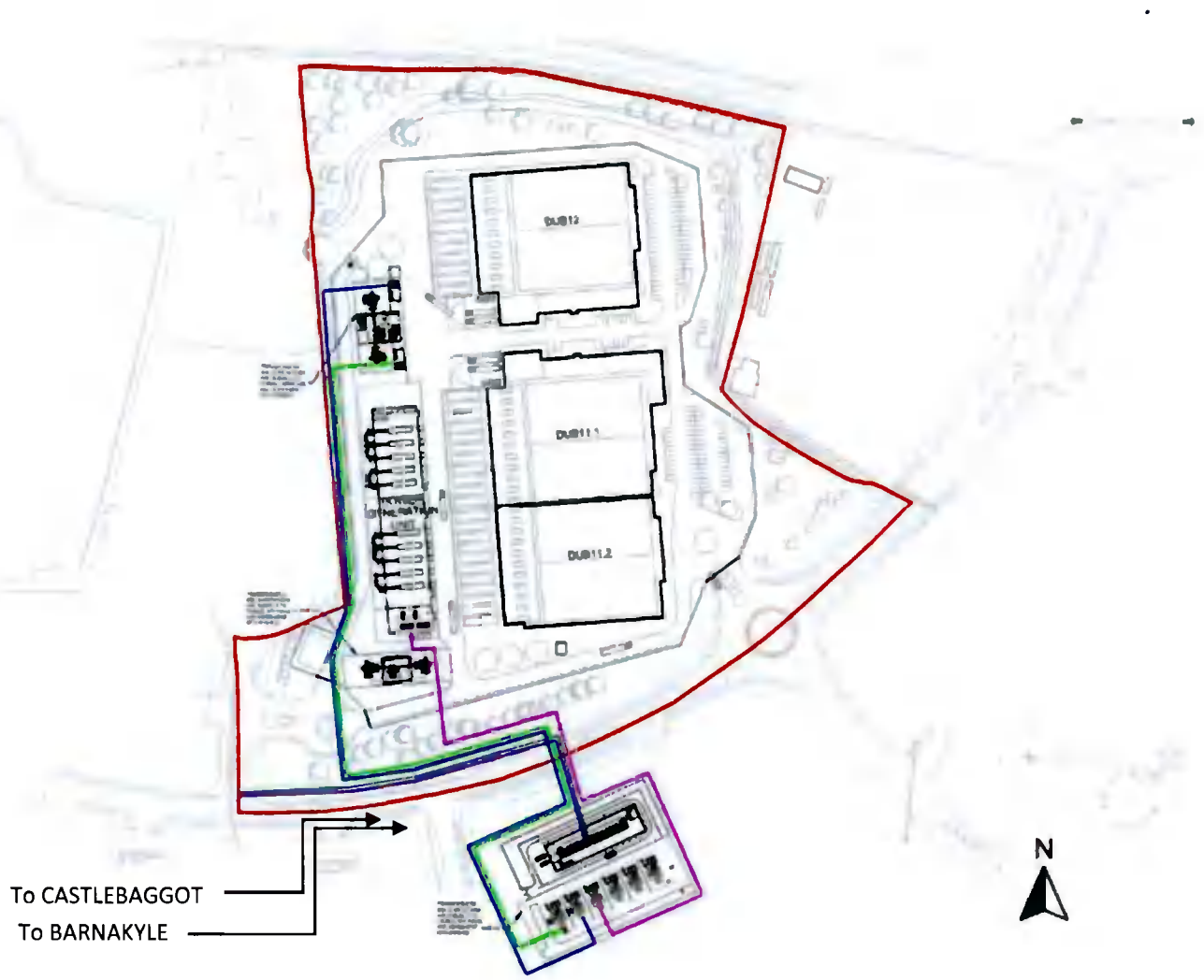
Power Supply

The main electrical supply to the campus will be provided from ESB via a network substation to a switch room on site with two diverse 20kV distribution feeds to each of the data centres. The initial supply from the utility is insufficient to feed the data centre and a temporary gas-fired power generation plant will be constructed to the west of the DUB11 building. This will be 21 containerised modular generators with 25m flues all housed within a screened compound and it will be sufficient to support the first four data modules. Similar plants exist on some of the other datacentre sites around Grange Castle. The temporary plant will not be built if the connection to the national grid is in place prior to the operation of Building 11.

The permanent gas-fired Generation Plant will operate as a Power-peaking unit to support the Eirgrid network when it is at capacity. A pair of step-up transformers located south of the Power Generation Plant will distribute power at 20kV to a new Eirgrid substation immediately south of Falcon Avenue. The works will include approx. 450 metres of cabling and ducting across Falcon Avenue. A gas regulator terminal will be provided on site at the southwest corner for connection to the Power generation facility. The engines within the gas-powered Generation Plant can accommodate blended fuel for lower carbon footprint as soon as the network is able to supply this via the existing gas ring-mains. The gas-powered generation facility will have the capacity to provide equal energy to the amount consumed on site which is estimated as a minimum of 500 hours per year. In addition to this, in the event of a local GRID network failure this gas generation facility will provide additional power to the Network infrastructure as and when called upon by the Power grid network.

Supplementary SID Application
Vantage Data Centers Dublin Ireland will make a separate SID Application for the new ESB substation south of Falcon Avenue. This is essential to support this scheme and further development in the Grange Castle area.



Site Power Infrastructure

APPENDIX A - ELEVATIONS

BURNS McDONNELL

Exterior Treatment & Streetscape

The approach to the exterior design of the data centre buildings is to use high quality insulated panels for the main façade with a powder-coated finish and with a palette of colours that enlivens the façade in a subtle way. Perforated metal panels are used around the staircases and with stainless steel wire mesh to allow planting to grow up the façade, thus adding texture and visual interest as well as contributing to the bio diverse habitat of the landscaping.

Rooftop plant including chillers and transformers are masked by dark grey mesh panels. The façade around the office entrances are aluminium curtain wall.

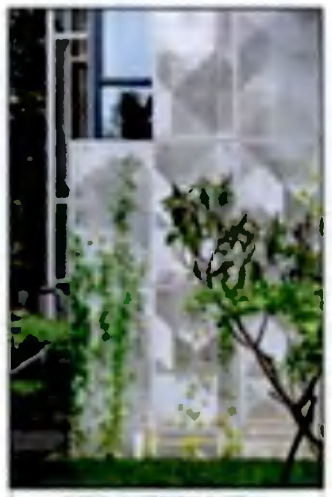
A similar palette of cladding is used on the Generator plant and other ancillary buildings.


WHITE METAL PANEL


GREY METAL PANEL


CURTAIN WALL


ACOUSTIC LOUVERS


PERF. PATTERN METAL

BUILDING ELEVATIONS 1

DUB 11

2 DUB11 BUILDING ELEVATION - SOUTH

3 DUB11 BUILDING ELEVATION - NORTH

BURNS McDONNELL.

BUILDING ELEVATIONS 2

DUB 11 & 12

2 DUB11 SITE ELEVATION - EAST

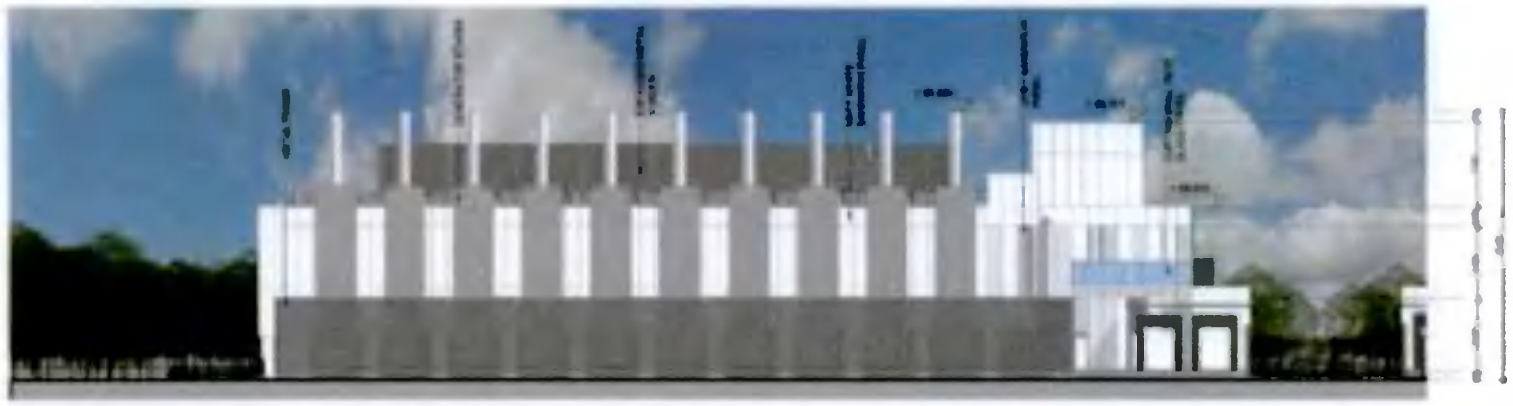
1 DUB11 SITE ELEVATION - WEST

BURNS McDONNELL.

15C BUILDING ELEVATIONS

DUB 12

② DUB12 BUILDING ELEVATION - EAST



① DUB12 BUILDING ELEVATION - WEST

BURNS McDONNELL

15C BUILDING ELEVATIONS

DUB 12

2 DUB12 BUILDING ELEVATION - NORTH

1 DUB12 BUILDING ELEVATION - SOUTH

BURNS McDONNELL.