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Herbata Data Centre Campus – ESB Substation, Naas, Co. Kildare

22217-RKD-XX-XX-RP-A-0002
Architectural Design Statement

Purpose of issue: Issued for Planning
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July 2025

Contents

1.0	Introduction	3
2.0	Site & Surrounding Areas	5
2.1	Existing Site Location	5
2.2	Site Zoning	7
3.0	SID Site Proposal	9
3.1	Proposed Site Plan.....	9
3.2	Adjacent DC Campus Proposal	9
3.3	Site Phasing	10
3.4	Landscaping Strategy.....	10
4.0	Design & Layout	11
4.1	Substation Building & Compound Layout.....	11
4.2	Building Height	14
4.3	Elevation Design and Materials	15
5.0	Schedule of Areas	16

1.0

Introduction

The following report describes the architectural design rationale of the Electricity Substation of Herbata Data Centre Campus, to be constructed on lands at Halverstown, Naas, County Kildare which comprises of:

- 110kV GIS Building/Grid Substation c. 1350sqm and 15m in height.
- Undergrounding of a 110kV transmission line.
- 1 No. Interface tower (18.2m in height), to south of the site.
- 4no. MV Rooms.
- 4no. Transformers.
- Internal Road Layout.
- Boundary Fences.
- Underground Services (Watermain, Surface Water, Foul, Power)
- Ancillary Works.

The overall red line boundary comprises c3.15 ha for the Strategic Infrastructure Development (SID) application. The development will also include enabling works, services diversions, connections to the proposed grid substation, landscaping, security fencing and berms, provision of internal access arrangements within the grid substation compound.

This SID application does not include a proposed Data Centre Campus (c37.5 ha), as this development forms part of a separate planning application lodged with Kildare County Council (Ref. No. 24/60787 / ACP REF. 323677), and includes other supporting services, construction works, and ancillary works associated with the campus.

The subject site is greenfield and currently used as agricultural land. It is bounded to the south, west & east by agricultural lands and to the north by the R409. However, the planning application for a data centre with Kildare County Council includes adjacent lands to the south, north and east.

A request was made to An Bord Pleanála under Section 182E of the Planning and Development Act, 2000 (as amended) to enter into a pre-application consultation with the Board in relation to the provision of a new grid substation, the undergrounding of an existing 110kV transmission cable along with associated and ancillary works.

This was confirmed by An Bord Pleanála that the SID application should be made directly to ABP. ABP confirmed that the proposed grid development meets the relevant criteria and constitutes Strategic Infrastructure Development (SID) under Section 182A of the Planning and Development Act, 2000 (as amended).

The proposed Herbata Data Centre Campus development is subject of a separate planning application to Kildare County Council (Ref No. 24/60787 / ACP REF. 323677). It does not comprise of strategic infrastructure development; either under section 37A (Seventh Schedule) or section 182A of the Act. Based on recent precedence, the appropriate application route for same is to the planning authority under section 34.

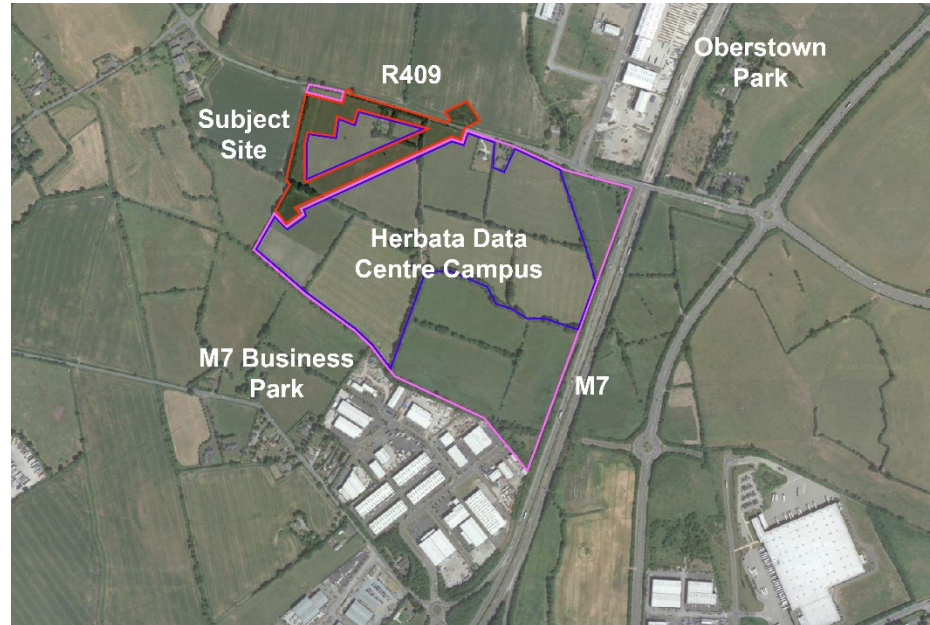
It is submitted, however, that the on-site 110KV substation and loop-in infrastructure which will facilitate export of the generated electricity to the National Grid, comprises of electricity transmission development, is Strategic Infrastructure Development and accordingly falls under the provisions of section

182A of the Act. Accordingly, a dual approach to consent for the entire development is necessary.

2.0 Site & Surrounding Areas

2.1 Existing Site Location

Picture 01 | Site Context



The site is located within Halverstown, outside of Naas, Co. Kildare.

The overall red line boundary comprises c3.15 ha for the SID application. The subject site currently consists of agricultural lands to the west of the M7 and Naas town. This does not include the Data Centre Campus which forms part of a separate planning application (37.5 ha).

The current site use is a greenfield site and is used as agricultural land. It is bounded to the south, west & east by agricultural lands and to the north by the R409.

To the north and south of the site, the lands are mainly used for commercial/industrial purposes (M7 Business Park & Oberstown Business Park) and agricultural uses. The electricity substation will form part of the Herbata Data Centre Campus.

A 2-storey house and farm buildings are located approx. 200m to the west of the site (this will be demolished as part of the Data Centre Campus planning application), whilst some bungalow and 2 storey houses are located approx. 250m to the south of the site. There is a bungalow immediately to the north of the site, across the R409.

There is a 110kv overhead powerline that crosses the site. Part of this SID application is to reroute this underground as per the engineers' details.

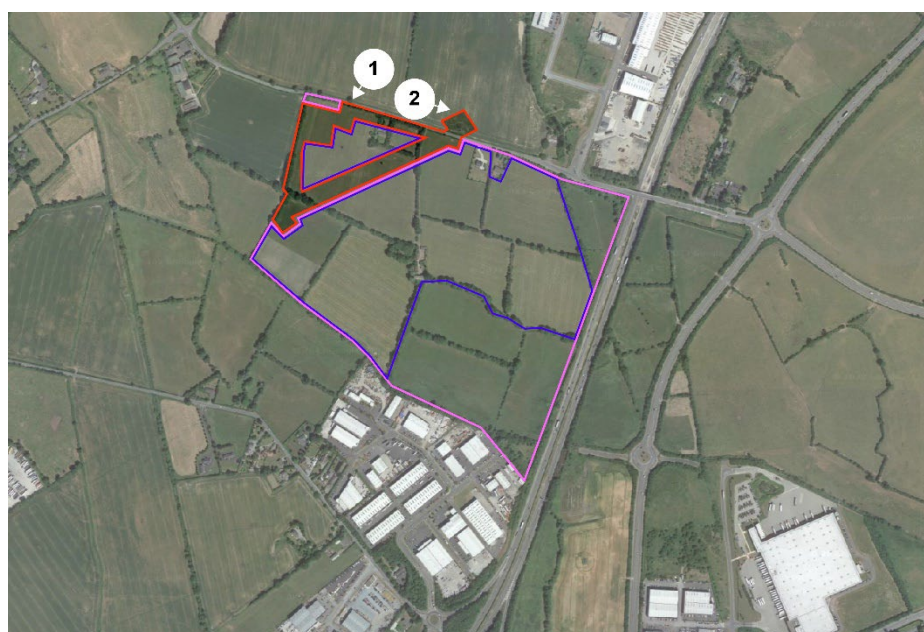
Picture 02 | View of existing site from Google Streetview – Image 1 on Key Plan.



Picture 03 | View of existing site from Google Streetview – Image 2 on Key Plan.



Picture 04 | Key Plan of site showing location of street views.



2.2

Site Zoning

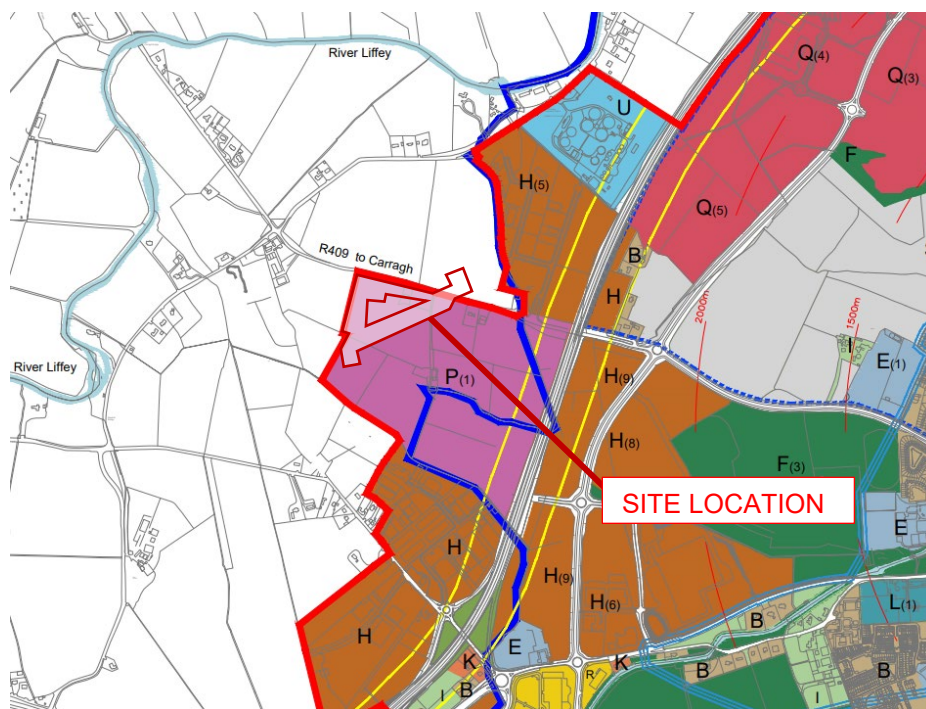
It is Government Policy as set out in the National Planning Framework and the Government Statement on “The Role of Data Centres in Ireland” to promote Ireland as a sustainable international destination for Information Communications Technology (ICT) infrastructure such as Data Centres. Within Naas, 2 sites have been designated for the development of Data Centres and ‘The Council will not consider any alternative use on these lands, other than those associated with Data Centres (Objective EDO 1.12)’. The subject site (as shown in the zoning map below) is one of these allocated sites. The substation is to be operated by EirGrid, with the purpose to provide power connectivity for the Proposed Development of the Herbata Data Centre Campus. As mentioned above, the Herbata Data Centre Campus is not part of this SID application, and is subject to a separate application by Kildare County Council (Ref No. 24/60787 / ACP REF. 323677). The two applications together constitute the “Project” for the purposes of Environmental Impact Assessment.

Both the Kildare County Development Plan (2023-2029) and the Naas LAP provide for the necessary development of Data Centres within Kildare and their importance in terms of employment and economic opportunities.

The proposed development accords with the land use zoning set out in the Naas Local Area Plan 2021 -2027 (“Naas LAP”) and will deliver local employment and anchor the ICT sector more firmly within Naas and the Greater Dublin Area more generally.

Picture 05 | Extract from Naas Local Area Plan (2021 – 2027): Land Use Zoning Map.

Site location marked in red by authors of this report.



P P: Data Centre(C7)

Ref.	Land Use	Land-Use Zoning Objectives
P	Data Centre	To provide for Data Centre development and their associated infrastructure only.

Picture 06 | Extract from Naas Local Area Plan (2021 – 2027): Section 11.1 – Land Use Zoning Objectives

Within the KCC Development Plan, Chapter 7 states:

'Where data centre developments are approved in the County, the Council will expect district heating systems to be developed for adjoining residential, community and/or commercial developments.'

A portion of the Herbata Data Centre Campus site has been allocated to house any required district heating infrastructure which will connect back to the surrounding area for future energy requirements. The district heating infrastructure is outside the scope of this SID Application.

3.0

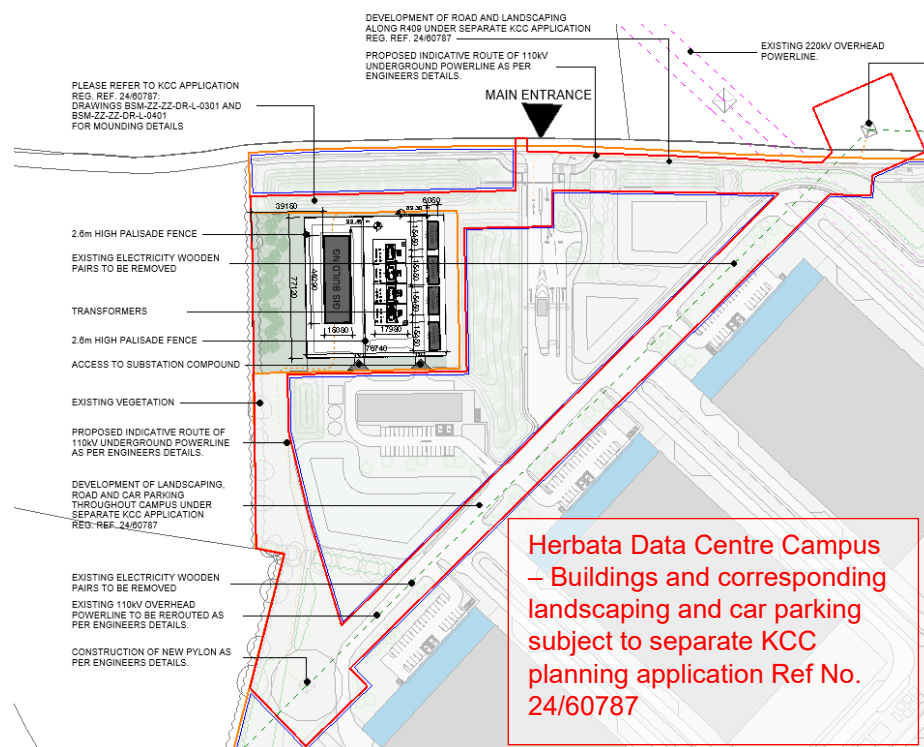
SID Site Proposal

3.1

Proposed Site Plan

The proposed SID site layout is shown below, for full details see drawing. 22217-RKD-ZZ-ZZ-DR-A-1055.

Picture 07 | Proposed SID Site Plan



The site area subject to this SID application is 3.15ha. The development includes a GIS building, 4no. transformers, 4no. MV Rooms, enabling works, services diversions, connections to the proposed grid substation, landscaping, security fencing and berms, provision of internal access arrangements within the grid substation compound. All other supporting services, associated construction works, and ancillary works will form part of the proposed Herbata Data Centre Campus subject to the planning application to Kildare County Council Ref. No.24/60787 / ACP REF. 323677.

3.2

Adjacent DC Campus Proposal

This SID application does not include a proposed Data Centre Campus (c37.5 ha), as this development forms part of a separate planning application lodged with Kildare County Council (Ref. No. 24/60787 / ACP REF. 323677), and includes other supporting services, construction works, and ancillary works associated with the campus.

There is a vehicular and pedestrian site entrance to the proposed Herbata Data Centre Campus located in the north corner of the site. Access to the substation will be from the main internal access road within the Herbata Data Centre Campus, behind the Water Treatment Plant and Administration Workshop. Proposed planting, along with existing hedgerows, will surround the substation to aid screening of this on site and from the R409.

4.0 Design & Layout

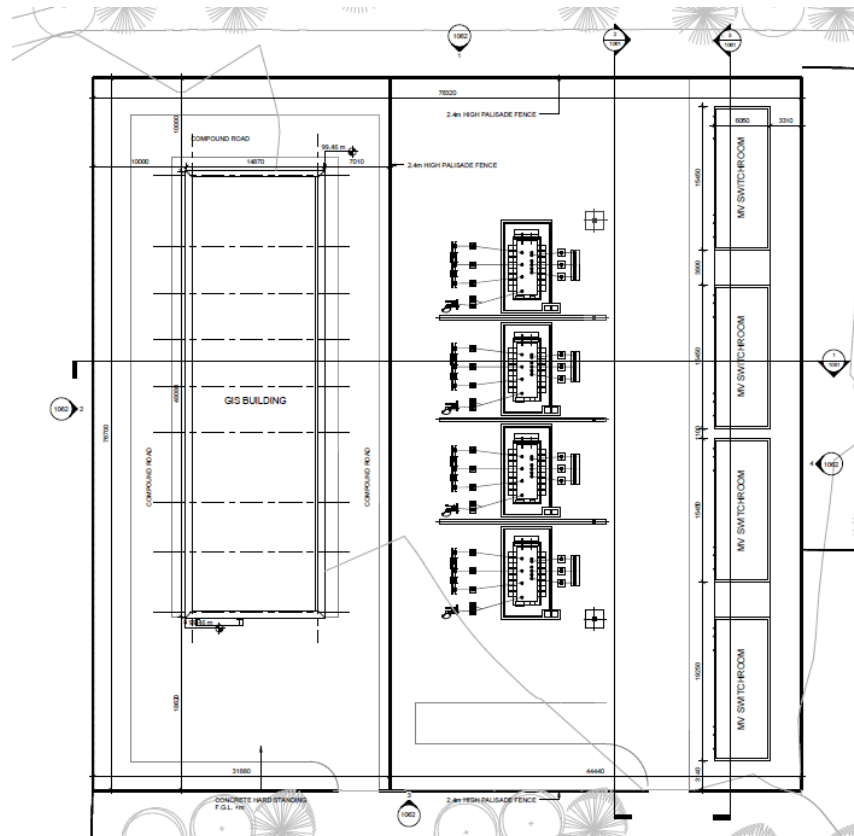
4.1 Substation Building & Compound Layout

An existing overhead 110 kV transmission circuit currently enters the site from the north and west sides of the Herbata Data Centre Campus site and will be taken down by line/cable (L/C) dropdown tower and undergrounded and brought to the proposed new Grid Substation. From the proposed L/C dropdown tower, a new underground 110kV cable circuit will run from the proposed 110 kV GIS grid substation to the existing tower to the north of the site. The obsolete section of the overhead 110kV line from the proposed dropdown tower, including the supporting poles, will then be taken down and removed from the site.

The new circuit will terminate in a cable – overhead line/cable (L/C) interface compound containing air-insulated electrical equipment mounted on concrete plinths. Adjacent to each L/C interface compound, an overhead line tower will be erected to facilitate connection of the new underground cables to the existing 110 kV overhead line. The new overhead line tower will be approximately 18.2 metres in height, set on top of concrete foundations.

The grid substation compound includes a building housing indoor high voltage (HV) gas insulated switchgear (GIS) equipment, high voltage busbar connections, and step-down power transformers. There will also be services diversions, connections to the proposed grid substation, provision of internal access arrangements within the compound.

For full details, see Engineer's drawings and reports.

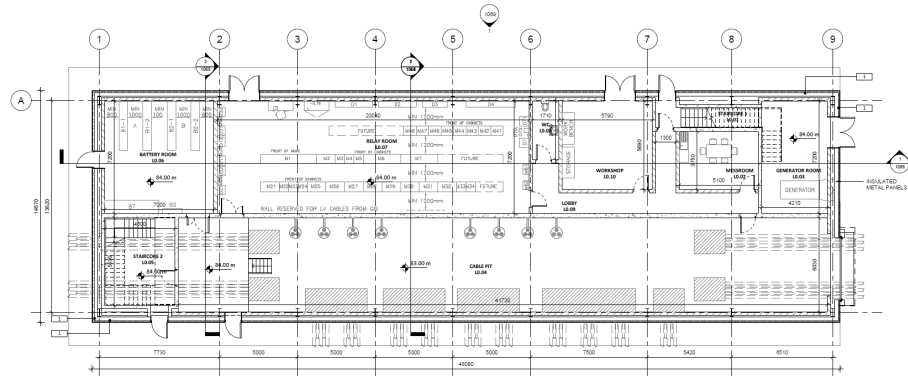


Picture 09 | Proposed ESB Substation Compound Plan

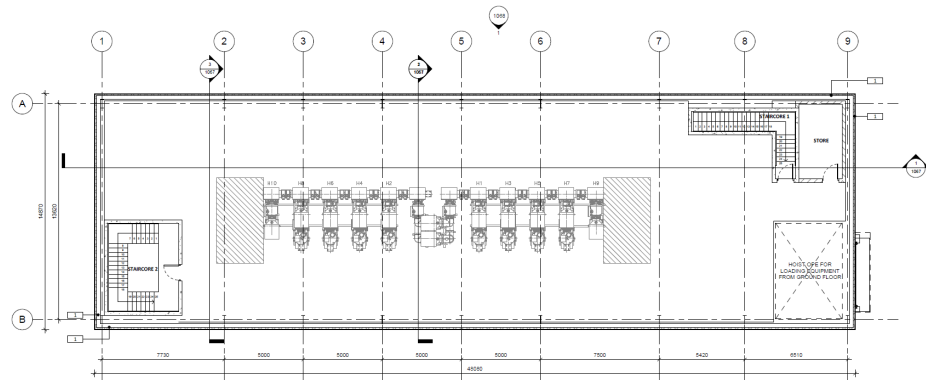
The substation development is to be made of two elements, the first being a new node on the Irish electricity grid at Naas, which will be handed over and be operated by EirGrid ESO as the transmission system operator (TSO); the second element will comprise the transformation to a lower voltage to enable distribution to the new proposed data centre development.

The proposed new Grid Substation is to be based on EirGrid's standard arrangements for 110kV based switchgear. EirGrid also have standard arrangements for GIS that they use on their network, these require the switchgear to be housed in a 2-storey building to enable safe operation and cable entry.

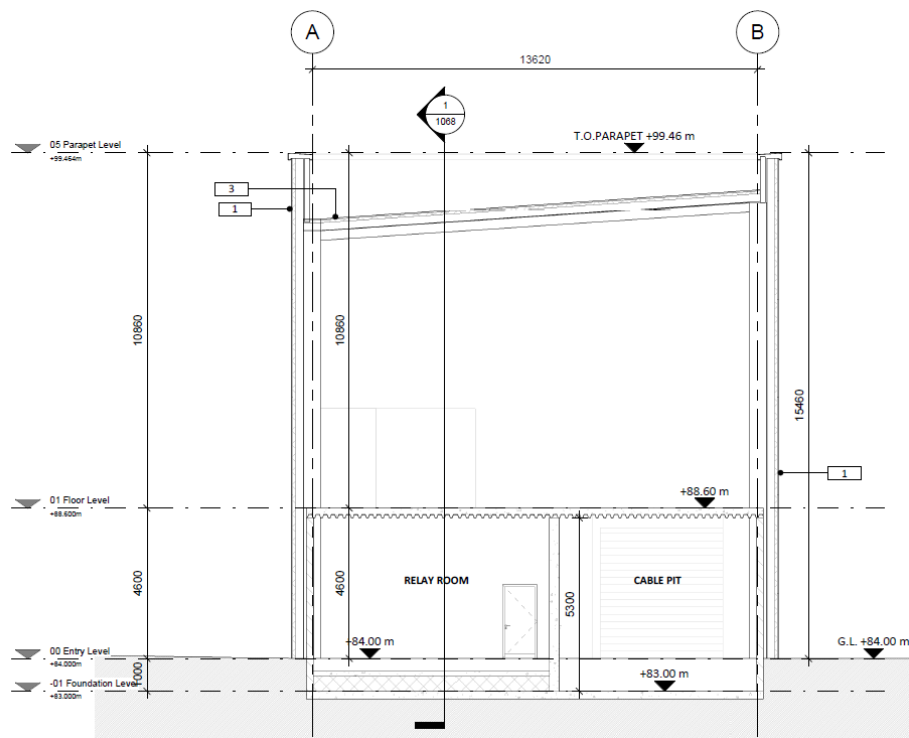
Picture 10 | Proposed GIS Building – Ground Floor Plan



Picture 11 | Proposed GIS Building – First Floor Plan



Picture 12 | Proposed GIS Building – Section



Using this standard arrangement for a GIS grid station, the substation on the data centre development has been arranged to have two sections, the first to fully incorporate the arrangement of the EirGrid 8-bay GIS grid station and the second section to incorporate the local distribution and step-down transformers for the data centre development itself.

It should be noted that the development site also has a 220kV transmission line crossing the site, operated by EirGrid. No works are intended to the line, but the exclusion zone either side of the line will be observed fully.

The main stakeholders for the development are as follows:

- EirGrid, is responsible for operating and developing the national high voltage electricity transmission grid in Ireland.
- ESB Networks (Asset Owner), is responsible for carrying out maintenance, repairs and where works are not contestable, the construction of the national high voltage electricity grid in Ireland.
- Herbata Limited's role for this project is to act as the Developer/Applicant.

4.2 Building Height

Due to the size of the plant required within the Substation, this is a large building measuring at approx. 15m in height.

No. 4 MV Rooms are located on the site, each measuring at approx. 6m in height.

There is a 2.4m high palisade fencing surrounding the site.

As part of the Addendum to Chapter 11 of the Environmental Impact Assessment Report submitted for KCC Planning Application No. 24/60787 / ACP REF. 323677, 21 viewpoints were selected, one of which was towards the SID site from R409 (Viewpoint 2). In summary;

In consideration of the design amendments (as outlined in the Addendum to Chapter 2 of the EIAR and summarised in Section 11.2 of this Addendum to Chapter 11) and the impact assessment of the additional viewpoints (16 – 21) arising from Item 5 of the Kildare County Council RFI, the conclusions of the submitted EIAR Chapter 11 Landscape and Visual (Section 11.9) remain unchanged. That is, there are no predicted effects on any primary or secondary amenity area and/or scenic views; the Project should not have a detrimental impact to the Northern Lowlands Landscape Character Area or the surrounding area; visual impacts upon viewpoints remain limited at the operational stage; no significant impacts associated with glint and glare or lighting. Overall, the wider landscape and visual resources of the Projects surroundings have the capacity to accommodate a development of this type and scale.



Picture 13 | CGI of Substation Compound

4.3 Elevation Design and Materials

The design of the Substation is in keeping with the main data centre building, i.e. use of flat composite panels in light grey colour.

Much of the site will be partially hidden through proposed landscaping. This is to hide views of the Substation site from the overall Herbata Data Centre Campus and from the R409. To the west of the site, existing hedgerows are to be maintained and augmented to further hide the views from neighbouring site.

The no. 4 MV Rooms will be finished with render in a selected colour.

Picture 14 | CGI of Substation Compound



5.0

Schedule of Areas

Refer to RKD sheet -

22217-RKD-ZZ-ZZ-SH-A-1075

Picture 15 | Area Schedules

<u>GIS BUILDING - GROSS INTERNAL AREA</u>		
LEVEL	NAME	AREA
00 Entry Level	GIS GROUND FLOOR - GIA	626.1 m ²
00 Entry Level		626.1 m ²
01 Floor Level	GIS FIRST FLOOR - GIA	626.1 m ²
01 Floor Level		626.1 m ²
	GROSS INTERNAL TOTAL AREA	1,252.2 m ²

<u>MV ROOM - GIA & NIA</u>		
LEVEL	NAME	AREA
00 Entry Level	MV ROOM 1	84.0 m ²
	MV ROOM 1	84.0 m ²
00 Entry Level	MV ROOM 2	84.0 m ²
	MV ROOM 2	84.0 m ²
00 Entry Level	MV ROOM 3	84.0 m ²
	MV ROOM 3	84.0 m ²
00 Entry Level	MV ROOM 4	84.0 m ²
	MV ROOM 4	84.0 m ²
	MV ROOMS - TOTAL GIA & NIA	336.0 m ²

