

**ADDENDUM TO EIS**  
**CUMULATIVE IMPACT**  
**ASSESSMENT FOR GRID**  
**AND FIBRE**  
**CONNECTIONS**

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Report Prepared For

**Amazon Data Services Ireland  
Ltd.  
(ADSIL)**

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Report Prepared By

**AWN Consulting Ltd.**

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Our Reference

EN/17/9710WR03

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22 September 2017

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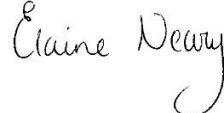

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Appendix A Route Selection Assessment Report prepared by AWN

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## 1.0 INTRODUCTION

This Cumulative Impact Assessment report has been prepared by AWN Consulting Ltd. (AWN), on behalf of Amazon Data Services Ireland Ltd. (ADSIL), to assess the potential cumulative impacts on the environment of the proposed new ADSIL High Technology Data Storage Facility in Cruiserath, Dublin 15 with the installation of electrical and fibre connections to off-site infrastructure located a short distance from the proposed development.

This report has been prepared as an Addendum to the existing EIS for the proposed Data Storage Facility to account for the change in circumstances in relation to the required electrical grid and fibre connections in that the connection route considered in the planning application for the grid connection and noted in the Response to Third Party Appeals, which would not have required any development, has transpired not to be available. It is therefore necessary to consider alternative routes for the grid connection and the cumulative impacts of those routes with the proposed development for each environmental aspect considered in the EIS. In addition, an assessment of the fibre connection has also been included on the precautionary principle that, although a minor project when compared with the development of the data centre, it is still works which should be assessed.

A separate application for planning permission will be made for the grid and fibre connection which will be accompanied by an EIS, in due course.

The environmental aspects considered and the specialists that carried out the assessments are detailed in Table 1.1.

Topic	Specialist Input From:
Socio-Economics – Human Beings	AWN Consulting Ltd.
Soils, Geology & Hydrogeology	AWN Consulting Ltd.
Water & Hydrology	AWN Consulting Ltd.
Flora & Fauna	Dr Janice Fuller MCIEEM
Air Quality & Climate	AWN Consulting Ltd.
Noise & Vibration	AWN Consulting Ltd.
Landscape	Brady Shipman Martin
Archaeology, Architecture & Cultural Heritage	Archer Heritage
Traffic & Transportation	Clifton Scannell Emerson Associates
Material Assets & Waste Management	AWN Consulting Ltd.

**Table 1.1** List of Contributors

The contributors identified above have provided specialist input in terms of assessing the cumulative impact of the proposed development with the grid and fibre connections.

## 2.0 DESCRIPTION OF THE PROPOSED DATA STORAGE FACILITY DEVELOPMENT

The proposed new ADSIL High Technology Data Storage Facility development is described in detail in Chapter 2 *Description of the Development* of the EIS submitted with the planning application.

### 3.0 ELECTRICAL AND FIBRE CONNECTIONS

#### 3.1 Electrical Grid Connection Route Options

The 220kV grid connection route will be installed from the proposed new substation on the Data Storage Facility site in Cruiserath to the existing Corduff 220kV Air Insulated Switchgear (AIS) Substation which is located to the north east of the proposed Data Storage Facility site.

It is understood that the power cables will be a standard XLPE copper cables. (Note: XLPE is an abbreviated designation of cross-linked polyethylene). XLPE does not contain oil and therefore there is no risk of migration of oil into the ground in the event of a failure.

The installation of the ducting for the power cables will require the excavation of two trenches along the route. The trenches will typically run parallel to each other along the full length of the route at a minimum centre to centre distance of c. 3.35m under carriageway and c. 4m under green areas. Five separate ducts will be installed in each trench. For the purposes of this report, reference to the 'grid connection route' includes both trenches.

As advised by the project engineers, Clifton Scannell Emerson Associates (CSEA), the optimum depth of excavation required to facilitate installation of the ducting is 1.375m below ground level (bgl), however this may vary depending on ground conditions and existing services. The optimum width of each trench will be 1.65m, however this may also vary slightly depending on conditions encountered. The trench backfilling will be as per the engineer's specification and it is likely that all of the material excavated will require removal off-site for appropriate reuse, recovery and/or disposal.

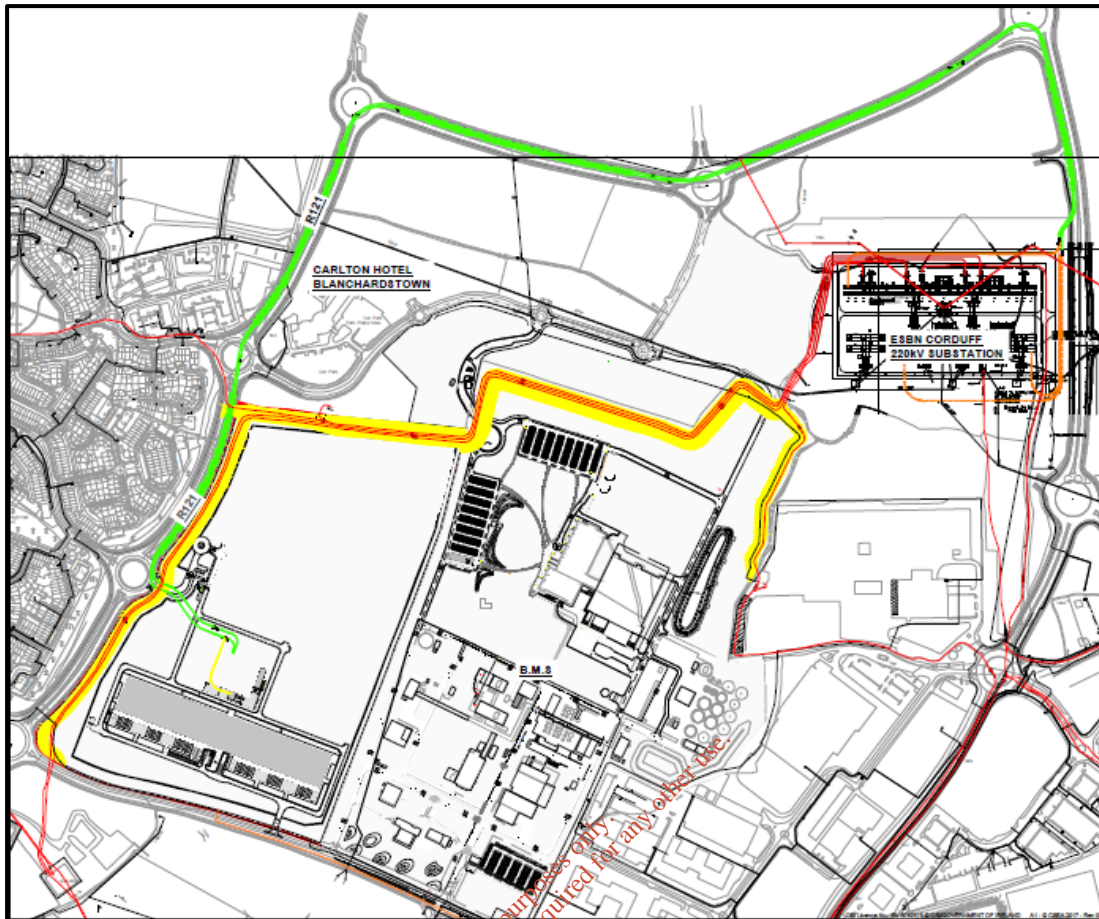
There were three grid connection route options proposed (referred to as Options 1, 2 and 3). A Route Selection Assessment was undertaken by AWN to provide a high level structured assessment of all three options. The Route Selection Assessment report is included as Appendix A to this report. As detailed in the attached report, following an initial assessment it was established by the project engineers, Clifton Scannell Emerson Associates (CSEA), that Option 3 is not viable due to the proximity of existing services along the route. The high level preliminary environmental appraisal of the remaining two options concluded that the overall environmental impact of the two proposed routes will be similar and that the anticipated construction phase impacts can be described as temporary with the significance ranging from imperceptible to not significant. There will be no environmental impacts during the operational phase (i.e. once the ducting is installed and the ground re-instated).

The two viable grid connection route options are as follows and are described in more detail in the following sub-section:

- Option 1 - Public Road Tyrellstown
- Option 2 - ESB Wayleave

##### 3.1.1 Option 1

Grid connection route Option 1 will comprise a double 110kV circuit located in the carriageway of the new dual carriageway recently constructed by Fingal County Council (FCC). The estimated length of the route is c. 2.5kms. Figure 2.1 below, indicates the route of the double 110kV circuit (illustrated by green line), the location of the proposed new Data Storage Facility site and the location of the existing 220kV Corduff AIS Substation.



**Figure 3.1** Proposed Grid Connection Route Option 1 (green line), new Data Storage Facility and Location of Existing 220kV Corduff AIS Substation (Source: Clifton Scannell Emerson Associates August 2017)

As illustrated in Figure 2.1, the proposed underground route of the ducting for Option 1 (illustrated as a green line) is from the proposed substation on the Data Storage Facility development site to the adjacent public road (R121), following the existing road northwards, eastwards and finally southwards to the existing Corduff 220kV Substation.

This route can be divided into three main sections as follows:

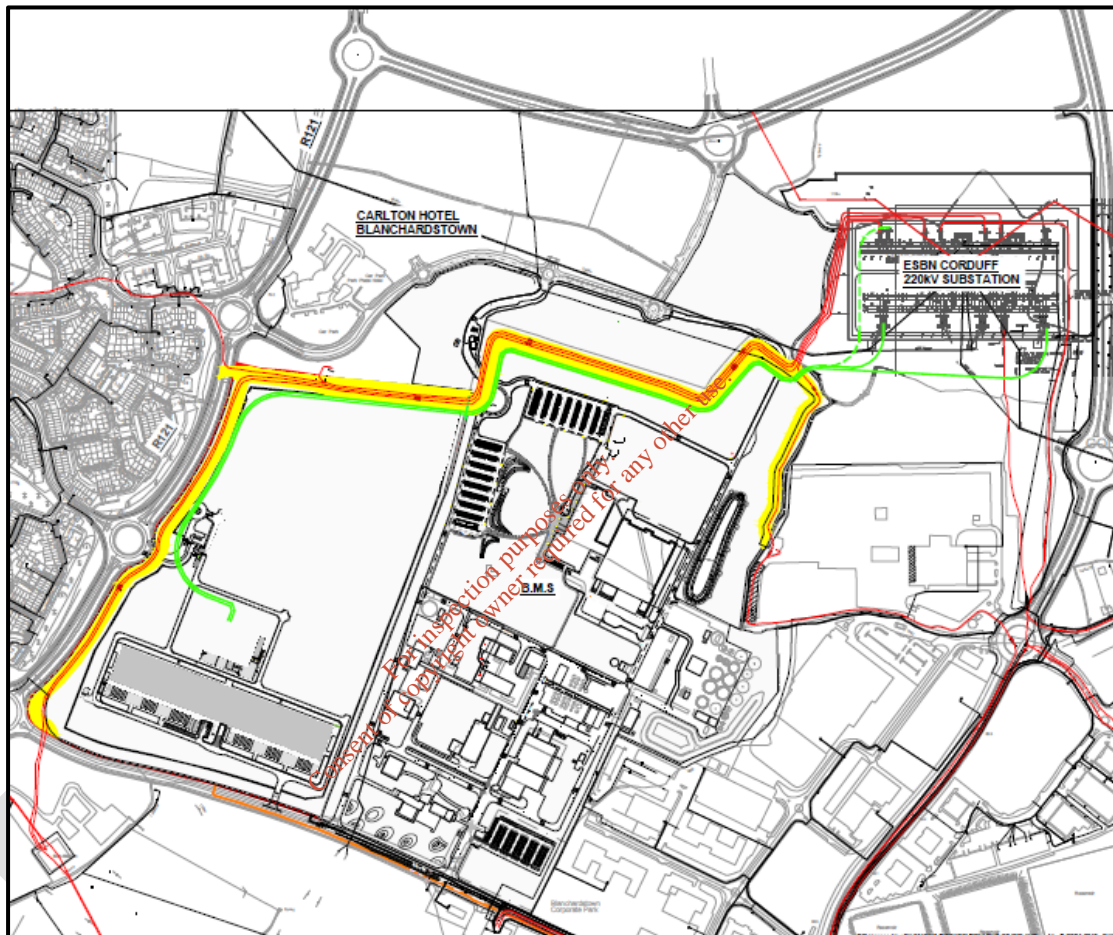
Section 1 – Route through the proposed Data Storage Facility development site which is currently a greenfield site. The EIS submitted with the planning application for the proposed Data Storage Facility includes a thorough assessment of the impact of excavations at the site.

Section 2 – Route in the existing dual carriageway. The route follows the R121 adjacent to the proposed Data Storage Facility site northwards through the roundabout at Tyrellstown Town Centre turning right at the next roundabout on the link road towards the N2. The route continues through the next roundabout and turns right at the subsequent roundabout towards the south. The route continues for approx. 300m in this direction before entering the existing Corduff 220kV Substation site. This section of the route has been previously developed as a roadway and there are other services laid beneath the roadway along this entire section of the route.

Section 3 – Route from the edge of the dual carriageway to the existing Corduff 220kV Substation. This section is less than 50m in length and may be described as partially greenfield although it is likely that the majority of the route will be through land previously disturbed during road construction or construction of the Corduff 220kV Substation.

### 3.1.2 Option 2

Grid connection route Option 2 is from the proposed substation on Data Storage Facility site, through the site to the existing ESB wayleave along the northern boundary of the site, continuing along the wayleave through the northern portion of the neighbouring site and through 'greenfield' lands to the existing Corduff 220kV Substation. The estimated length of the route is 1.3km. Figure 2.2 below, indicates the route of the double 110kV circuit (illustrated by green line), the location of the proposed new Data Storage Facility site and the location of the existing 220kV Corduff AIS Substation.



**Figure 3.2** Proposed Grid Connection Route Option 2 (green line), new Data Storage Facility and Location of Existing 220kV Corduff AIS Substation (Source: Clifton Scannell Emerson Associates August 2017)

This route can be divided into three main sections as follows:

Section 1 – Route through the proposed Data Storage Facility site which is currently a greenfield site. The EIS which was submitted with the planning application for the proposed Data Storage Facility development includes a thorough assessment of the impact of excavations at the site.

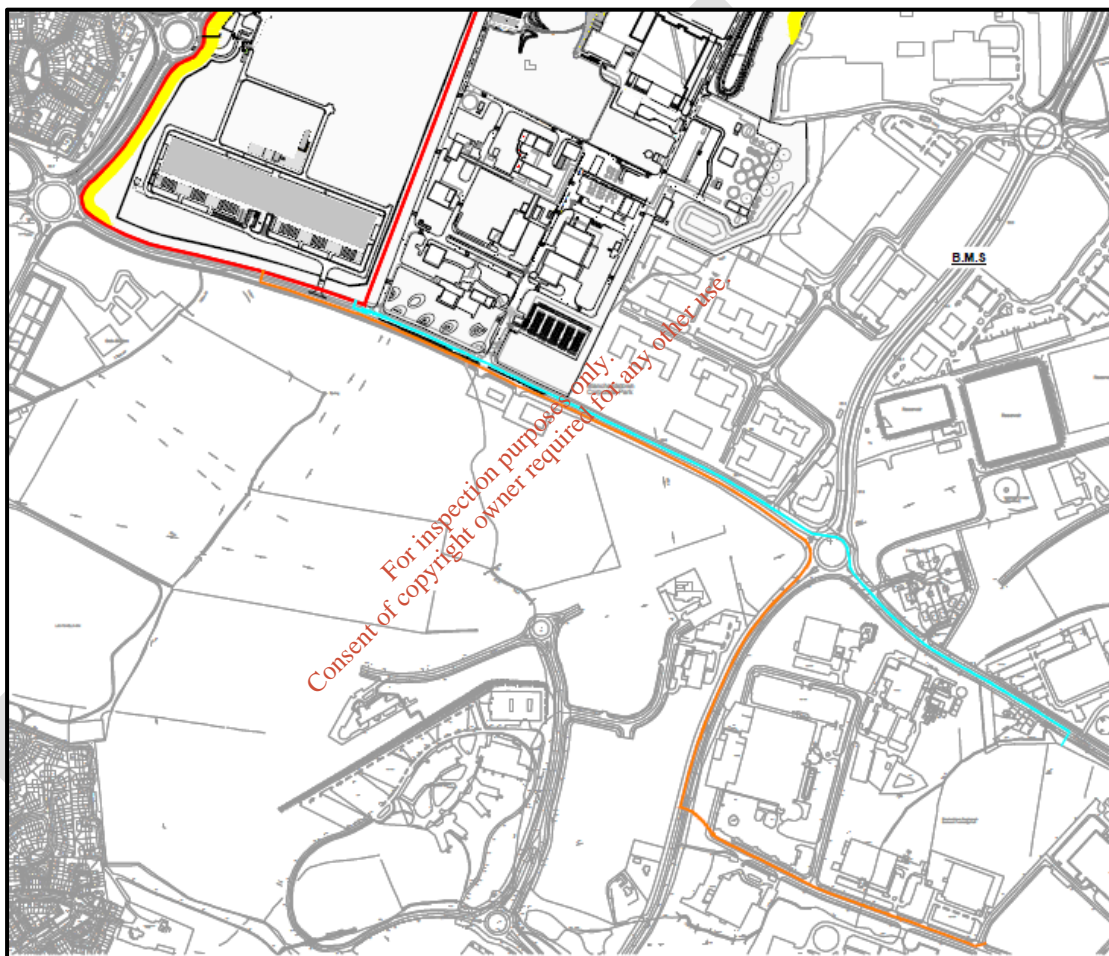
Section 2 - Route along the ESB wayleave. The Wayleave contains c. 7 x 110kV cables and has been extensively disturbed for the installation of the cable ducts.

Section 3 – Route through 'greenfield' lands to the existing Corduff 220kV Substation. It is understood that this portion of the route is also somewhat disturbed from the installation of other ducts.



### 3.2 Fibre Connection Route

The fibre connection requires the installation of ducting along two routes from the proposed data storage development in Cruiserath to existing ADSIL industrial facilities nearby in the IDA Blanchardstown Snugborough Business & Technology Park, Dublin 15. The proposed routes for these two connections (shown in cyan and orange colours) are shown in Figure 3.3. The cyan route connects the proposed facility to the existing facilities via the R121 (to the south of the proposed Data Storage Facility site) and Ballycoolin Road and is c. 1.3km in length. The orange route connects the proposed facility to the existing facilities via the R121 (to the south of the proposed Data Storage Facility site), Blanchardstown Road North and an internal road in the IDA Blanchardstown Snugborough Business & Technology Park. This route is c. 2km in length. Both fibre connections are required to service the proposed development.



**Figure 3.3** Proposed Fibre Connection Routes (orange line and cyan line), new Data Storage Facility and Location of Existing 220kV Corduff AIS Substation (Source: Clifton Scannell Emerson Associates August 2017)

The two routes will run parallel to each other along the R121 until the roundabout at the Ballycoolin Road where they will split and follow separate routes to the existing facilities. It is understood that suitable ducting infrastructure is already in place at the site boundary of the existing facilities in the Blanchardstown Business & Technology Park. Suitable ducting will also be installed to the boundary of the proposed development as part of underground services installations. Therefore, the proposed fibre routes assessed herein are between the site boundaries.

Both routes will require the installation of 6 no. 160mm diameter uPVC ducts for fibre optic cable. The ducts will be encased in concrete within the trench and backfilled with suitable soil cover and surface reinstatement. The optimum depth of the trench

required for installation of the ducts is 1.23m below ground level (bgl), however this will vary along the length of each route depending on ground conditions, existing services and the location of the ducting below either road carriageway or footpath/verge.

The optimum width of each trench will be 0.89m, however this may also vary slightly depending on conditions encountered. The trench backfilling and reinstatement will be as per the engineers specification and it is anticipated that all of the material excavated will require removal off-site for reuse or disposal.

It is assumed that the trenches for the ducting will be excavated in the road carriageway, where possible, with short sections crossing verges and footpaths at either end of both routes. A short section (c. 50m) of the orange route will also cross a verge from Blanchardstown Road North into the Blanchardstown Business Park. The entire length of both routes will, therefore, be excavated in previously disturbed ground.

## 4.0 PLANNING AND ALTERNATIVES

### 4.1 Planning Permissions

The Fingal County Council (FCC) Planning Department website was consulted in order to generate a list of planning permissions that have been generated on sites surrounding the proposed Data Storage Facility since the development was granted planning permission in April 2017.

The only notable planning application that has been made in that time is:

Fingal County Council Planning Application Reference No. & Applicant	Summary Description of Development	Location of Development	Decision Date
FW17A/0097, Jacobs Engineering Ireland Limited	Consisting of alterations and amendments to the previously approved planning application, planning ref: FW15A/0043 including extension to car park, construction of berm and permanent construction compound	Swords Laboratories t/a Bristol-Myers Squibb, Cruiserath Road, Mulhuddart, Dublin 15.	Permission Granted 13 <sup>th</sup> September 2017

**Table 4.1** Recent Planning Applications to FCC (Search conducted on 14/09/17)

### 4.2 Alternatives

The alternatives considered for the proposed development are detailed in Chapter 4 *Alternatives* of the EIS.

## 5.0 SOCIO-ECONOMICS – HUMAN BEINGS

The Socio-Economics – Human Beings Chapter of the EIS was prepared by AWN. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 5.11 of the EIS.

This addendum considers the cumulative impact of the proposed development with the grid connection routes (Options 1 and 2), the fibre connection route and the external developments identified in Table 4.1.

This section has considered the 'existence, activities and well-being of people' with respect to 'topics which are manifested in the environment such as new land-uses,

more buildings or greater emissions'. Issues examined in this section include demography, population, employment, natural resources, landscape amenity and tourism and social infrastructure. The impacts of other environmental aspects associated with the project which may be human related such as air quality, noise and vibration, visual impact and traffic are discussed in the relevant sections of this report.

## 5.1 Grid and Fibre Connection Routes

The proposed connection routes are located in areas primarily occupied by commercial/industrial developments. There is, however, high density residential development to the west of the R121 (Tyrrelstown) and initial phases of a larger residential development competed to the north (Hollywoodrath). There is also a residential development c. 220m to the south of the fibre Orange Route.

There are a number of schools in the vicinity of the proposed routes with St. Luke's National School and Tyrrelstown Educate Together National School c. 180m west the Grid Route Option 1 at the Hollywoodrath Road roundabout and Powerstown Educate Together National School and Gaelscoil and Chuilinn are c. 370m to the south-west of the start point of both routes on the new Data Storage Facility site.

The main potential impacts on local residences and businesses associated with Grid Option 1 will be in relation to air quality, noise and vibration, visual impact and traffic impact. Grid Option 2 would not have any impact on local residences but may have potential impacts on local businesses, albeit temporarily, on air quality, noise and visual impact. The potential impacts and mitigation measures to address these aspects are dealt with in the corresponding sections of this report. Any potential construction impacts will be temporary in duration as the construction phase is anticipated to be c. 16 weeks. Similarly, the fibre route connections will have a temporary impact on the local residential population and local businesses as the construction phase is also anticipated to be c. 16 weeks.

There will be no construction stage employment impacts as the workers employed for installation of the grid and fibre connections are anticipated to be from the Data Storage Facility teams.

There will be no cumulative impacts of either grid routes or the fibre route with the proposed development during the operational phase as there are no operational impacts for the grid connections.

## 5.2 External Development

The cumulative impact of the proposed development with the amendment works permitted at the neighbouring site (as described in Table 4.1) will be imperceptible. Consideration of the employment and traffic impacts of works on external developments are already addressed in Section 5.11.2 of the EIS.

## 6.0 SOILS, GEOLOGY & HYDROGEOLOGY

The Soils, Geology & Hydrogeology Chapter of the EIS was prepared by AWN. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 6.8 of the EIS.

This addendum considers the cumulative impact of the proposed development with the grid connection routes (Options 1 and 2), the fibre connection route and the external developments identified in Table 4.1.

## 6.1 Grid and Fibre Connection Routes

This assessment has been undertaken by assessing the existing soils, geology and hydrogeology based on a review of Geological Survey of Ireland (GSI) and Environmental Protection Agency (EPA) data sets and site investigation from the proposed Data Storage Facility development site and neighboring sites. The following summarises the relevant soil, geology and aquifer attributes relating to the proposed development area and the likely significant potential direct and indirect impacts which the proposed development may have:

- Following NRA methodology (2009) for assessment of aquifer and geological attribute significance, the importance of the bedrock, soil and aquifer attributes underlying both grid route options and the fibre routes are considered to be of Low Importance. This conclusion is based on the assessment that the attribute has a low quality significance or value on a local scale.
- There are no recorded national or county geological heritage sites near or in the footprint of the development which could be impacted by the grid or fibre routes. The closest site is Mulhuddart Holy Well (listed as a 'Cold spring contained within a stone shrine at the roadside') located c.670m southwest of the proposed development site.
- There are no designated mineral resource areas or quarries in the immediate vicinity of either of the grid routes or the fibre routes. The proposed routes are along land which is already developed or zoned for development and therefore will not have an impact on the overall land use.
- Both grid connection route options and the fibre routes are underlain by shallow soil cover and shaley limestone bedrock. The GSI has derived a classification system based on likely resource potential. This ranges from "*Regionally Important Aquifers*" to "*Poor Aquifers*". The eastern portion of both grid routes and sections of the fibre routes pass over a (PI) Poor Aquifer – "*Generally unproductive except for local zones*". The remaining sections of the routes are defined as (LI) Locally Important Aquifer, i.e. bedrock aquifer which is "*moderately productive only in local zones*". Both options are well outside (c. 6km east of the nearest groundwater source protection area) of the zone of influence of any known public or private water supplies. As construction requires only shallow excavation, there is no current or potential future impact likely on resource development due to either of the grid options or the fibre routes.
- The aquifer vulnerability classification also varies across the connection routes in terms of soil cover thickness but is generally considered to have "*high*" to "*extreme*" vulnerability i.e. shallow soil cover. Option 1 and much of the Option 2 grid connection routes are in already disturbed soil and therefore will have negligible impact on existing soil, bedrock and hydrogeology conditions assuming standard mitigation measures for management of water quality are implemented during construction. Similarly, both fibre route connections will be installed in disturbed ground.

Overall the construction and operation impacts of either of the grid connection routes and the fibre routes are likely to be neutral in terms of quality and of an imperceptible significance (temporary and long-term in duration), following EPA criteria for impact assessment. Following the NRA criteria for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of impacts is considered negligible for both route options.

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no operational impacts for either of the connections.

## 6.2 External Development

Consideration of the following impacts from external developments have already been addressed in Section 6.8.2 of the EIS:

- Overall loss of agricultural soils;
- Overall increase in hardstanding; and
- Increase in potential for contamination of a High Vulnerability aquifer during construction and operation.

The cumulative impact of the proposed development with the amendment works permitted at the neighbouring site (as described in Table 4.1) will have a moderate and long term impact on the soils and geology of the area. However, provided sufficient mitigation measures, such as those outlined in Section 6.6 of the EIS are put in place at external developments, the overall impact on soils, geology and groundwater will be neutral.

## 7.0 WATER & HYDROLOGY

The Water & Hydrology Chapter of the EIS was prepared by AWN. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 7.8 of the EIS.

This addendum considers the cumulative impact of the proposed development with the grid connection routes (Options 1 and 2), the fibre connection route and the external developments identified in Table 4.1.

### 7.1 Grid and Fibre Connection Routes

This assessment has been undertaken by assessing the existing water environment at and in the environs of the proposed Data Storage Facility development, two grid route options and the fibre connection routes. In assessing likely, potential and predicted impacts, account is taken of both the importance of the water related attributes and the predicted scale and duration of the likely impacts. The quality, magnitude and duration of potential impacts are defined in accordance with the criteria provided in the EPA Guidelines and the NRA criteria for rating the magnitude and significance of impacts on the water related attributes.

The following summarises the relevant attributes relating to the proposed development area and the likely significant potential direct and indirect impacts which the proposed development may have:

- Based on the NRA methodology of the criteria for rating the importance of hydrological features, the importance of the hydrological features along the routes is rated as Low Importance. This is based on the assessment that the attribute has a low quality significance or value on a local scale. The Tolka River is the receiving waterbody. It is not a source of local potable water and is not widely used as a local water amenity i.e. not regionally significant. Additionally, the latest water quality status for the Tolka River is 'Poor' under the Water Framework Directive (WFD) assessment criteria.
- Flood maps produced by the OPW as part of the Eastern CFRAM programme conclusively show that the Data Storage Facility site and corridor for both grid route options and the fibre route are located within Flood Zone C. As such there are no likely flood hazards for the proposed Data Storage Facility and both grid and fibre routes are suitable for development in accordance with requirements of the Planning System and Flood Risk Management Guidelines for Planning

Authorities. Any risk of fluvial flooding will be significantly mitigated via implementation of post development drainage as required.

- During the construction phase there is potential for a slight increase in surface water run-off, sediment loading and accidental localised contamination from construction traffic which will require standard mitigation measures to protect local drainage and watercourses. However, once constructed there will be no likely change to the overall water environment and local drainage network.
- There is no evidence of any significant residual impacts; the potential impact on surface water during operation of the Data Storage Facility and connection routes (following EPA guidelines) is considered to have a long term, imperceptible impact, with a neutral impact on quality i.e. an impact capable of measurement but without noticeable consequences. Following the NRA criteria for rating the magnitude and significance of impacts on the water and hydrological related attributes, the magnitude of impact is considered negligible.

The EIS for the proposed Data Storage Facility has shown that the impact on the water environment is considered to be neutral in terms of quality and of an imperceptible significance (temporary and long-term in duration), following EPA criteria for impact assessment. Following the NRA criteria for rating the magnitude and significance of impacts on the geological and hydrogeological related attributes, the magnitude of impact is considered negligible. Both of the proposed grid connection route options and the fibre connection will have minimal impact on the water and drainage environment within the environs of the routes, during construction and post construction, with no measurable impact on these attributes. As such, there will be no cumulative impact on the hydrological attributes.

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no operational impacts for either of the connections.

## 7.2 External Development

Consideration of the following impacts from external developments have already been addressed in Section 7.8.2 of the EIS:

- Increase in hard-standing;
- Increase in potential for contamination of watercourses during construction and operation; and
- Increase in wastewater loading and water supply requirement.

The cumulative impact of the proposed development with the amendment works permitted at the neighbouring site (as described in Table 4.1) will have an imperceptible and long term impact on the hydrological environment of the area. However, provided sufficient mitigation measures, such as those outlined in Section 7.6 of the EIS are put in place at external developments, the overall impact on the hydrological environment will be neutral.

## 8.0 FLORA & FAUNA

The Flora & Fauna Chapter of the EIS was prepared by Dr Janice Fuller MCIEEM. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 8.5.5 of the EIS.

This addendum considers the cumulative impact on flora and fauna, protected sites and species of the proposed development with the grid connection routes (Options 1

and 2), the fibre connection route and the external developments identified in Table 4.1.

## 8.1 Grid and Fibre Connection Routes

This assessment involved a detailed review of data sources (including datasets from National Parks and Wildlife Service, National Biodiversity Data Centre, EPA Envision) in addition to an assessment of habitats (as per Heritage Council guidance, Fossitt 2000) along the two proposed grid connection routes and the fibre connection route to determine potential impacts, if any, of the routes on flora and fauna, protected sites and species.

Most of the Grid Option 1 route is along the existing road network and there are no natural or semi-natural habitats present apart from built land. There is a short section (c. 50m) adjacent to the ESB Corduff Substation, which contains gorse-dominated scrub (WS1) and disturbed ground (ED2).

The Grid Option 2 route is a shorter route which remains within the Data Storage Facility site boundary for c. 620m before passing through the northern portion of the neighbouring site (developed land) via an existing ESB wayleave over a distance of c. 600m and then on through scrub (WS1) and disturbed ground (ED2) to the rear of the ESB Corduff Substation. Habitats present are of low ecological significance.

The fibre connection routes are along the existing road network and there are no natural or semi-natural habitats present apart from built land. A short section (c. 50m) of the Orange Route crosses a road verge from Blanchardstown Road North into the Blanchardstown Business Park.

Habitats present along the fibre routes include built land (BL3) and amenity grassland (GA1) (Fossitt 2000). Both are of local (low) ecological value (NRA 2009).

There are no designated sites adjacent to or near to either of the grid route options or the fibre routes (nearest site is c. 4km distance). The likelihood of any of the protected flora recorded within 10km of the proposed Data Storage Facility site occurring within the site of the connection routes is negligible as there is no suitable habitat.

As Grid Option 1 and the fibre routes mainly run through built-up environment, the cumulative impact of the development of these routes with the proposed Data Storage Facility are likely to have imperceptible impact on flora and fauna, protected sites and species. The semi-natural habitats present along Grid Option 2 are of low ecological significance and, therefore, the cumulative impact of the development of this route with the proposed Data Storage Facility is not likely to have any significant impacts.

No species or habitats of ecological significance were recorded on the Data Storage Facility site. There are no designated sites near to the site and no direct pathways or linkages. As long as the mitigation measures proposed in the EIS for the Data Storage Facility are followed, no cumulative impacts on flora and fauna, protected sites and species are anticipated with the development of the Data Storage Facility in addition to either of the grid connection routes or the fibre connection route.

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no operational impacts for either of the connections.

An Appropriate Assessment (AA) Screening was carried out for the proposed development and was included as Appendix 8.1 to the EIS. A separate Addendum to this AA Screening Report has been prepared.

## 8.2 External Development

The cumulative impact of the proposed development with the amendment works permitted at the neighbouring site (as described in Table 4.1) will be imperceptible as the neighbouring site is an existing industrial development. Consideration of the potential impact of further development in the region is addressed in Section 8.5.5 of the EIS.

## 9.0 AIR QUALITY & CLIMATE

The Air Quality & Climate Chapter of the EIS was prepared by AWN. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 9.7.4, Section 9.7.5 and Appendix 9.3 of the EIS.

This addendum considers the cumulative impact on air quality and climate of the proposed development with the grid connection routes (Options 1 and 2), the fibre connection route and the external developments identified in Table 4.1.

### 9.1 Grid and Fibre Connection Routes

The assessment of construction phase impacts was carried out in accordance with the methodology prescribed by the UK Institute of Air Quality Management (IAQM) in their document titled *Guidance on the Assessment of Dust from Demolition and Construction Version 1.1*, published in 2014.

Construction dust has the potential to cause local impacts through dust nuisance at the nearest sensitive receptors. For the purpose of this assessment, the predicted impact from construction of both of the grid connection route options and the fibre route connections has been assessed by estimating the number of air sensitive receptors potentially impacted by the construction as well as reviewing the scale and nature of the proposed construction activities. In terms of the receiving environment, there are more than 10 high sensitivity receptors (residential dwellings) located less than 50m from the proposed construction works for Grid Option 1 and no high sensitivity receptors within 50m of Grid Option 2. Based on the classification criteria outlined within the IAQM guidance document, the receiving environment for Grid Option 1 is therefore considered a medium sensitivity environment for dust soiling and for Grid Option 2 is considered low sensitivity. For the fibre route options, there are between 10 and 100 high sensitivity receptors located less than 200m from the proposed construction works for the Orange Route and between 1 and 10 high sensitivity receptors less than 20m from the proposed construction works for the Cyan Route. Based on the IAQM classification criteria, the receiving environment for both the Orange and Cyan Routes is therefore considered to be a low sensitivity environment for dust soiling.

In addition to dust soiling, the IAQM guidelines also outline an assessment criteria for determining the sensitivity of the area to human health impacts. A conservative estimate of the current annual mean PM<sub>10</sub> concentration in the vicinity of the proposed development is estimated to be 20 µg/m<sup>3</sup> based on a review of EPA monitoring data (EPA, 2014 - 2016) at Blanchardstown from 2013 – 2015. There are more than 10 but less than 100 high sensitivity receptors located less than 50m from the proposed construction works for Grid Option 1 and no high sensitivity receptors less than 50m from Grid Option 2. Based on the IAQM criteria, the sensitivity of the area to human health impacts is considered to be low for both Grid Options 1 and 2. For the fibre route options, there are between 10 and 100 high sensitivity receptors located less than 200m from the proposed construction works for the Orange Route and between 1 and 10 high sensitivity receptors less than 20m from the proposed construction works for



the Cyan Route. Based on the IAQM criteria, the sensitivity of the areas to human health impacts is considered to be low for both fibre route options.

The IAQM guidelines also outline the assessment criteria for determining the sensitivity of the area within 50m of the proposed routes to ecological impacts from dust. As there are no Special Areas of Conservation (SAC), Special Protected Areas (SPA), Natural Heritage Areas (NHA) or proposed Natural Heritage Areas (pNHA) within 50m of the two proposed grid routes or the two fibre routes, no assessment of the impacts on the ecosystem is required.

In order to determine the level of dust mitigation required during the proposed construction works, the dust emission magnitude for each dust generating activity (including demolition, earthworks, construction of structures and track-out (truck movements)), needs to be assessed, in conjunction with the previously established sensitivity of the areas. As there are no significant demolition or structural construction activities associated with the proposed grid and fibre connections, there will be no significant impacts associated with these activities. The potential for dust emissions for this development is therefore focused on emissions from earthworks and track-out activities. The dust emission magnitude from earthworks associated with the proposed development has been classified as medium as a worst-case and the magnitude from track-out has also been classified as medium as a worst-case based on the criteria defined within the IAQM guidance.

The sensitivity of the receiving environment is combined with the dust emission magnitude for each dust generating activity to define the risk of dust impacts in the absence of mitigation. The results are given in the table below:

#### Summary of Magnitude of Dust Impacts without Mitigation

Potential Impact	Dust Emission Magnitude without Mitigation	
	Earthworks	Track-out
<b>Grid Option 1</b>		
Dust Soiling	Medium Risk	Low Risk
Human Health	Low Risk	Low Risk
<b>Grid Option 2</b>		
Dust Soiling	Low Risk	Low Risk
Human Health	Low Risk	Low Risk
<b>Fibre Orange Route Option</b>		
Dust Soiling	Low Risk	Low Risk
Human Health	Low Risk	Low Risk
<b>Fibre Cyan Route Option</b>		
Dust Soiling	Medium Risk	Low Risk
Human Health	Low Risk	Low Risk

The magnitude of risk determined is used to prescribe the level of site specific mitigation required for each activity in order to prevent significant impacts occurring. Overall, in order to ensure that no dust nuisance occurs during the earthworks and track-out activities, a range of dust mitigation measures associated with a medium risk of dust impacts shall be implemented for Grid Option 1 and the Cyan Fibre Option and dust mitigation measures associated with a low risk of dust impacts shall be implemented for Grid Option 2 and the Orange Fibre Option. When the dust mitigation

measures are implemented, fugitive dust emissions for all grid route options and fibre route options will be temporary and insignificant.

Construction traffic would be expected to be the dominant source of greenhouse gas emissions as a result of the installation of the grid and fibre connections and may give rise to CO<sub>2</sub> and N<sub>2</sub>O emissions during construction. Based on the small number of construction vehicles and equipment to be used during construction and the temporary nature of the construction period (i.e. c. 16 weeks), the potential impact on climate from the proposed development is deemed to be temporary and imperceptible.

As long as the dust minimisation measures outlined in the EIS prepared for the Data Storage Facility are implemented, construction impacts from the proposed development are predicted to have a negligible impact on air quality and climate.

As the predicted impacts on air quality and climate are deemed insignificant for construction of the Data Storage Facility and either of the proposed grid connection routes or the fibre connection routes, assuming mitigation measures are implemented, the cumulative impact of simultaneous construction of the Data Storage Facility and the connection routes are deemed temporary and imperceptible with mitigation measures in place.

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no significant operational phase air quality and climate impacts associated with any of the grid or fibre connections.

## 9.2 External Development

As the predicted impacts on air quality and climate are deemed insignificant for construction of the proposed grid connection and fibre connection, assuming dust mitigation measures are implemented, the cumulative impacts from simultaneous construction of the grid connection and any external developments within 350m of the grid connection are deemed temporary and imperceptible with mitigation measures in place.

There will be no operational phase air quality and climate impacts associated with the grid or fibre connections and therefore there will be no cumulative impact with other external developments.

## 10.0 NOISE & VIBRATION

The Noise & Vibration Chapter of the EIS was prepared by AWN. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 10.7.3 and Appendix 10.5 of the EIS.

This addendum considers the cumulative impact on the noise and vibration environment of the proposed development with the grid connection routes (Options 1 and 2), the fibre connection route and the external developments identified in Table 4.1.

### 10.1 Grid and Fibre Connection Routes

During the construction phase of the grid and fibre connections there will be temporary construction works occurring along the connection routes. The construction duration for works to install the grid connection on the chosen route will be c. 16 weeks. Similarly, installation of ducting for the two fibre routes will be c. 16 weeks.

The existing environment is a mixture of residential, industrial and rural areas. To the west lies predominantly residential zones, with a smaller residential area to the north. There are also residential areas to the south of the proposed Orange fibre route. A Carlton Hotel lies adjacent to the R121 in close proximity to both grid connection route options. To the east, the land is mainly industrial.

During the construction phase of the Grid Option 1 route and the fibre routes, there will be some impact on nearby properties due to noise emissions from construction activity along the routes and truck movements to and from the works. However, given that the construction phase of the development is temporary in nature, it is expected that the various noise sources will not be excessively intrusive. Furthermore, the application of binding noise limits and hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact is kept to a minimum. The noise impact is expected to be in the range of 65 to 70dB  $L_{Aeq,1hr}$  with mitigation for Option 1 and 60 to 67dB  $L_{Aeq,1hr}$  with mitigation for Option 2.

The Grid Option 2 connection is through the proposed Data Storage Facility site and neighbouring industrial lands and will mostly be at a greater distance from sensitive residential receptors. The associated noise and vibration impacts will be lower than those outlined for Grid Option 1 due to the further distance from the construction works and noise sensitive locations.

There will be no operational phase impact associated with the grid connection development for either of the route options.

A cumulative noise impact as a result of the grid and fibre connection works will only occur where the construction phase of the connection works occur simultaneous to construction works on the data storage facility site. This will be the case although it is anticipated that the grid and fibre connection works will occur at different times.

The EIS prepared for the data storage facility estimated that during the worst-case construction phase works the noise impact at the nearest sensitive locations would be of the order of 60dB  $L_{Aeq}$ .

Assuming the worst-case of both the grid or fibre connection works and the Data Storage Facility construction works occurring simultaneously would result in a cumulative noise impact of the order of 66 to 70dB  $L_{Aeq,1hr}$  for Grid Option 1 or the fibre route and 60dB  $L_{Aeq,1hr}$  for Grid Option 2. The cumulative noise impacts will therefore be dominated by the grid and fibre connection works when they occur.

In conclusion, the cumulative impact of the construction phase of the Data Storage Facility site, grid connection and fibre connection is considered to be temporary and not significant given its short timeframe.

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no operational impacts for either of the connections.

## 10.2 External Development

There will be no significant cumulative noise and vibration impact during the construction of the grid connection route as a result of other external developments. In the event that the grid or fibre connection works are ongoing at the same time as other external developments, the noise and vibration impact will be dominated by the works in closest proximity to the sensitive receptors and therefore the cumulative impact will be negligible.

There will be no operational phase impact associated with the grid and fibre connection works and therefore there will be no operational cumulative impact with other external development.

## 11.0 LANDSCAPE & VISUAL IMPACT

The Landscape & Visual Impact Chapter of the EIS was prepared by Brady Shipman Martin (BSM). The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 11.3.5 of the EIS.

This addendum considers the cumulative landscape and visual impacts of the proposed development in combination with the grid connection routes (Options 1 and 2), the fibre connection route and the external developments identified in Table 4.1.

### 11.1 Grid and Fibre Connection Routes

This assessment is informed by desktop assessment of relevant planning policy and guidelines, onsite review of the proposed grid connection route alignment for each option and the proposed fibre routes, review of the design proposals and consideration of the Data Storage Facility proposals.

#### Grid Option 1

The following conclusions are presented in order to ascertain any likely significant potential direct and indirect impacts which the proposed development may have:

- The route proposed is within the footprint of a modern dual carriageway, and direct impacts will be confined to parts of the existing carriageway, and defined sections of a number of roundabouts along the roadway.
- Depending on construction methodology and phasing, a construction wayleave may be required along parts of the grass verges along the route.
- Landscape construction stage impacts will be temporary, and will include excavation of trenches within the existing road carriageway, removal of soft landscaping within the construction corridor through roundabouts, and potential stripping of vegetation in grass verges. Post construction, all vegetation will be reinstated to match their existing arrangement and extent.
- Indirect impacts will include the movement of construction traffic and materials to and from the site, and temporary local traffic management measures.
- Construction will be staged to deliver sequential sections of the overall grid connection so as to confine construction activity to shorter and distinct sections of the roadway at any one time.
- There are no protected views of designated scenic routes or landscapes in the area.
- There are no protected structures or high amenity designations within the immediate area.
- Landscape operational stage impacts will be temporary to short term as replacement vegetation becomes re-established along the construction corridor.

As the proposed Grid Option 1 route is along and within a modern distributor road corridor, the development area has low landscape sensitivity. The predicted impact of the grid connection is temporary, neutral and imperceptible. There will be no significant Landscape (Townscape) and Visual impacts.

#### Grid Option 2

The following conclusions are presented in order to ascertain any likely significant potential direct and indirect impacts which the proposed development may have:

- The proposed route is inside the boundary of the Data Storage Facility lands following the alignment of an existing internal perimeter track, and then following alongside the site boundary of the site of the adjoining technology facility before connecting to the existing Corduff Substation.
- Direct landscape impacts will be temporary and confined to the grid connection construction corridor and will include site clearance of primarily compacted stone and grass areas, and excavation of trenches. Post construction, all surfaces and vegetation will be reinstated to match their existing arrangement and extent.
- Indirect impacts will include the movement of construction traffic and materials to and from the site.
- There are no specific amenity objectives pertaining to the lands through which the proposed route passes.
- There are no protected structures within the lands.
- Landscape operational stage impacts will be temporary as replacement vegetation becomes re-established along the construction corridor.

As the proposed Grid Option 2 route is within green field lands that are zoned for high technology development, the development area has low landscape sensitivity. The predicted impact of this grid connection is temporary, neutral and imperceptible. There will be no significant Landscape (Townscape) and Visual impacts.

### **Fibre Routes**

The following conclusions are presented in order to ascertain any likely significant potential direct and indirect impacts which the proposed development may have:

- Both of the fibre routes proposed are within the footprint of a modern carriageway, and direct impacts will be confined to parts of the existing carriageway, and including sections of carriageway within the roundabout.
- Depending on construction methodology and phasing, a construction wayleave may be required along parts of the grass verges along the route.
- Landscape construction stage impacts will be temporary, and will include excavation of trenches within the existing road carriageway, localised removal of soft landscaping where the fibre routes traverse road boundaries, and potential stripping of vegetation in grass verges. Post construction, all vegetation will be reinstated to match their existing arrangement and extent.
- Indirect impacts will include the movement of construction traffic and materials to and from the site, and temporary local traffic management measures.
- Construction will be staged to deliver sequential sections of the overall fibre connection so as to confine construction activity to shorter and distinct sections of the roadway at any one time.
- There are no protected views of designated scenic routes or landscapes in the area.
- There are no protected structures or high amenity designations within the immediate area.
- Landscape operational stage impacts will be temporary to short term as replacement vegetation becomes re-established along the construction corridor.

As the proposed fibre routes are along and within a modern distributor road corridor, the development area has low landscape sensitivity. The predicted impact of the fibre connection is temporary, neutral and imperceptible. There will be no significant Landscape (Townscape) and Visual impacts.

Cumulative impacts arising from the Data Storage Facility development, Grid Option 1 and the fibre route connection will be during the construction stage of the grid and fibre connections only as construction activity will take place in the public roadways to install ducting for the connections. Construction of the grid connection and of the fibre connection are each anticipated to take c. 16 weeks. The grid connection will connect to the Data Storage Facility through the main vehicular entrance of the facility where site clearance, excavation and construction works will be taking place for the Data Storage Facility itself. The fibre route connection will connect into the Data Storage Facility site along the southern boundary where suitable infrastructure will be installed as part of the main site development works.

It is anticipated that the grid and fibre connection works will be carried out sequentially so as to limit visual impacts arising from construction activity within the public road to one area at any one time.

As long as the landscape mitigation measures proposed in the EIS are carried out, and the construction areas of the excavation routes are made good to match existing conditions, there will be no cumulative landscape impacts.

Any potential cumulative landscape impacts arising from the Data Storage Facility development, Grid Option 2 and the fibre route connection will be during the construction stage of the grid and fibre connections only. The Data Storage Facility site will be a construction site for a larger scale development and c. 600m of the Grid Option 2 will be constructed within the development site. In that context, the cumulative impact of the Grid Option 2 connection development will be imperceptible. As above, the fibre route connection will connect into the Data Storage Facility site along the southern boundary where suitable infrastructure will be installed as part of the main site development works. The route of the fibre connection will be through public roadways. As long as the landscape mitigation measures proposed in the EIS and reinstatement of grounds external to the site are carried out, there will be no cumulative landscape impacts.

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no operational impacts for either of the connections.

## **11.2 External Development**

Each project currently permitted or under construction is subject to EIA and/or planning conditions and includes appropriate mitigation measures to minimise landscape impacts. Cumulative impacts, if any, will be limited to the construction stage of the grid and fibre connections and will, therefore, be temporary. As long as mitigation measures for different developments are carried out as permitted, there will be no cumulative landscape impacts.

## **12.0 ARCHAEOLOGY, ARCHITECTURE AND CULTURAL HERITAGE**

The Archaeology, Architecture and Cultural Heritage Chapter of the EIS was prepared by Archer Heritage Planning Ltd. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 12.9 of the EIS.

This addendum considers the cumulative impact on archaeology, architecture and cultural heritage of the proposed development with the grid connection routes (Options 1 and 2), the fibre connection route and the external developments identified in Table 4.1.

## 12.1 Grid and Fibre Connection Routes

This assessment has employed a wide variety of sources in conjunction with non-intrusive survey to make a coherent assessment of the cultural heritage risk associated with the Data Storage Facility site, proposed grid connection routes and the fibre connection route. The following conclusions are presented in order to ascertain any likely significant potential direct and indirect impacts which the proposed development may have:

- There are no sites in the immediate surrounds of the Data Storage Facility site, the nearest is Buzzardstown Graveyard (DU013-010003) 430m to the south. The Grid Option 1 for the electrical supply ducting layout passes near several features (DU013-042 Corn Drying Kiln, DU013-043 Cremation Pit, DU013-045001 Ring Ditch and DU013-045002 Cremation Pit) which were excavated in the course of works relating to the building of the N2/N3 Tyrellstown link road. The Grid Option 2 route passes near a field system (DU013-007) visible on early aerial photos which lies to the south of the Corduff Substation. The two fibre routes pass one recorded RMP feature (DU013-014 a Mound 100m to the south of the route), the Mound is currently incorporated into a roundabout in the IDA facility;
- There are no entries specific to the subject site or for the townland of Cruiserath contained in the Topographical Files of the National Museum of Ireland;
- No new features of archaeological or cultural heritage interest were identified in historical maps;
- No new features of archaeological or cultural heritage interest were identified in aerial photographic sources; and
- No previous archaeological excavations have been undertaken at the subject sites. Test excavations were undertaken to the east of the Data Storage Facility site in advance of construction of the neighbouring industrial facility and recorded features associated with Cruiserath House. Test excavations to the north associated with the N2/N3 Link Road revealed a range of archaeological sites which were subsequently excavated.

The proposed Grid Option 1 is located in roads which were built between 2005 and 2010 (R121, Tyrrelstown N2 link road and Corduff road). This area was archaeologically tested and excavated at the time and so requires no archaeological mitigation during the construction or operational phases. The predicted impact of this grid connection route (in the existing roadway) on archaeology, architecture and cultural heritage is neutral and imperceptible.

The Grid Option 2 route skirts the northern boundary of the Data Storage Facility site proceeding eastwards along an ESB wayleave before connecting with Corduff Substation via a short greenfield area. The area has been largely topsoil stripped throughout. The only relatively untouched area is to the south of the Corduff Substation and, in this area, there is a low-moderate risk of archaeology being uncovered along this route. However, it is recommended, at a minimum, to archaeologically monitor all excavations for the Grid Option 2 route in the green area to the south of the Corduff Substation during the construction phase.

The fibre connection routes follow the existing road network along the Cruiserath Road to the south of the proposed Data Storage Facility development. The Cyan Route continues along the Ballycoolin Road prior to connecting into the existing facility in the Blanchardstown Industrial Estate. The Orange route follows the Blanchardstown Road North south-wards and crosses into the Industrial Estate as shown in Figure 3.3.

No known features of archaeological interest have been identified on the Data Storage Facility site. As long as the mitigation measures (geophysical survey, test trenching

and archaeological monitoring) proposed in Section 12.6 of the EIS are carried out there will be no cumulative impact on the archaeology, architecture and cultural heritage aspect.

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no operational impacts for either of the connections.

## 12.2 External Development

In overall terms, each significant project currently being completed in the locality is subject to EIA and/or planning conditions and mitigation measures to minimise the impact of each development on the local archaeological/architectural heritage sites. As long as the mitigation measures proposed are carried out there will be no cumulative impact on the archaeology, architecture and cultural heritage aspect

## 13.0 TRAFFIC & TRANSPORTATION

The Traffic & Transportation Chapter of the EIS was prepared by CSEA. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 13.7 of the EIS.

This addendum considers the cumulative impact on traffic and transportation of the proposed development with the grid connection routes (Options 1 and 2), the fibre connection route and the external developments identified in Table 4.1.

### 13.1 Grid and Fibre Connection Routes

#### 13.1.1 Construction Phase Impact

##### **Grid Option 1**

The construction stage for the ducting installation is expected to take c. 16 weeks.

The work will require localised traffic management to allow works to proceed on one side of the dual carriageway. It is intended the traffic will run two-way on one carriageway with appropriate traffic management signage and flagmen/temporary signals.

Localised re-routing of traffic will be required to complete road crossings at roundabouts. These roundabout crossings may occur using night time works.

The existing AADT traffic on the dual carriageway was recorded as 13,800 vehicles based on traffic counts carried out for the EIS for the Data Storage Facility.

The dual carriageway has a capacity of 54,000 AADT and therefore the road is operating substantially below capacity, indeed there is more than 70% available capacity. Therefore, a single carriageway operating two-way during the construction phase has adequate capacity to cater for the current traffic volumes. As a result, the impact of the proposed Traffic Management measures on traffic flow will be minimal during construction.

The traffic management proposals for the ducting installation will be subject to a T2 application to the Local Authority for a road opening licence. This process allows the local authority to ensure adequate traffic management restrictions are imposed on the contractor, including requesting appropriate time restrictions and detailed Traffic



Management Plans. This process also allows the Local Authority to sequence works in close proximity to ensure that cumulative traffic management impacts are avoided.

The predicted impact of the Option 1 grid connection route is temporary, slight negative but not significant.

### **Grid Option 2**

There will be no perceptible traffic impacts associated with the construction of grid connection route Option 2. Therefore, no mitigation measures are required and the predicted impact is neutral and imperceptible.

### **Fibre Routes**

The construction stage for the fibre ducting installation is expected to take c. 16 weeks. The work will require localised traffic management to allow works to proceed on one side of the carriageway. Localised re-routing of traffic will be required to complete road crossings at roundabouts. These roundabout crossings may occur using night time works.

The traffic management proposals for the ducting installation will be subject to a T2 application to the Local Authority for a road opening licence. This process allows the local authority to ensure adequate traffic management restrictions are imposed on the contractor, including requesting appropriate time restrictions and detailed Traffic Management Plans. This process also allows the Local Authority to sequence works in close proximity to ensure that cumulative traffic management impacts are avoided.

The predicted impact of the fibre connection is temporary, slight negative but not significant.

The cumulative impact of the proposed Data Storage Facility development, the grid connection and the fibre connection has been considered and is considered to be not significant.

#### **13.1.2 Operational Phase Impact**

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no operational impacts for either of the connections.

### **13.2 External Development**

The cumulative impact of the proposed development with the amendment works permitted at the neighbouring site (as described in Table 4.1) are considered to be negligible. Consideration of the worst case scenario in regard to cumulative traffic and transportation impacts with external developments is presented in Section 13.7 of the EIS.

## **14.0 MATERIAL ASSETS & WASTE MANAGEMENT**

The Material Assets & Waste Management Chapter of the EIS was prepared by AWN. The cumulative impact of the proposed development in terms of the masterplan build-out and external developments (in the planning system at the time of preparation of the EIS) are presented in Section 14.7 of the EIS.

This addendum considers the cumulative impact on material assets and waste management of the proposed development with the grid connection routes (Options 1

and 2), the fibre connection route and the external developments identified in Table 4.1.

#### 14.1 Grid and Fibre Connection Routes

Material Assets are defined in the Environmental Protection Agency (EPA) advice notes (2003) as “Resources that are valued and that are intrinsic to specific places. They may be either human or natural origin and the value may arise for either economic or cultural reasons”. The assessment of cultural heritage is discussed under Chapter 12 (Archaeology Architecture and Cultural Heritage) of this report therefore this section evaluates the economic assets only. Economic assets have been addressed to some extent as part of Chapter 5 (Socio-Economic – Human Beings).

The following summarises the relevant attributes relating to the general development area and the likely cumulative impacts which the proposed development may have with the grid and fibre connections:

##### Ownership and Access:

The majority of the Grid Option 1 route and the two fibre routes will be installed under the public road network and will require permission and agreement with Fingal County Council (FCC) for access and permit to dig. The Grid Option 2 route is a shorter route which remains within the ADSIL Data Storage Facility site boundary for c. 620m before passing through the northern portion of the neighboring site via an existing ESB wayleave over a distance of c. 600m. Access to install the underground ducting on lands in the wayleave will need to be coordinated with other parties.

##### Local Settlement

Both of the grid connection route options and the fibre connection routes are located in an area primarily occupied by commercial/industrial developments most notably to the south and east. There is, however, high density residential development to the west of the R121 (Tyrrelstown) and initial phases of a larger residential development competed to the north (Hollywoodrath).

##### Electricity Supply and Usage

This proposed grid connection will provide the power supply to the proposed Data Storage Facility. The Data Storage Facility development has been designed with energy efficiency as a key priority EirGrid confirmed during pre-application discussions that there is sufficient capacity in the network for the proposed Data Storage Facility development. The construction of the grid connection will require any electricity supply or consumption. (Kenneth to expand on this as required).

##### Resource consumption

The installation of the grid and fibres connections route will require a moderate use of natural resources, primarily engineering grade fill material. Grid Option 1 and the fibre connection routes will require reinstatement to TII specifications for public roads which will require road surfacing materials. Reinstatement along Grid Option 2 for the majority of the route can be completed using excavated soil materials where appropriate. Plastic materials will be required for the ducting installation for the grid and fibre routes.

##### Waste generation

The excavation of trenches for the grid and fibre ducting will generate excavation waste comprising made ground, soil and stone. For Grid Option 1 using a trench length of c. 2.5km and the design cross section area described in Section 3.1, it is estimated that approx. 11,250m<sup>3</sup> of material will be excavated. For Grid Option 2 using a trench length of c. 1.3km and using a similar design cross section area, the estimated waste quantity generated from excavations would be 6,000m<sup>3</sup>. Excavation of both fibre routes using

the design cross section and trench lengths as described in Section 3.2 is estimated to generate c. 3,600m<sup>3</sup> of excavation materials. As a worst case scenario, it is anticipated that all excavated material will be removed off-site as waste.

In terms of considering the cumulative impact of the Data Storage Facility, the grid connection and the fibre connection in terms of the above assets, the implementation of mitigation measures as outlined in the EIS will ensure that the predicted impact from the development will be neutral and not significant.

There will be no cumulative impacts of the grid or fibre connections with the proposed development during the operational phase as there are no operational requirements for either of the connections.

## 14.2 External Development

The cumulative impact of the proposed development with the amendment works permitted at the neighbouring site (as described in Table 4.1) are considered to be negligible. As described in Section 14.17.2 of the EIS, external developments will have similar demands on material assets and will generate waste during the construction and operational phases which will need to be managed in accordance with regional and national waste legislation.

## 15.0 CONCLUSION

Construction activities associated with the grid and fibre connections to the proposed new ADSIL Data Centre Facility at Cruiserath will be temporary in duration (c. 16 weeks for each connection).

The impacts on the environment during the construction phase will be broadly similar to those presented under each topic in the EIS and the mitigations measures outlined in the EIS will apply to minimise the cumulative impact during the short period over which the works are carried out simultaneously.

As detailed in the above sections, there will be no cumulative impact on the environment from operation of the proposed Data Storage Facility with the grid and fibre connections as there are no operational impacts from the required connections.

**APPENDIX A – Route Selection Report prepared by AWN Consulting Ltd.**

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