

Imperial Park Cable Connection – Design and Access Note

TOWN AND COUNTRY PLANNING ACT 1990 (AS AMENDED)

PLANNING APPLICATION FOR THE INSTALLATION OF AN UNDERGROUND CABLE CONNECTION FROM 132KV SUBSTATION TO A DATA CENTRE ON LAND IN THE VICINITY OF DYFFRYN LANE, IMPERIAL PARK, NEWPORT.

The proposed application seeks permission for the installation and operation of a 1.94 kilometre ('km') long underground high voltage ('HV') electrical cable and associated works ('the Proposed Development') located on land in the vicinity of Dyffryn Lane, Imperial Park, Newport ('the Site').

The underground HV electrical cable is proposed to connect into an SSE 132kV substation (the 'SSE Substation') adjacent to the existing Imperial Park 400kV Substation, located to the east of Dyffryn Lane and to the north of Percoed Reen and Green Lane. The SSE Substation is yet to be constructed and is currently being consented under a separate planning application (NCC ref. 25/0520). The new SSE Substation is required to reinforce power to an operational Microsoft data centre, located to the northwest, and the cable is necessary to connect the two.

The Site measures approximately 3.52 hectares ('ha'), being a corridor of approximately 1.94 km in length. The width of the cable route varies from 6 metres to 10m for most of the route, with the exception of a 28m wide segment to the south of the route which is proposed to be directionally drilled. The proposed route would be located under a mixture of highways/hardstanding and greenfield land, as well as three small watercourses. It would run westwards from the SSE Substation in the southeast towards a roundabout on an unadopted private road, broadly to the north of Green Lane and Percoed Reen. It would continue along west of the unadopted private road towards a Microsoft data centre in the north.

SSE Energy Solutions have an excellent track record of delivering electricity networks for new and existing developments in all principal sectors of the construction market. Managing electricity infrastructure is a core business of SSE Energy Solutions and managing them effectively is how they can make a difference for their customers. They design, build, own, and operate electricity networks under licensed exempt (Private) conditions and SSE Energy Solutions also has a licensed Independent Distribution Network Operator ('IDNO') business (Optimal Power Networks) for public (licensed) networks.

Planning Application Submission

The planning application comprises the following documents:

- Application Cover Letter (this document);
- Application Form and Certificates;
- Imperial Park Cable Connection – Preliminary Ecological Appraisal (Prepared by RPS);
- Imperial Park Cable Connection – Flood Consequence Report (Prepared by RPS);
- Imperial Park Cable Connection – Arboricultural Impact Assessment (Prepared by RPS);

- Imperial Park Cable Connection – Pre-application Consultation Report;
- Red Line Boundary Plan – Ref. 0596-BPS-XX-XX-DR-EAS-2101-S4-P04;
- Site Location Plan – Ref. 0596-BPS-XX-XX-DR-EAS-2101-S4-P04; and
- Cable Layout and Section Plan – Ref. 0596-BPS-XX-XX-DR-CBL-2001-S2-P03.

In compliance with Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016, the application for the Proposed Development (as a ‘major development’) held a Pre-application Consultation (‘PAC’). A PAC Report detailing the consultation supports this application to NCC.

Background and Summary of the Proposed Development

The Proposed Development would comprise a 1.94 km long underground HV electrical cable, connecting an operational Microsoft data centre to the SSE Substation. The SSE Substation is currently being consented under a separate planning application (NCC ref. 25/0520) and would form part of an extension to the existing Imperial Park electricity substation. It is located to the north of Green Lane, to the west of an unadopted private road, and to the south of Imperial Park industrial estate.

The cable would connect into the northwest of the SSE Substation and travel immediately south for approximately 50 m across Dyffryn Lane, before turning west for approximately 280 m towards a roundabout on an unadopted private road. This stretch of the cable route would predominantly comprise undeveloped greenfield land and cross three small surface water ditches, which adjoin Percoed Reen to the south. It would then turn northwest and travel along the western side of the unadopted private road for approximately 780 m, crossing the Nant-y-Moor Reen where it is already culverted beneath the existing access road. It would then reach a roundabout with Church Lane and turn broadly eastwards for approximately 800 m under an internal road within Imperial Park industrial estate, before briefly turning north at two separate points and reaching land owned by Microsoft. In total, the cable route would comprise approximately 70% hardstanding, where it follows the existing highway infrastructure, but is greenfield in the remaining parts. The cable route is shown on the Imperial Park Cable Connection – Red Line Boundary Plan (Ref. 0596-BPS-XX-XX-DR-CBL-2001-S2 Rev. P03).

The Proposed Development represents the preferred, least intrusive approach to reinforcing power to the Microsoft data centre at Imperial Park. The reinforcement works would add additional robustness to the data centre, as supported by paragraph 5.2.1 of Planning Policy Wales (edition 12) (2024), which emphasises the need for electronic efficiency: *“Affordable, secure electronic communications infrastructure is essential to people and businesses...Fast reliable connections are essential to meet the needs of businesses and other organisations, and to those at home accessing digital services and working.”* The Welsh Government also acknowledges in paragraph 5.2.2 that, *“Modern society demands reliable fast and high capacity communication networks to ensure large amounts of data can be easily accessed or exchanged”*.

The entirety of the Proposed Development would be located underground between the data centre and the SSE Substation; therefore, it is not considered that there will be any notable operational impacts once installed. The remainder of this letter describes the Site, construction impacts and methods, and any technical considerations associated with the Proposed Development.

The Application Site

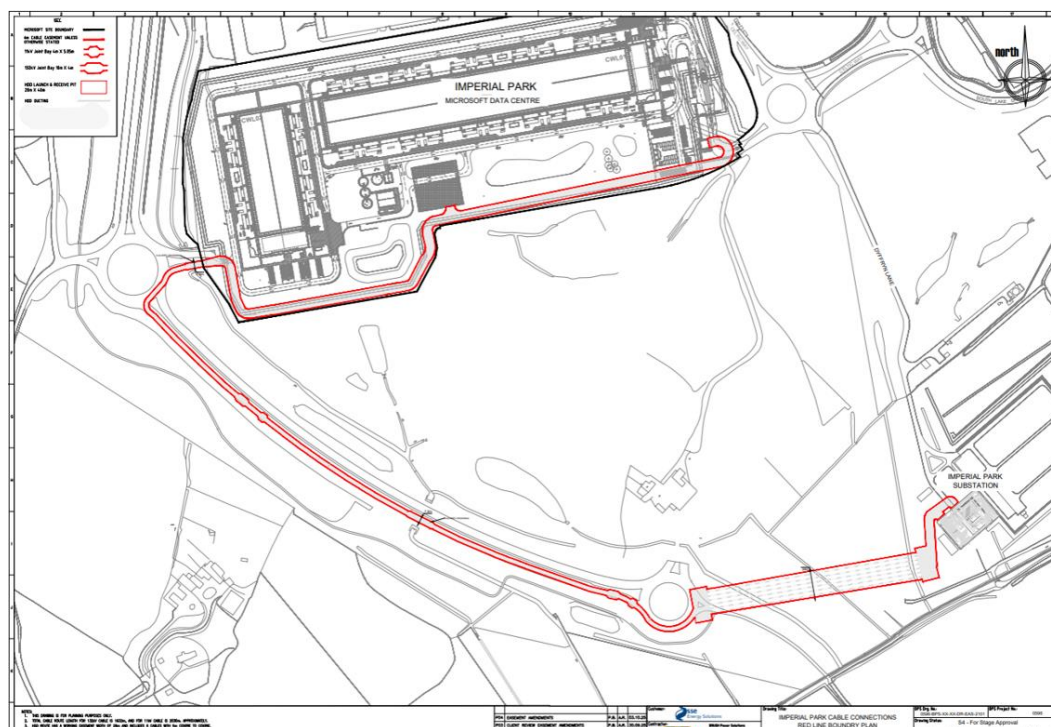
The Application Site (shown in Figure 1) measures approximately 3.52 ha, being a corridor of 1.94 km. The width of the cable route varies from 6 metres to 10m for most of the route, with the exception of

a 28m wide segment to the south of the route which is proposed to be directionally drilled. It extends from the SSE Substation in the southeast, which would adjoin Imperial Park Substation to the southwest, and runs broadly north-westerly to a Microsoft data centre in the northwest. At its closest points, the cable corridor would be located approximately 590 m southwest of Duffryn, 1.40 km north of St Brides, and 1.9 km northeast of Marshfield.

Approximately 70% of the land on which the Application Site is located consists of existing hardstanding, with the remaining parts comprising undeveloped greenfield land. The Site is well isolated from residential areas, being approximately 590 m southwest of the nearest properties in Duffryn. There is a small number of stand-alone properties in relatively close proximity to the Site off Church Lane, as well as a few isolated farmsteads scattered within the vicinity. The land around the SSE Substation and Imperial Park Substation, where the cable connects, is predominantly comprised of unmanaged vegetation, although there are several agricultural fields to the south. Around the Microsoft data centre to the north, the land is more urban, comprising the Imperial Park industrial estate. The cable route would not cross any prominent areas of woodland or dense vegetation, although it would pass under three small watercourses adjacent to Percoed Reen and Nant-y-Moor Reen. However, the latter is already culverted beneath the existing access road.

The cable route is proposed to be laid under existing hardstanding as much as possible, to minimise any potential impacts to greenfield land. It would run close to the Percoed Reen and Nant-y-Moor Reen drains and as mentioned above, would pass underneath three small watercourses extending off it. It is proposed that horizontal directional drilling ('HDD') methods would be employed to pass the cable underneath these to minimise disturbance (further details on construction methods can be found on page 6 and 7 of this Letter). Open trench cutting would be used for the remainder of the cable route and a Section 50 licence (under the New Roads and Street Works Act 1991) would be obtained for the public highway sections (where required). The Proposed Development is limited to temporary excavation and installation activities associated with an underground cable and will allow the land to be restored to its current condition following completion.

Figure 1 – Site Location



Flood Risk

According to Natural Resources Wales's ('NRW') Flood Map for Planning ('FMfP') (Appendix 1), the cable route passes through fluvial Flood Zones 2 and 3 in the south near the proposed substation and the remainder of the cable route passes through Flood Zone 1. NRW's FMfP (for the sea) identifies that the majority of the cable route is classified as Flood Zone 3, with areas in the north passing through Flood Zone 2. For surface water flooding, NRW's FMfP identifies that the majority of the Site is classified as Flood Zone 1, with small areas within the north and southern extents within Flood Zone 2 and Flood Zone 3. The south of the Site is shown on NRW mapping to be in a TAN15 defended zone where defences are shown to have a standard of protection of 100 years (2023) against flooding from rivers and of 1000 years (2023) against the sea.

Given this, a Flood Consequence Assessment ('FCA') (prepared by RPS) has been provided which proposes several mitigation options to manage the identified risks (Table 8 of the FCA). Of the 7 flood risks identified, 6 were considered to be low risk. Fluvial and tidal flooding during construction has been identified as the only potential medium to high risk. It has therefore been recommended that a Flood Management Plan is prepared for site management and staff during construction, with instructions on appropriate measures to take in the instance of a flood. It is also recommended that during construction, temporary construction compounds are located outside of modelled flood extents. With these mitigation measures, the residual risk is expected to become low to medium.

Overall, the Proposed Development does not increase flood risk to the surrounding area and has negligible risk of flooding to and from the development.

Biodiversity

According to the Government's MAGIC mapping website (Appendix 2), the southern sections of the Site are partially located within the Gwent Levels – St. Brides Site of Special Scientific Interest ('SSSI'). The northern sections are not covered by any statutory environmental designations. A further six statutory designated sites lie within 5 km of the Site and four non-statutory designated sites were identified within 2 km. The southeastern sections of the Site are within an NRW Priority Area identified as 'Lowland Wetland'.

Approximately 2.5 kilometres ('km') to the east is the Severn Estuary SSSI, Ramsar Site, Special Area of Conservation ('SAC'), and Special Protection Area ('SPA'). The Severn Estuary National Nature Reserve ('NNR') and the River Usk / Afon Wysg SSSI and SAC are just beyond this to the east. The nearest ancient woodland to the Site is approximately 350 m to the west.

Scrub replacement, grassland, woodland ditches within the Site and wider Imperial Park area provides the Proposed Development with the opportunity to improve ecosystem resilience and deliver a Net Benefit for Biodiversity. This would be through increasing the species and structural diversity of scrub, grassland and woodland, restoration of grassland and ditches in unfavourable conditions and controlling growth of undesirable and invasive species from select habitats. These habitats and features would be targeted as part of a Biodiversity Strategy to reinstate the estimated lost habitat (0.26 ha) and deliver enhancement and restoration measures as per local and national policy.

A Preliminary Ecological Appraisal ('PEA') (prepared by RPS) has been undertaken for the Proposed Development. As part of the PEA, desk studies and habitat surveys have been conducted. This concludes that with embedded mitigated, tertiary mitigation and the outline biodiversity measures, the Proposed Development is unlikely to give rise to adverse effects on ecological receptors and could deliver a Net Benefit for Biodiversity. Features for which the Gwent Levels SSSI are designated would

be avoided from direct impacts largely because more than 70% of the cable route would be sited within hardstanding / artificial habitats.

Trees

An Arboricultural Impact Assessment ('AIA') (prepared by RPS) has also been undertaken for the proposed cabling route and submitted as part of the application. This included a tree survey, which assessed 19 individual trees, 23 groups and 3 hedges, of which only one tree was considered high-quality in accordance the recommendations of BS 5837.

To facilitate the Proposed Development, the partial removal of one scrub group is required. To facilitate the HDD entrance and exit pit, the removal of one tree, one tree group, and three scrub groups, and the partial removal of three further scrub groups is required. There may also be some pruning required to the peripheries of two tree groups and three scrub groups.

The proposed removal and pruning requirements are all confined to scrub and low-quality features (except for one moderate quality tree) set within the confines of the Site and which are largely obscured from view beyond the Site boundaries. As such, their removal will have minimal impact on the amenity value and scene of the wider surrounding area. Furthermore, the Site's only high-quality tree will be retained.

All other trees within the vicinity of the cable route would be retained and protected using the methods set out in the AIA. This includes establishing root protection areas and Construction Exclusion Zones, and installing temporary protective fencing around trees.

Public Rights of Way

There are no Public Rights of Way ('PRoW') crossing the Site or within the immediate vicinity. The nearest is a footpath (390/22/1), which is approximately 40 m from the Site at its closest point and runs through the woodland to the west of the unadopted private highway. It is not anticipated that any PRoWs would be impacted by the Proposed Development.

Archaeology

The proposed works have been designed to largely avoid any impacts to buried archaeology, on the basis that the majority of the proposed cable alignment would be located within an existing highway. In respect of the sections of cable which cross vegetated land, the majority of this would be installed using horizontal directional drilling ('HDD') at a dept of 1.6m. It is therefore considered that the potential for disturbance of buried archaeology through the Proposed Development is negligible.

Cable Installation Methods

It is anticipated that for the majority of its length, the electrical cable will be installed using standard open trenching techniques, with a narrow area to be excavated before backfilling following the placement of the duct and cable. The nominal depth of the trenching will vary from approximately 1-2 m depending on the segment of the route, in places (for example during HDD area beneath existing watercourses/ditches) this may be increased to 8 m. The trench would be approximately 1.6 m wide, with 2.5 m easement on either side (during the narrowest sections).

A cross-sectional drawing has been included on the Imperial Park Cable Layout and Section Plan (Ref. 0596-BPS-XX-XX-DR-CBL-2001-S2-P03) to illustrate a typical cable installation. The electrical cable would be installed in ducts within the trench. The ducts will be surrounded by sand, depending on the location and design requirements. The cable drums will be located at one end of the route and the

winch at the other, the winch wire would be fed through the ducts, then connected to the cable and pulled through the ducts.

As aforementioned, the short section of cable that passes underneath the two small watercourses would be installed using horizontal directional drilling ('HDD') methods in order to carry out the works without causing disturbance to the watercourse or habitats above. In other parts of the route, the proposed alignment has been designed to avoid root protection areas as shown in the 'Tree Retention and Removal Plans' submitted in the Arboricultural Impact Assessment.

It is anticipated that the installation of the electrical cables and ducts would take approximately 8 months to complete. At the end of the works, the Site would be returned to its previous condition and use. Further detail on the construction methods proposed to be used as part of the cable installation are set out in the section below.

Construction Methods

- Under supervision of a banksman, the excavator with toothless bucket will be escorted to excavation position. A banksman will be present throughout machine operations to ensure safe machine movements.
- The trench will be excavated following HSG47 Guidance: 'Avoiding danger from underground services' (2014). Continual CAT Scanning of the excavation area will be undertaken at regular intervals as excavation progresses.
- To prevent any collapse of unsupported trench and open excavations, excavations to be battered or stepped (dependent on ground conditions) in 500 mm or increments if deeper than 500 mm.
- If any service is found, its position and depth shall be recorded on a site plan. An "Excavation Daily Inspection Check sheet & Log" will also be completed for excavations by the Site Engineer.
- Dewatering of excavations shall only be carried out through filtration and into pre-agreed drainage areas.

Summary

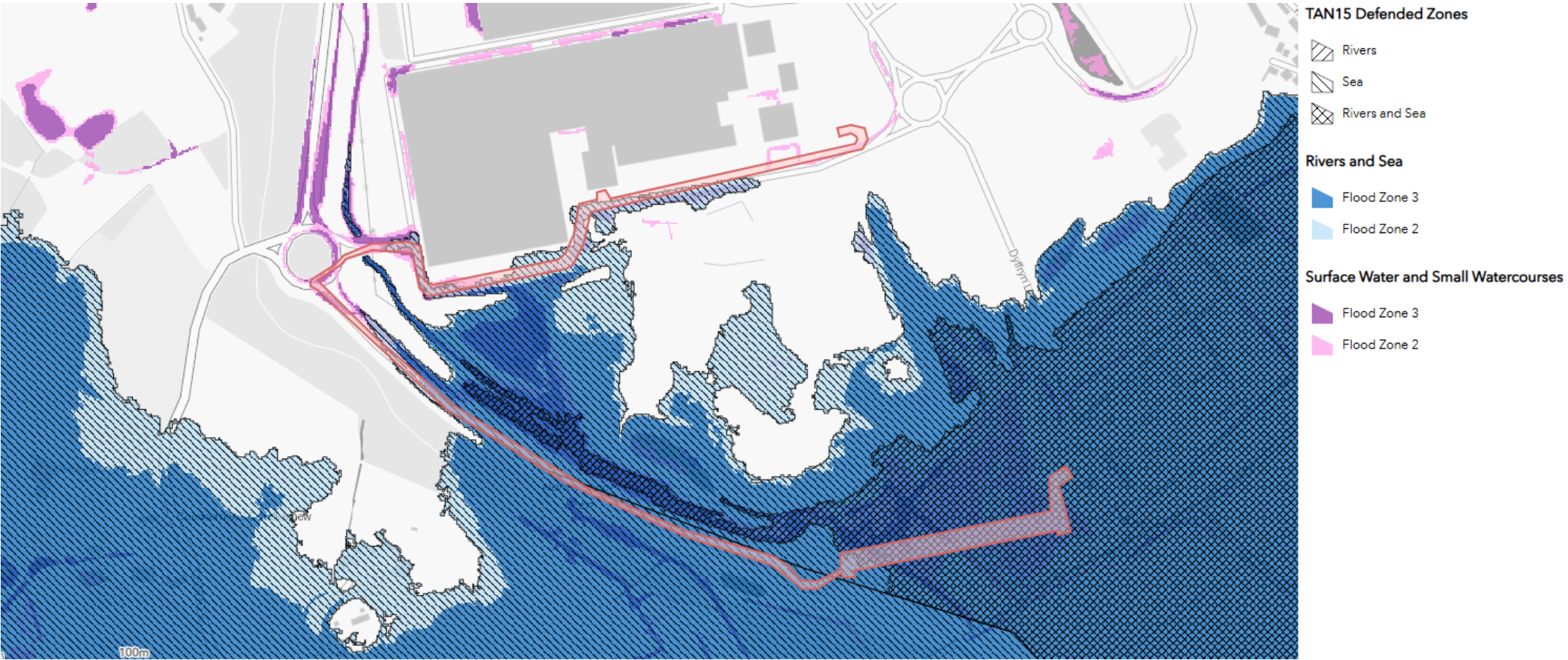
To summarise, the Applicant proposes to install an underground HV electrical cable associated with a Microsoft data centre and its connection to the SSE Substation. The information provided shows that any impact caused by the Proposed Development (however minor) is temporary for the period of construction, after which the cable will be unnoticeable during its operation and can be suitably mitigated by employing HDD excavation techniques. It would also deliver ecological enhancements and could deliver a Net Benefit for Biodiversity.

We trust that everything has been submitted to allow you to validate the application and look forward to receiving confirmation of this in due course. In the meantime, if you require any further information, please do not hesitate to contact me using the details below.

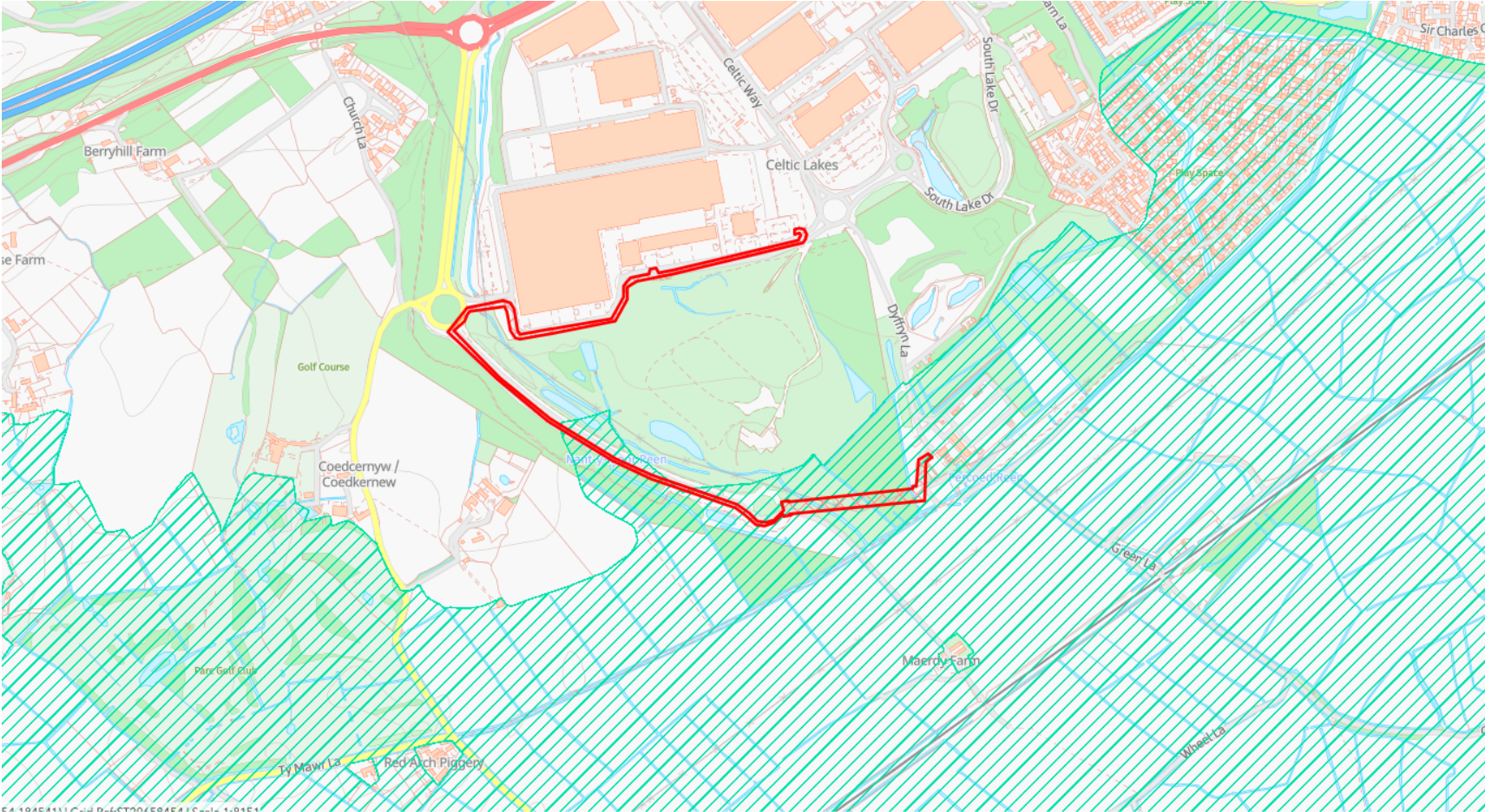
Appendices enclosed:

1. Flood risk map for planning
2. MAGIC map extract
3. Public Rights of Way map

Appendix 1: Flood Map for Planning



Appendix 2: MAGIC Map Extract



Designations

Land-Based Designations

Statutory

National Nature Reserves (Wales)

National Nature Reserves (Wales)

Ramsar Sites (Wales)

Ramsar Sites (Wales)

Sites of Special Scientific Interest (Wales)

Sites of Special Scientific Interest (Wales)

Special Areas of Conservation (Wales)

Special Areas of Conservation (Wales)

Special Protection Areas (Wales)

Special Protection Areas (Wales)

Biosphere Reserves (Wales)

Biosphere Reserves (Wales)

Appendix 3: Public Rights of Way Map

