

IMPERIAL PARK CABLE ROUTE

Preliminary Ecological Appraisal



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1 INTRODUCTION

1.1 Purpose and Scope of this Report

- 1.1.1 RPS Consulting were commissioned by SSE Energy Solutions ('SSE') to undertake a Preliminary Ecological Appraisal (PEA) of a site on land to the south of Imperial Park in Dyffryn, Newport.
- 1.1.2 SSE is seeking to install a series of cables (below ground) between the existing National Grid Imperial Park Substation site and a proposed data centre switchroom west of Celtic Way, hereafter referred to as the 'Proposed Development'. The cable route corridor is illustrated by the red line on Figure 1, hereafter referred to as the 'Site'.
- 1.1.3 The aim of this PEA is to provide an assessment of the Site's ecological value (including surrounding Imperial Park area), the considerations for biodiversity and the resultant implications for the Proposed Development. The assessment comprises the following elements:
- The results of a desk study search for designated sites and records of protected species and other species that require consideration as part of the development proposals;
 - Habitat survey of the Site and wider Imperial Park area;
 - An assessment of the potential for the Site (and surrounding Imperial Park area) to support protected and/or notable species or other species that could require consideration as part of development proposals; and
 - The likely impacts and effects on biodiversity, and the necessary avoidance, mitigation and compensation required to reduce significant adverse effects
- 1.1.4 The report has been prepared in accordance with the Guidelines for Preliminary Ecological Appraisal CIEEM (2017). The PEA also incorporates elements of the Guidelines for Ecological Impact Assessment (CIEEM, 2018).
- 1.1.5 The PEA provides outline recommendations for avoidance, minimisation, mitigation and where necessary compensation measures as appropriate; and makes recommendations for appropriate biodiversity enhancements in line with national and local planning policy. The PEA considers the findings of targeted species surveys that were undertaken as part of the ongoing appraisal and optioneering of the Proposed Development (RPS, 2025^a).

1.2 Site and Project Description

- 1.2.1 The Site is located to the south of the Imperial Park industrial area, located at the west of Newport, South Wales. The Site is approximately centred on Ordnance Survey Grid Reference ST 282 838. The Site comprises a linear corridor identified for the siting of 11 kV and 132 kV cables from a proposed datacentre at the former Quinn Radiator site (with planning reference 24/0006) to the existing National Grid 400kV Electricity Substation, at Celtic Lakes. The red line terminates at the west of the of the above substation site, which forms part of a proposed new Gas Insulated Substation (GIS) (with planning reference 25/0520).
- 1.2.2 The Site predominantly encompasses a hard standing public footpath and cycleway forming the active travel section of an abandoned unadopted highway, now colloquially referred to as the 'Road to Nature'. The northern section of the Site, just off the proposed datacentre now falls within a live construction site (planning reference 24/0006), though in February 2025 the area was hardstanding, short-perennial grassland and scrub. The south eastern section of the Site, between the end of the abandoned Road to Nature highway and the National Grid Electricity Substation comprised standing water ditches, marginal vegetation, neutral grassland, bare ground and disturbed short-perennial vegetation along with the Road to Nature highway, cycle path and roundabout. Areas of mixed plantation woodland, dense and scattered scrub and reedbed habitats

were present in the wider Imperial Park area, with arable fields further to the south. The Site is under the ownership of Newport City Council.

- 1.2.3 The Proposed Development comprises the installation of two 11kV and two 132kV cables and associated joint bays within an estimated cable corridor of just over 2km. To facilitate the laying of the cables, open cut trenching will be implemented for most of the cable route corridor length. An estimated 180m section of the corridor will be subject to horizontal directional drilling (HDD), to avoid adverse effects on the ditch network that forms part of the Gwent Levels Site of Special Scientific Interest (SSSI). The Proposed Development design (at the current stage is in Appendix A).
- 1.2.4 Full design information of the Proposed Development is not available at the current stage but it is anticipated that construction would take up to 6 months to complete. The easement required for the cable route is estimated to be 6m (just over 3m either side of the cable corridor). Joint bays require 5 m either side of the cable corridor and are intermittent along the cable corridor. HDD entrance and exit pits are estimated to be 20 m x 40 m (as a worst case). All trenching, joint bays and HDD pits would be temporary in nature, with vegetative areas reinstated following completion of construction, with existing material (where appropriate) and enhanced planting proposals. Night time working is not anticipated as part of construction.
- 1.2.5 Certain elements of the Proposed Development design could change which may impact the outcome of the assessment within this PEA. Where appropriate, the precautionary principle has been applied to ensure that assessment of potential impacts is as robust as possible.

1.3 Ecological Background

- 1.3.1 Multiple surveys have been undertaken to support the Proposed Development, and the associated GIS substation (proposed within the existing National Grid Electricity Substation site). Three habitat surveys have been undertaken within and in proximity to the Site since January 2025. Targeted species surveys for great crested newt *Triturus cristatus*, otter *Lutra lutra* and water vole *Amphibius arvicola* have also been undertaken within and in suitable areas in proximity to the Site since June 2025.
- 1.3.2 Additionally, tree surveys to support an Arboricultural Impact Assessment (AIA) have also been undertaken (RPS, 2025^b).

1.4 Legislation and Policy

- 1.4.1 Relevant legislation, policy and guidance are referred to in this report where appropriate. Their context and application are explained in the relevant sections of this report. The relevant legislation, policy and guidance include:
- The Environment (Wales) Act 2016
 - The Environment (Air Quality and Soundscapes) Act 2024
 - The Conservation of Habitats and Species Regulations 2017 (as amended)
 - The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
 - The Wildlife and Countryside Act 1981 (as amended)
 - The Protection of Badgers Act 1992
 - The Countryside and Rights of Way Act 2000 (as amended)
 - Technical Advice Note 5 (TAN5)
 - Newport Local Biodiversity Action Plan
 - Greater Gwent Nature Recovery Action Plan

- Planning Policy Wales 12 (PPW)
- Future Wales: The National Plan 2040

1.4.2 A summary of legislation relevant to protected or other species identified as potential constraints in this report is provided in Appendix B.

2 METHODS

2.1 Desk Study

- 2.1.1 Biodiversity records were requested from South East Wales Biological Records Centre (SEWBRc). Additional information on statutory designated sites was accessed via the 'MAGIC' website (<https://www.magic.defra.gov.uk>), the Joint Nature Conservation Committee website (<http://jncc.defra.gov.uk>) and DataMapWales (<https://datamap.gov.wales>)
- 2.1.2 The following data were obtained:
- Records of protected species or other species of conservation interest recorded within the last ten years and within 2 km of the Site;
 - Non-statutory sites of nature conservation interest within 2km of the site e.g., Sites of Importance for Nature Conservation (SINCs) and Local Wildlife Sites (LWSs);
 - Local and national statutory sites of nature conservation interest within 2km of the site e.g., Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNRs) and National Nature Reserves (NNRs); and
 - International statutory sites of nature conservation interest within 5km of the site e.g., Special Protection Areas (SPAs) and Special Area of Conservation (SACs)
- 2.1.3 A 1:25,000 OS map was used to identify nearby features such as ponds that could provide habitat for protected and/or notable species, or connectivity to other areas of suitable habitat, which would influence the assessment.

2.2 Habitat Survey

- 2.2.1 Multiple habitat surveys have been undertaken to support the Proposed Development. Surveys were undertaken in late January and early February 2025 by a suitably competent ecologist, with a follow up habitat survey undertaken in June 2025. An additional site walkover was undertaken in August 2025 alongside SSE to review the cable route corridor. The initial habitat surveys in January covered a much larger area. This was primarily a result of the Proposed Development being in an early feasibility phase. As feasibility progressed, habitat surveys were targeted to areas likely to fall within the Proposed Development's zone of influence (Zoi).
- 2.2.2 Habitats within the Site and surrounding area were assessed and mapped in accordance with the JNCC Phase 1 Handbook (JNCC, 2010) including elements of UKHab's UK Habitat Classification methodology (UKHab, 2023). The survey followed the standard methodology described in the Guidelines for Preliminary Ecological Assessment (CIEEM, 2017). In summary, this comprised walking over the Site and wider landscape recording the habitat types and boundary features present, extended to include a scoping assessment for the suitability of the habitats to support protected and notable species. This wider landscape included areas adjacent to the Site (and the area for the GIS Substation) and up to 50m where accessible. The habitat surveys were undertaken by a suitably competent ecologist with a Level 4 Field Identification Skills Certificate¹ (FISC) from the Botanical Society of Britain and Ireland (BSBI).
- 2.2.3 The Site's connectivity with suitable habitats in the surrounding area was considered when assessing the Site's potential to support protected and/or notable species. Notes were also made on the suitability for habitats and features to support protected and/or notable species. A

¹ Demonstrates competence at identifying plants and their habitats in the United Kingdom and Ireland.

preliminary search was made of suitable habitat for evidence of use by protected species (such as badger *Meles meles*), though this search was not exhaustive.

2.3 Notes and Limitations

Desk Study

- 2.3.1 The desk study data is third party controlled data, purchased for the purposes of this report only. RPS cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

Habitat Survey

- 2.3.2 It should be noted that while every effort has been made to provide a comprehensive description of the Site, no investigation can ensure the complete characterisation and prediction of the natural environment.
- 2.3.3 The protected and/or notable species assessment provides a preliminary view of the likelihood of these species occurring on the Site, based on the suitability of the habitat, known distribution of the species in the local area (based on the desk study) and any direct evidence on the Site. It should not be taken as providing a full and definitive survey of any protected/notable species group. Additionally, the habitat map on Figure 4 illustrates approximate habitat types recorded within the field during field surveys. The map should not be taken as exact or definitive locations of habitat types and their boundaries.

Accurate Lifespan of Ecological Data

- 2.3.4 Most ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for 18 months to two years as per best practice guidance (CIEEM, 2019), assuming no significant considerable changes to the site conditions.

3 RESULTS

3.1 Desk Study

Designated Sites

- 3.1.1 The southern sections of the Site are partially located within the Gwent Levels – St Brides SSSI.
- 3.1.2 A further six statutory designated sites lie within 5km of the Site. A total of four non-statutory designated sites were identified within 2 km of the Site. A summary of the designated sites within the search area is provided in Table 3.1. The locations of designated sites are illustrated on Figure 2 of this report.

Table 3-1. Statutory Designated Sites within 5km

Designation	Distance from Site	Description and Features of Interest
Statutory Designated Sites		
Gwent Levels- St Brides SSSI	Overlap the southern area of WP1 and WP2	The Gwent Levels covers 5,700 ha of low-lying land along the Severn Estuary where the land lies below high mean water level and is traditionally drained through a system of furrows and ditches, the larger of which are referred to as reens. The reens support a wide range of aquatic plants, including many rare or scarce species, that in turn support a wide variety of other wildlife. The Gwent Levels have also been found to be an important area for shrill carder bee, with the un-mown ditch banks and rough grassland areas provide ideal habitat for the species. The Gwent Levels is divided into six management units. The Gwent Levels: St Brides SSSI has three special features; • Reen and Ditch Habitat • Insects and other Invertebrates • Shrill carder bee The reens in the St Brides area support a number of interesting plant species most notably thread-leaved water-crowfoot <i>Ranunculus trichophyllus</i> and small pondweed <i>Potamogeton berchtoldii</i>. Reen bank and green lane habitats in this area are also important for relict meadow plant species such as the regionally notable grass vetchling <i>Lathyrus nissolia</i> and common meadow-rue <i>Thalictrum flavum</i>. The St Brides area also supports rich invertebrate communities with a number of nationally notable and notable marshland species, e.g. the true fly <i>Chrysogaster macquarti</i> and the beetle <i>Hydaticus transversalis</i>. It is the only area on the Gwent Levels where the rare fly <i>Stenomicra cogani</i> has been recorded.
Severn Estuary Ramsar, SAC, SPA	2.7km south	The Severn Estuary SAC hosts the following habitats covered by EC Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna: estuaries, mudflats and sandflats not covered by seawater at low tide, Atlantic salt meadows (<i>GlaucoPuccinellietalia maritimae</i>), sandbanks which are slightly covered by sea water all the time, and reefs. The site also supports the following species covered by EC Directive 92/43/EEC: Annex II

Designation	Distance from Site	Description and Features of Interest
		sea lamprey (<i>Petromyzon marinus</i>), Annex II river lamprey (<i>Lampetra fluviatilis</i>) and Annex II and V twaite shad (<i>Alosa fallax</i>). The Severn Estuary SPA supports overwintering Bewick's swan (<i>Cygnus columbianus bewickii</i>); on passage ringed plover (<i>Charadrius hiaticula</i>) and overwintering curlew (<i>Numenius arquata</i>), dunlin (<i>Calidris alpina alpina</i>), pintail (<i>Anas acuta</i>), redshank (<i>Tringa tetanus</i>), and shelduck (<i>Tadorna tadorna</i>). It also regularly supports at least 20,000 waterfowl. Ramsar The site's qualifying interest features of Ramsar overlap with those of the Severn Estuary SPA and SAC. The site is of particular importance for hosting internationally important populations of several species of waterbirds as well as its fish species migrating between the sea and rivers via the Estuary.
River Usk SAC, SSSI	3.3km east	The site supports the following species covered by EC Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna: Atlantic stream crayfish <i>Austropotamobius pallipes</i> - Annex II and V Common otter <i>Lutra lutra</i> - Annex II and IV Atlantic salmon <i>Salmo salar</i> - Annex II and IV Bullhead <i>Cottus gobio</i> - Annex II Twaite shad <i>Alosa fallax</i> - Annex II and V Allis shad <i>Alosa alosa</i> - Annex II and V River lamprey <i>Lampetra fluviatilis</i> - Annex II and V Brook lamprey <i>Lampetra planeri</i> - Annex II Sea lamprey <i>Petromyzon marinus</i> - Annex II Freshwater pearl mussel <i>Margaritifera margaritifera</i> - Annex II and V
Newport Wetlands NNR	3.2km south east	Notified for nineteen species, thirteen of which were entirely down to the reserve's creation and management. Newport Wetlands has achieved its aim of attracting two species of waterfowl in nationally important numbers and becoming a "functional component of the Severn Estuary SPA" as required by the Secretary of State in 1996 (Austin et al. 2006). The created reedbed supports five species in nationally significant numbers. The saline lagoons have been notified for three breeding wader species. The Newport Wetlands field ditch habitat has a much higher proportion of notifiable aquatic plants than any other ditch in the Gwent Levels SSSI. Saltmarsh habitat within the NNR boundary is now more diverse than it was twenty years ago. Future challenges include reversing the poor productivity of wader species
Non-statutory Designated Sites		
LG Duffryn Site 2 SINC	230 m to north of Site	Large area of neutral grassland adjacent to Gwent Levels
LG Duffryn Site 1 SINC	400 m north of Site	Pond / Phragmites reedbed, Cettis Warbler
Celtic Springs SINC	800 m north of Site	Post-industrial mosaic habitat. Neutral grassland. Calcareous grassland.
Duffryn Pond SINC	900 m south of Site	Pond with emergent swamp vegetation, which supports a range of important invertebrates, plant, reptile, amphibian and mammal species.
B-Lines	800 m south of Site	B-lines are described as 'a series of 'insect pathways' running through countryside and towns, which Buglife are restoring and creating to develop a series of wildflower-rich habitat stepping stones

SAC - Special Area of Conservation. **SPA** – Specially Protected Area. **SSSI** – Site of Special Scientific Interest. **SINC**: Site of Importance for Nature Conservation. **NNR** – National Nature Reserve

Priority Habitats and Ancient Woodland

- 3.1.3 The desk study identified 12 parcels of ancient woodland within 2 km of the Site. This comprised six parcels of Ancient Semi-Natural Woodland, five parcels of Restored Ancient Woodland Sites and one site of Unknown Category. The closest parcel was of an Ancient Semi-Natural Woodland located 600 m to the north west of the Site.
- 3.1.4 The south eastern sections of the Site are within an NRW Priority Area identified as 'Lowland Wetland'. The locations of Priority Habitats and ancient woodland sites are illustrated on Figure 2.

Species Records

- 3.1.5 A summary of the protected and/or notable species records obtained from SEWBrEC is provided in Table 3-2.
- 3.1.6 The table provides records of legally protected species or other species of conservation interest which have been recorded within 2km of the proposed development within the past 10 years and for which there is suitable habitat on or adjacent to the Site.

Table 3-2. Summary of Species Records within 2km of the Site within the Last 10 Years

Species	Scientific Name	Number of records	Closest record	Year of closest record	Year of most recent record	Species Protected Status
Bats						
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	158	0	2023	2024	EPS, HDirIV, WCA5, S7, RDB2(UK)
Noctule	<i>Nyctalus noctula</i>	105	0	2024	2024	EPS, HDirIV, WCA5, S7, RDB2(UK)
Brown Long-eared Bat	<i>Plecotus auritus</i>	14	0	2024	2024	EPS, HDirIV, WCA5, S7, RDB2(UK)
Nathusius's Pipistrelle	<i>Pipistrellus nathusii</i>	34	0	2024	2024	EPS, WCA5, RDB2(UK)
Pipistrelle	<i>Pipistrellus pipistrellus</i>	46	0	2024	2024	EPS, WCA5, RDB2(UK)
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	107	0	2024	2024	EPS, WCA5, S7, RDB2(UK)
Daubenton's Bat	<i>Myotis daubentonii</i>	43	0	2023	2024	EPS, WCA5, RDB2(UK)
Greater Horseshoe Bat	<i>Rhinolophus ferrumequinum</i>	12	0	2024	2024	EPS, HDirII, WCA5, S7, RDB2(UK)
Brandt's Bat	<i>Myotis brandtii</i>	11	0	2023	2024	EPS, WCA5, RDB2(UK)
Whiskered Bat	<i>Myotis mystacinus</i>	14	0	2024	2024	EPS, WCA, RDB2(UK)
Natterer's Bat	<i>Myotis nattereri</i>	4	362	2023	2024	EPS, WCA5, RDB2(UK)
Barbastelle	<i>Barbastella barbastellus</i>	2	419	2024	2024	EPS, HDirII, WCA5, S7, RDB2(UK)
Grey Long-eared Bat	<i>Plecotus austriacus</i>	2	419	2024	2024	EPS, WCA5, RDB2(UK)
Leisler's Bat	<i>Nyctalus leisleri</i>	13	419	2024	2024	EPS, WCA5, RDB2(UK)
Serotine	<i>Eptesicus serotinus</i>	13	419	2024	2024	EPS, WCA5, RDB2(UK)

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Species	Scientific Name	Number of records	Closest record	Year of closest record	Year of most recent record	Species Protected Status
Myotis Bat species	<i>Myotis</i>	1	472	2024	2024	EPS, WCA5
Pipistrelle Bat species	<i>Pipistrellus</i>	1	763	2021	2021	EPS, WCA5
Bat	<i>Chiroptera</i>	1	798	2023	2023	EPS, WCA5
Whiskered/Brandt's Bat	<i>Myotis mystacinus/brandtii</i>	1	1853	2015	2015	EPS, WCA5
Other Mammals						
Hazel Dormouse	<i>Muscardinus avellanarius</i>	12	Adjoining southern section of Site	2024	2024	EPS, WCA5, S7, RDB2(UK)
Hedgehog	<i>Erinaceus europaeus</i>	58	383	2022	2024	S7, LBAP(NEW)
Water Vole	<i>Arvicola amphibius</i>	6	393	2023	2023	WCA5, S7
American Mink	<i>Neovison vison</i>	1	474	2022	2022	WCA9, INNS
Hare	<i>Lepus europaeus</i>	2	708	2017	2024	S7
Otter	<i>Lutra lutra</i>	4	796	2023	2024	EPS, WCA5, S7, RDB2(UK)
Weasel	<i>Mustela nivalis</i>	2	1062	2021	2024	LBAP(NEW)
Reptiles						
Grass Snake	<i>Natrix helvetica</i>	9	0	2022	2024	WCA5, S7
Slow-worm	<i>Anguis fragilis</i>	3	689	2022	2022	WCA5, S7
Amphibians						
Common Toad	<i>Bufo bufo</i>	16	381	2023	2024	WCA5, S7

Abbreviations: **EPS**: European Protected Species. Fully protected under the Conservation of Habitats and Species Regulations 2012. **WCA5**: Fully protected under the Wildlife and Countryside Act 1981 – as amended. **S7**: Listed as a species of principal importance for conservation in Wales under Section 7 of the Environment (Wales) Act 2016. **LBAP**: Local Biodiversity Action Plan priority species in Newport. **INNS**: Invasive Non-Native Species, CITES: Convention on International Trade in Endangered Species, **Hdirl**: EU Habitats Directive Species Annex II species, **RD2 (UK)**: UK Red Data Book listing not based on IUCN guidelines (Nationally Rare and Scarce), WCA9. Invasive species listed on Schedule 9 of the Wildlife and Countryside Act (1981)

- 3.1.7 Invertebrates recorded within the search area include shrill carder bee *Bombus sylvarum*, a qualifying feature for the Gwent Levels SSSI. Six records of the species are present within the wider Imperial Park area. SEWBrEC holds no records of other invertebrate species listed within the SSSI citation for the St Brides section of the Gwent Levels SSSI.
- 3.1.8 SEWBrEC holds no records of protected plant species from within the site. Arrowhead *Sagittaria sagittifolia*, an uncommon species associated with the Gwent Levels reed habitats was recorded 1.39 km from the site. SEWBrEC holds no records of other plants listed within the SSSI citation for the St Brides section of the Gwent Levels SSSI.
- 3.1.9 The following species of bird listed on the Birds of Conservation Concern (BoCC) red and amber list for Wales, and Wildlife and Countryside Act Schedule 1 for which suitable habitat occurs within the site or adjoining area have been recorded within 2km of the Site:

- **BoCC Wales Red List:** Linnet *Linaria cannabina* (also S7), Whitethroat *Curruca communis*, Kestrel *Falco tinnunculus* (also S7), Goldcrest *Regulus regulus*, Starling *Sturnus vulgaris* (also S7), Lapwing *Vanellus vanellus* (also S7), Herring Gull *Larus argentatus* (also S7), Greenfinch *Chloris chloris*, Swift *Apus apus*, Black-headed Gull *Chroicocephalus ridibundus*, Lesser Black-backed Gull *Larus fuscus* (also S7), Pochard *Aythya ferina*, and Meadow Pipit *Anthus pratensis*.
- **BoCC Wales Amber List:** Green Woodpecker *Picus viridis*, Bullfinch *Pyrrhula pyrrhula* (also S7), Oystercatcher *Haematopus ostralegus*, Grey Heron *Ardea cinerea*, Dunnock *Prunella modularis* (also S7), Fieldfare *Turdus pilaris*, House Sparrow *Passer domesticus* (also S7), Coot *Fulica atra*, Mistle Thrush *Turdus viscivorus*, Glaucous Gull *Larus hyperboreus*, Shoveler *Spatula clypeata*, Grey Wagtail *Motacilla cinerea*, Pintail *Anas acuta*, Skylark *Alauda arvensis*, Wheatear *Oenanthe oenanthe*, Firecrest *Regulus ignicapilla*, Mediterranean Gull *Ichthyaetus melanocephalus*, and Garganey *Spatula querquedula*
- **WCA Schedule 1:** Cetti's Warbler *Cettia cetti*, Red Kite *Milvus milvus*, Redwing *Turdus iliacus*, Fieldfare *Turdus pilaris*, Peregrine *Falco peregrinus*, Kingfisher *Alcedo atthis*, Pintail *Anas acuta*, Firecrest *Regulus ignicapilla*, Mediterranean Gull *Ichthyaetus melanocephalus*, Garganey *Spatula querquedula*, and Barn Owl *Tyto alba*.

3.2 Habitat Survey

- 3.2.1 Habitats recorded within the Site are described in Table 3-3 (overleaf). Habitats outside of the Site, within the wider Imperial Park area are set out in Table 3-4. The location and extent of habitats is shown on Figure 3. Photographs from all habitat survey visits are included in the tables below.
- 3.2.2 Other incidental findings, features of note or habitats too small to map are included as Target Notes and referenced in Tables 3.4 and 3.5 and identified on Figure 3.

Table 3-3. On-Site Habitats

Habitat	Description	Photographs
Dense and scattered mixed scrub	Extensive areas of bramble <i>Rubus</i> spp. were present along the edge of the Site and in the wider Imperial Park area (first and second photographs). The photographs show the scrub composition along the edges of the Site. See descriptions for marginal and ditch habitats for photographs of the bramble and willow scrub in proximity to the HDD section. The scrub along the southern edge of the Site, along the boundary was almost entirely made up of bramble, with intermittent stands of butterfly bush (third photograph), ash and willow saplings. Much of the scrub fringe had colonised over existing hardstanding. Other species present throughout the scrub in lower abundance included dogwood, <i>Cornus sanguinea</i>, and silver birch <i>Betula pendula</i>. Young pedunculate oak <i>Quercus robur</i> stands were also occasionally present The northern edge of the Site boundary (effectively the 'central reservation' of the abandoned highway) was interspersed with bramble, ash saplings and young dogwood (see fourth photograph). Both scrub edges were interspersed with tall ruderal species, specifically great willowherb <i>Epilobium hirsutum</i>, rose-bay willowherb <i>Chamaenerion angustifolium</i> and common nettle <i>Urtica dioica</i>. Common ragwort <i>Senecio jacobaea</i> was also recorded scattered along the fringe of dense scrub and central reservation sections. The scrub edge along the southern boundary of the Site were flanked by a section of plantation woodland of mixed species, some of which were non-native. The western HDD section, where the entrance pit is likely to be located (fifth photograph) comprised dense bramble, dogwood, silver birch, hawthorn, butterfly bush and blackthorn in a mosaic with bare ground and short-perennial vegetation. The HDD exit pit was comprised of a willow-bramble scrub thicket, with intermittent dogwood.	 

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
	The Schedule 9² invasive non-native species, Virginia-creeper <i>Perthenocissus quinquefolia</i> and wall cotoneaster <i>Cotoneaster horizontalis</i> were also present within the scrub, at TN9 and TN10 respectively (photographs six and seven in the photographs column). Dense bramble and willow scrub was present throughout much of the HDD section of the Site. Blackthorn <i>Prunus spinosa</i> and scattered silver birch was also recorded interspersed within the scrub.	

² Invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981

Habitat	Description	Photographs
		

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		

Habitat	Description	Photographs
		 

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
Semi-improved neutral grassland	Intermittent patches of semi-improved grassland were scattered throughout the wider Imperial Park area. Though, many parcels were quickly becoming colonised by bramble and tall ruderal forbs. Yorkshire fog <i>Holcus lanatus</i> was the dominant grass species within the sward, with abundant great illowherb. Shorter grassland patches between ditches and reens, grading into localised bare ground and then into marginal common reed vegetation was recorded along the HDD section of the Site, in the east. False oat-grass dominated vegetation was also recorded in localised patches outside of the Site, in the north. Other species recorded within semi-improved grassland included hard rush <i>Juncus inflexus</i>, creeping buttercup <i>Ranunculus repens</i>, common fleabane <i>Pulicaria dysenterica</i>, with scattered patches of common field speedwell <i>Veronica persica</i>, and intermittent patches of common nettle and creeping thistle <i>Crisium arvense</i>. Photographs show difference in grassland conditions between winter and early summer.	

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		
		

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
Marshy grassland	An area of marshy grassland was present in proximity to ditches / reens, within the HDD section. Much of the marshy grassland within the Site graded into common reed <i>Phragmites australis</i> reedbed habitat from hard rush dominated vegetation. Yorkshire Fog was recorded intermittently, as was pendulous sedge <i>Carex pendula</i>, with scattered soft rush <i>Juncus effusus</i>, though much of the central HDD areas were colonised by bramble scrub.	
Reedbed / swamp and marginal habitats	Reedbeds dominated by common reed were present along the HDD section of the Site, and to the north west and south east. A large swathe of reedbed vegetation intersecting the marshy grassland habitat between two ditches was present, to the north west. The reedbed habitats often graded into marginal vegetation, much of which comprised competing stands of hemlock water-dropwort <i>Oenanthe crocata</i>. Small pockets of common reed dominated habitats were present in the wider Imperial Park, interspersed with bulrush <i>Typha latifolia</i>. Marginal habitats recorded to the east of the HDD entrance pit, and the to the north and south east of the Site were dominated by common reed. Scattered hemlock water dropwort was also recorded within marginal vegetation, with limited patches of sharp-flowered rush <i>Juncus acutiflorus</i>.	



PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
Ditches / reens and flowing water	Ditches and reens were present within and in proximity to the HDD section of the Site. In places, the reens had banks up to 3m in height which were mostly bordered by marginal vegetation, predominantly common reed, though hemlock water-dropwort dominated banksides were also present, as was bramble encroached margins. The reens had a shallow water depth during both winter and early summer months and were slow-flowing or still. The ditch network within the HDD section of the Site connected into Percoed Reen, which was a slow flowing channel running along the edge of Green Lane to the south of the Site (north east of TN4). Another slow flowing open channel was recorded west of TN1 (referred to as Nant-y-Moor Reen) which flowed southwards through the wider Imperial Park area, running under the Site through a culvert (see first photograph in the photographs column). The ditch network that bisected the Site along the HDD section (three ditches) varied in their vegetation structure. The first 100 m of the westernmost ditch was mostly choked by common reed (see second photograph), which was also present within marginal vegetation. The ditch was relatively shallow and in parts were completely concealed by common reed. The second ditch, further east was almost entirely concealed by dense willow and bramble. With common reed scattered along the more open sections of the ditch. The third ditch (in the east) was culverted at its southern end, where arrowhead plants were the most abundant species forming the in-channel vegetation, expanding into Percoed Reen (see third photograph). Common reed was frequently recorded along the edges of the ditch and scattered along the banksides. Purple loosestrife <i>Lythrum salicaria</i> was occasionally recorded near the ditch margins. The northern section of the third ditch (beyond the culvert) was lined by hemlock water-dropwort for most of its length (see fourth photograph).	 

Habitat	Description	Photographs
		

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		
Hardstanding / urban	Most of the land inside the Site was hardstanding. This comprised the concreted, abandoned Road to Nature highway and its associated cycle path. Typical highway infrastructure were also present within the Site, specifically metal protection barriers and lighting.	

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		

PRELIMINARY ECOLOGICAL APPRAISAL

Table 3-4. Off-Site Habitats

Habitat	Description	Photographs
Dense mixed scrub	Bramble was the dominant scrub species in the wider Imperial Park area, with grey willow, dogwood, hawthorn and blackthorn also recorded. Bramble, hawthorn, dogwood and blackthorn were more frequent in the west, with willow becoming much more frequent in the east nearer the National Grid Electric Substation.	 

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		
Neutral grassland	Parcels of neutral grassland largely dominated by Yorkshire fog with abundant great willowherb. Other species included scattered hard rush, false-oat grass, common hogweed, common nettle and creeping buttercup. Smaller sections of neutral grassland were present throughout the wider Imperial Park area.	

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
Regenerating neutral grassland	Areas of regenerating grassland were present east of TN7 where grasses, mosses and forbs have colonised previously cleared ground. Grasses present included creeping bent <i>Agrostis stolonifera</i>, cock's-foot <i>Dactylis glomerata</i> and false oat-grass <i>Arrhenatherum elatius</i>. Hard rush was present throughout the habitat. Forbs present included teasel <i>Dipsacus fullonum</i>, common ragwort <i>jacobaea</i>, creeping thistle <i>Cirsium arvense</i>, pendulous sedge, common mouse-ear <i>Cerastium fontanum</i>, willowherb <i>Epilobium sp.</i> and perforate St John's Wort <i>Hypericum perforatum</i>.	
Ephemeral / short perennial and bare ground mosaic	Mosaics of ephemeral / short perennial vegetation were present throughout the wider Imperial Park area. A section of short-perennial vegetation was recorded to the south of the Site forming part of the 'Road to Nature' nature reserve, just south of TN8. Several other parcels were also recorded, which included sections nearer the western roundabout (west and east of TN1) within larger sections north west of TN2. A fringe of disturbed low growing vegetation was present along the edge of the proposed datacentre during the winter. This section was not accessible during the summer months due to it being a live construction site. Moss was locally dominant within the habitat, with springy turf moss being the most abundant. Vascular plant species included teasel, common ragwort, great mullein <i>Verbascum thapsus</i>, perforate St John's wort and scattered individual common centaury <i>Centaureum erythraea</i>. Lichens were locally abundant in wider Imperial Park area and small patches in the north. Bramble scrub was slowly encroaching into the short-perennial vegetation, with scattered bramble recorded occasionally throughout most of the parcels. Sections south of TN10 comprised Newport Local Nature Partnership's 'orchid meadow'. Scattered knapweed, ribwort plantain, creeping cinquefoil	

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
	and agrimony were recorded, with occasional common centaury and black medic (second photograph). Two sections of the vegetation south of TN1 were more representative of modified grasslands, with Yorkshire fog and creeping bent recorded as abundant and frequent grasses in the sward, with false-oat grass also recorded in the sward. Common fleabane, Canadian fleabane <i>Erigeron canadensis</i>, common ragwort, cock's-foot, creeping buttercup and occasional marsh woundwort <i>Stachys palaustris</i> were recorded in a grassland section further along the abandoned Road to Nature highway. In the section just off the western roundabout (south west of TN1), Canadian fleabane, great mullein and creeping thistle were scattered amongst the grassland areas. Both sections just north of the abandoned Road to Nature highway sat below an overhead line and were were beginning to scrub over, with fly tipped material recorded intermittently. These areas can be seen in the fourth, fifth and sixth photographs.	 nodiflorum 

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		
Reedbed	Reed beds with common reed and bulrush were recorded across the Imperial Park area, with an oval section recorded to the north of the Site.	

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
Ditches / reens and flowing water	Reens and ditches were present in the wider Imperial Park area, including slow flowing stepped watercourses. The reens had banks up to 3m in height bordering vegetated areas and within broadleaved plantation woodland. Percoed Reen to the south of the Site comprised common reed along its banksides and within the channel. Arrowhead was recorded as abundant within the reen. A shallow, heavily shaded ditch was also present near TN2. The ditch had shallow banks less than 1m in height and a water depth below 0.1m at the time of the survey during the winter. Scrub vegetation overhanged the ditch from both banksides, Water levels had dropped considerably in the ditch during the summer of 2025. The woodland parcel to the south of the Site supported a standing water ditch, with dense bramble scrub lining the bankside and a water surface covering of common duckweed <i>Lemna minor</i>. The slow flowing watercourse that originated near TN1 flowed southwards and was lined by dense scrub, mostly willow, ash and scattered alder. Vegetation along Percoed Reen appeared to be cut during the winter months and unmanaged during the spring and summer.	

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		
		

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
Ponds	A series of waterbodies were recorded as part of a review of aerial imagery, though most were inaccessible during the January and February habitat surveys due to excessive amounts of dense bramble scrub present. During targeted surveys for otter and water vole, an access point was obtained to a waterbody east of the	
Broadleaved plantation woodland and recently felled woodland	A linear section of broadleaved plantation woodland was present to the south of the Site. The trees had an average a DBH of <0.3m. Species present within the woodland included white poplar <i>Populus alba</i>; red oak <i>Quercus rubra</i>, hybrid black poplar <i>Populus deltoides x nigra</i>, alder <i>Alnus glutinosa</i>, silver birch <i>Betula pendula</i> and aspen <i>Populus tremula</i>. There was a limited shrub understorey, which included sprawling bramble and occasional hawthorn. The ground cover comprised leaf litter, ivy <i>Hedera helix</i> and less frequent species such as Hart's-tongue fern <i>Asplenium scolopendrium</i>, male fern <i>Dryopteris filix-mas</i>, pendulous. Common nettle was also recorded scattered among the ground layer.	

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
	A public footpath extended through the off-site woodland. Fly tipped material and a damaged section of felled trees were recorded in the north/north east of the woodland (see last two photographs). The recently felled section's ground layer was largely bare, with intermittent felled trees. A small section of willow woodland was present in the wider Imperial Park area to the north east. Much of the woodland was made up of goat and grey willow. The woodland comprised small trees with a DBH of <0.15m. The trees formed a dense canopy, with few other shrubs beneath and a ground layer dominated by leaf litter.	 

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		
Earth mounds supporting vegetation	Earth mounds up to 3m in height are present at TN7 and south west of TN10. The mounds have been colonised by scattered scrub and regenerating grassland.	-

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
Bare ground	Bare ground areas were recorded predominantly between ephemeral vegetation and regenerating grassland parcels. A heavily disturbed section is pictured in the first photograph in the photographs column, located at TN3. Other sections of bare ground included a recently cleared section of land was recorded north of the proposed substation site (see last photograph).	

PRELIMINARY ECOLOGICAL APPRAISAL

Habitat	Description	Photographs
		

3.3 Protected and Notable Species

3.3.1 The potential value of habitats within and adjoining the Site for protected and notable species is described in Table 3.5 below.

Table 3-5. Protected Species Evaluation

Species	Habitat Suitability and Opportunities
Bats	The Site is mostly hard standing, or scrub fringes that have colonised hard standing features. No trees were present within the Site that could support roosting bats. The only Potential Roosting Feature (PRF) noted was on an ash tree to the south of the site (TN4). The tree is within a hedgerow south of Green Lane. Linear habitats including the reens, ditches and woodland provide potential flightlines and foraging areas. Trees within the off-Site woodland are of sufficient size that they may have features suitable for roosting bats.
Otter	Much of the western part of the Site is hard standing and supports limited opportunities for otter. The eastern part of the Site, along the HDD section could support otter commuting and foraging. The dense scrub in the wider Imperial Park area provides suitable areas for the creation of resting places, and potential opportunities for the creation of natal dens. A mammal pathway under a foot bridge that crossed a watercourse within the off-site woodland may have been created by otter (TN5). The off-Site woodland supported opportunities for the creating resting places, though the south eastern section of the woodland watercourse was coated in common duckweed and unlikely to offer opportunities for commuting and foraging. Results of a targeted otter and water vole survey are in the Otter, water vole and great crested newt survey report (RPs, 2025^a).
Hazel Dormouse	Hazel dormouse is considered to be present within the scrub and woodland habitats within the Site and the wider Imperial Park area. This is based on recent records (provided by SEWBRc) of a dormouse proximal to the Site, to the south. Additionally, surveys undertaken by Arup in 2021 (Arup, 2023) confirmed presence within multiple locations within the Site and the wider Imperial Park area. It is likely that dormouse populations in the vicinity are continuing to use wooded vegetation within the Imperial Park area, particularly the area within the off-Site woodland and vegetation further south. The western part of the Site was largely hardstanding which offers no value for dormice. The scrub fringes on the edge of the woodland along the southern edge of the abandoned Road to Nature highway was in poor condition. It was bramble dominated and had encroached over existing hardstanding habitats, with scattered fly tipped material and interspersed with non-native species. Whilst the habitat was considered to be in poor condition, it did provide connectivity to the off-site woodland, and as a result is assessed as sub-optimal. The off-Site woodland to the south of the abandoned Road to Nature highway also had potential to be used by dormouse though it lacked the structural complexity (vertical and lateral routeways) that would be optimal for dormouse. Whilst reedbeds have been known to support dormice, they're typically not considered optimal vegetation types for breeding. The willow scrub, common reed and bramble scrub in the wider Imperial Park area, specifically the area north of Percoed Reen could support dormice, though given dormice live at relatively low densities, it is likely that any individuals would be opportunistic dormice.

Species	Habitat Suitability and Opportunities
Water vole	The ditches, reens and reedbed habitat provide suitable habitat for water vole, specifically foraging, commuting and burrowing. The vegetation along the banksides were typical of the type of habitat water voles require to forage, away from predators. Footprints were recorded in soft mud along the off-Site woodland and had characteristics of those created by water vole (TN6).
Nesting birds	The western part of the Site is largely hardstanding and offers no value to nesting birds. Whilst in poor condition, the scrub fringe along the edge of the Site (on the edge of the abandoned Road to Nature highway) provided suitable nesting habitat and areas to forage, principally for berry eating species. The dense scrub and reedbed habitats along the HDD section are considered to be suitable for a range of common and widespread species to nest, forage and roost including migrant warblers and the Schedule 1³ species Cetti's warbler. Given the excessive amounts of scrub, the habitats are not considered suitable for supporting ground nesting birds.
Great crested newt	The ditches and reens had relatively slow flowing water in parts of the channels during the winter, with the exception of the ditch at TN2 where the water depth was below 0.1m. The flow within the ditch network south of TN2 including Percoed Reen had slowed during the great crested newt breeding period. Ponds within the wider Imperial Park area could support great crested newt, though given the increased amounts of shade and limited aquatic macrophytes suitable for egg laying, it is unlikely that great crested newt would depend on them for survival. The ponds were inaccessible to survey between March and June as a result of dense perimeter scrub. The grassland and scrub habitats outside of the Site provided suitable terrestrial habitat for great crested newt, and the earth mounds and scattered bramble scrub present along in the north of the Site (near TN7) provided hibernacula for great crested newt. Great crested newt eDNA sampling undertaken in June returned negative eDNA for the species, concluding that the species is likely absent from the ditch network and the surrounding area.
Reptiles	The western section of the Site is primarily hard standing and provides limited value for reptiles. Scrub and short-perennial vegetation forming mosaics to the north of the HDD section of the Site provided suitable basking, commuting and shelter for reptiles. Reedbed and scrub fringes within the HDD section would also offer cover for reptiles, with the ditches offering opportunities for commuting and foraging, particularly for grass snake. The earth mounds present in the north of the Imperial Park area provided potential hibernacula.
Badger	Hardstanding provided limited value for badger, particularly for sett creation and foraging, though the edges of the abandoned Road to Nature highway could offer a commuting route through the landscape. The scrub edges could offer foraging opportunities, and connected woodland and scrub habitat off-Site could offer suitable sett building opportunities. The reedbed, scrub and ditch network could provide commuting and foraging opportunities, with the drier ditch banksides offering potential opportunities for the creation of individual sett entrances.
Invertebrates	The hardstanding sections of the Site provided no opportunities for invertebrates. There is potential for notable species of invertebrate to be associated with the ditches / reens and grassland / short-perennial vegetation.

³ Strictly protected birds listed on Schedule 1 of the Wildlife and Countryside Act 1981

Species	Habitat Suitability and Opportunities
	Shrill carder bee, which forms part of the criteria for the Gwent Levels SSSI, has been recorded within the Site, confirmed through SEWBreC records. The latest record was in 2024. Areas of grassland are expected to provide the highest value foraging habitat for shrill carder bee though they may also forage on vascular plants within the ephemeral / short perennial vegetation. Nesting habitat requirements for shrill carder bee within the Site are restricted to the semi-improved and marshy grassland areas along the HDD section and further north in the wider Imperial Park area. The rest of the Site is largely hardstanding and bare ground which do not offer the conditions needed for nest sites.

4 DISCUSSION AND RECOMMENDATIONS

4.1 Designated Sites

Gwent Levels SSSI

- 4.1.1 A preliminary opinion request was submitted to NRW in March 2025 as part of the optioneering for Proposed Development, primarily in relation to the Gwent Levels SSSI. NRW provided a response on 26th June 2025 advising on the necessary measures and activities required to be implemented as part of the Proposed Development. This included avoiding impacts on qualifying features (specifically ditches, reens and the wider drainage resource) through HDD techniques.
- 4.1.2 The Gwent Levels SSSI is considered to be of national importance. Based on the current designs of the Proposed Development (see Appendix A for design drawings), features for which the Gwent Levels SSSI are designated would be avoided from direct impacts. This is because more than 50% of the cable route would be sited within hardstanding / artificial habitats and areas of poor-quality bramble scrub. Additionally, HDD techniques would be implemented to prevent direct impacts and permanent loss of features, specifically ditches, reens and associated reedbed. Whilst the HDD entrance and exit pits would require temporary loss of scrub and bare ground habitats within the SSSI boundary, these habitats are not qualifying features of the SSSI and are not considered to be functionally linked to designated site, i.e. unsuitable for notable invertebrates. It is anticipated that the directional drilling underneath the ditches and reens would be below the bed level, at a depth that would be agreed with NCC.
- 4.1.3 Part of the Nant-y-Moor Reen which originates from outside of the Site (to the north west) flows southwards, underneath the abandoned Road to Nature highway through an engineered culvert (see photograph in Table 3-4). Whilst the section of Nant-y-Moor Reen to be crossed by the Proposed Development does not comprise the natural features associated with the Gwent Levels SSSI, indirect impacts as a result of pollution run off could bring about a change in water quality downstream, where it connects to Percoed Reen. To avoid direct impacts, it is recommended that the cable trench above the culvert should be shallower, with cables laid laterally rather than stacked.
- 4.1.4 Valuable habitats for shrill carder bee are scarce within the Site. Where there are areas of grassland within the Site they would be largely retained. A small section of neutral grassland may be disturbed as part of the HDD exit pit, though it is likely that the HDD exit pit activities could avoid this section. Grassland adjoining the Site is limited to the northern section near the former Quinn Radiator building (part of which is within a live construction site at the time of writing) and to the north of the HDD section.
- 4.1.5 Marshy grassland and neutral grassland vegetation were recorded within the HDD section, though the grasslands were relatively species-poor with common tall ruderal plants beginning to colonise much of the area. Whilst several parcels of short-perennial vegetation outwith the Site supported yellow-wort *Blackstonia perfoliata* and common centaury, grasslands and mosaic vegetation were species poor and were considered unlikely to provide key areas of habitat for the species. Notwithstanding this assessment, shrill carder bee have been recorded in proximity to the Site as recent as 2024 near Newport Local Nature Partnership's Orchid Meadow (south of TN10), indicating that they could be using parts of the wider Imperial Park area. It is anticipated that the scrub fringe along the edge of the abandoned Road to Nature highway would be temporarily lost as a result of the construction easement needed to lay the cables. Similarly, scrub and bare ground habitats would be temporarily lost as a result of HDD entrance and exit pits. These areas are not considered to be typical areas for the creation of shrill carder bee nesting sites or valuable foraging areas for the maintenance of its favourable conservation status, and would not lead to adverse effects on the species.

- 4.1.6 Indirect impacts on the Gwent Levels SSSI through ground disturbance and pollution run off could lead to a negative change in the conditions of its features. To limit these indirect impacts a Construction Environment Management Plan (CEMP) is recommended to support the Proposed Development's construction phase, which should set out environmental best practice measures to protect adjoining habitats and features of the Gwent Levels SSSI from adverse effects. Measures should be implemented to control dust emissions, pollution run off and sedimentation. A minimum buffer zone of 15m from ditches and reens would be required. At the time of writing it is uncertain if the HDD exit pit could achieve this buffer, though given the entrance and exit pits sizes are based on a worst case scenario, the HDD activities could realistically achieve a 10m buffer. A deviation from the standard 15m buffer distances should be agreed with NCC and Natural Resources Wales.
- 4.1.7 Materials should be stored on hardstanding and away from all watercourses and ditches / reens. A precautionary method of works setting out ecological measures required to limit disturbance (and supervised by an Ecological Clerk of Works (ECoW)) would be set out within the CEMP. This would include a pre-construction check and supervision of planned Site and vegetation clearance. The CEMP would be secured by a condition of planning consent.
- 4.1.8 With the implementation of HDD techniques and environmental best practice measures within a CEMP, the ditch / reen network (including Percoed Reen and Nant-Y-Moor Reen) and shrill carder bee are unlikely to experience adverse affects as a result of the Proposed Development. Proposals for the enhancement of selected grassland parcels (outside of the Gwent Levels SSSI) are outlined in Section 5 below. These measures would aim to increase the vascular plant diversity within the Imperial Park area and the foraging resource for invertebrates, specifically shrill carder bee. Management and enhancement would reduce pressures on the habitat. Ditch restoration has also been proposed, primarily the wooded section of the Nant-Y-Moor Reen, though the details of such restoration would be agreed with NRW and developed in consultation with NCC and the Newport Nature Recovery Partnership to benefit the Road to Nature.
- 4.1.9 Whilst the Proposed Development would be sited within habitats and features that are not considered to be qualifying features of the Gwent Levels SSSI, SSSI assent is likely to be required from Natural Resources Wales following successful planning consent and prior to construction. This is due to the Proposed Development's location within the boundary of a SSSI.

Other Designated Sites and Priority Areas

- 4.1.10 There are no anticipated impacts on other statutory or non-statutory designated sites given the scale and nature of the Proposed Development (linear cable installation largely within hardstanding) and the distance between the Site and the nearest designated site.
- 4.1.11 Whilst sections of the NRW Lowland Wetland Priority Area would be lost temporarily, none of these habitats are considered to be lowland wetland type habitats.

4.2 Habitats

- 4.2.1 The habitats within the Site comprised a mix of hardstanding and artificial features (the abandoned Road to Nature highway), dense and scattered willow and bramble scrub, marshy grassland, reedbed, ditches, neutral grassland and bare ground. With the exception of the ditch and reen network (which forms part of the Gwent Levels SSSI) the habitats are common and sufficiently widespread across Wales and are considered to be of importance at no more than a Site level. Some of the ditches on Site and in the wider Imperial Park are in unfavourable condition, additionally none of the ditches support assemblages of scarce or rare vascular plants listed on Schedule 8 of the Wildlife and Countryside Act or on Wales' Vascular Plant Red Data List (Dines, 2008). Whilst the ditches form part of a site of national importance (Gwent Levels SSSI), the ditches themselves are considered to be of no more than of local importance.

- 4.2.2 The Proposed Development's cable route has been optioneered to avoid as much of the semi-natural / vegetated Imperial Park area features as far as practicably possible. The cable route is now largely sited within hardstanding habitats (i.e. the abandoned Road to Nature highway) or areas that were previously hardstanding and have now been colonised by bramble scrub and invasive plants. More than 50% of the scrub fringe along the abandoned Road to Nature highway comprised encroached bramble scrub obscuring former hard standing habitats. HDD techniques also would be implemented during construction to avoid direct impacts on important features, specifically the ditch network.
- 4.2.3 Based on the Proposed Development design in its current iteration, it is anticipated that scrub, bare ground and to a lesser extent tall ruderal habitats would be lost temporarily. As a worst case, up to a metre of bramble scrub along the edge of the abandoned Road to Nature highway is likely to be cut back and / or cleared as part of easements required to facilitate laying of the cables, with larger localised areas required for joint bays. Cutting back of the encroached bramble scrub to facilitate the cable laying is estimated to be up to 0.31 ha. A further 0.13 ha is estimated to be lost as a result of the HDD entrance and exit pits and cable corridor to the substation. Bramble dominated scrub would be temporarily lost as part of the HDD entrance pit, and young willow and bramble scrub would be lost to facilitate the HDD exit pit. The scrub fringe and tall ruderal to the south west and west of the proposed substation may also require clearance to facilitate the cable route's connection into the substation. At most, 0.03 ha of tall ruderal would be temporarily lost.
- 4.2.4 The estimated habitat loss is a worst case scenario based on assumptions set out in paragraph 1.2.4 and the design drawings at PAC stage. It should be noted that this area has been estimated by overlaying the design drawings on the habitat map (Figure 3). It is likely that loss of scrub could be refined as part of the Proposed Development's detailed design.
- 4.2.5 Bramble is a common and widespread group of species, and bramble scrub is a rapidly colonising, easily replaceable habitat found throughout Wales and the British Isles. The bramble scrub recorded on the edge of the Site was interspersed with non-native species (which included invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981) and was assessed as being in unfavourable condition as a result. Moreover, much of the bramble scrub has encroached over hardstanding habitats, rather than growing from directly organic material.
- 4.2.6 Additionally, willow scrub is also commonplace in Wales and the features within the Site are not considered to be a uniquely important composition of habitats. It is not part of a woodland carr, and does not meet any other criteria as a Section 7 Priority Habitat. Notwithstanding this assessment, the larger willow specimens forming part of the willow scrub resource within the Site (specifically outside of the proposed substation site, north east of the HDD exit pit) should be avoided as far as practicably possible as part of the detailed Proposed Development design. Based on the current design, larger willow specimens would be avoided.
- 4.2.7 No other vegetated habitats would be directly impacting as part of the Proposed Development's construction stage. Habitats in the vicinity of scrub clearance, particularly the HDD entrance and exit pits could be indirectly impacted through ground disturbance, soil handling and pollution events. As set out in paragraph 4.1.5, the implementation of environmental best practice measures and precautionary measures for biodiversity including sensitive site and vegetation clearance methodologies should be set out within a CEMP. The measures within a CEMP would sufficiently control adverse effects arising from indirect construction impacts.
- 4.2.8 It is anticipated that construction would last no longer than six months, with temporarily lost areas reinstated following construction. Habitat loss is predicted to be relatively short-term, temporary in nature and fully reversible. The loss would include common and widespread habitats that are not Section 7 Priority Habitats or irreplaceable features. To compensate for the temporary loss of bramble and willow scrub and to deliver enhancement measures beyond standard mitigation and compensation measures in line with local and national policy, a series of outline proposals are set out within Section 5 of this PEA. This includes the creation of hazel scrub, to compensate for the loss of poor-quality bramble scrub, woodland planting to restore damaged woodland habitat (off-

Site) and the enhancement and restoration of existing species-poor grassland / short-perennial vegetation, with the aim of delivering species-rich grassland.

4.3 Protected and Notable Species

Bats (Foraging and Commuting)

- 4.3.1 It is assumed that construction would take place during daylight hours only, with no night time working and thus no illumination of dark corridors or currently unlit features. As a result, flight lines would not be obstructed during construction, and commuting and foraging bats would be undisturbed during the period that they are typical active, as a result direct impacts on commuting and foraging bats are considered unlikely.
- 4.3.2 The Site supports scrub, ditches and grassland vegetation suitable for commuting along and foraging within. A relatively small proportion of these suitable features (in the context of the Imperial Park area) would be lost temporarily during construction of the Proposed Development, specifically scrub habitats. The estimated loss of bramble and willow scrub from temporary construction works could reduce the ability of bats to navigate the landscape. Given the short-term and temporary nature of the Proposed Development, and the availability of better quality and more suited habitats in the wider Imperial Park area (scrub, trees and ditches), indirect impacts on commuting and foraging bats would be negligible. Moreover, habitats are expected to be reinstated immediately following completion of construction. Better quality scrub and grassland habitats are proposed in Section 5 which could deliver an enhancement to the commuting and foraging bat assemblage, which would be experienced in the short to medium term once established.

Bats (Roosting)

- 4.3.3 No structures suitable for roosting bats were identified within or in proximity to the Site. An individual ash tree with a wound feature on its western facade was identified during the habitat survey (located at TN4). The feature was assessed as PRF-I, and suitable for a relatively low number of small bat species, as per best practice guidance and (Collins, 2023). At the current stage, the tree would be more than 50 m from the nearest point of construction (proposed HDD entrance pit). The tree does not form part of the habitat clearance areas and would be retained as part of the Proposed Development. No night time working is to be undertaken during construction, avoiding illumination of unlit features. As a result, roosting bats would not be subject to direct impacts as a result of the Proposed Development.
- 4.3.4 To further reduce the potential impact from noise, environmental best practice and sensitive construction techniques should be employed as part of a CEMP. This would include switching off plant machinery to keep noise levels to a minimum.
- 4.3.5 With the above measures taken into account, roosting bats are unlikely to be adversely affected by the Proposed Development. Should the Proposed Development design change, and the identified tree forms part of vegetation clearance proposals, it should be subject to an aerial inspection to ascertain the presence or likely absence of roosting bats in the active period. Depending on the outcome of the inspection, a European Protected Species (EPS) licence from NRW may be required and appropriate mitigation put in place.

Badger

- 4.3.6 No desk study records of badger were returned as part of the desk study search and no signs of badger were recorded during the habitat survey. Additionally, no signs or evidence of badger were recorded during the targeted otter and water vole survey. As a result, no impacts on badgers are anticipated as part of the Proposed Development at the time of writing.
- 4.3.7 Whilst badgers were not recorded during any of the surveys undertaken to support the Proposed Development, badger sett presence and status can change rapidly. As a result, a pre-construction walkover should be undertaken prior to commencement of construction with the aim of reconfirming the ecological baseline pertaining to badger. If badger setts are found in proximity to the Site, particularly areas required for the HDD entrance and exit pits, appropriate mitigation

would be required. Depending on status of any new setts, a sett closure licence may be needed from NRW. Where setts are present but closure is not required, suitable buffers from construction areas of the Proposed Development should be implemented.

Otter

- 4.3.8 Two survey visits to ascertain the presence or likely absence of otter were undertaken within and in proximity to the Site, in 2025. Watercourses were surveyed (where accessible) and proximal scrub and woodland were also targeted to understand their use as breeding and / or resting sites. Two motion detection cameras were deployed, one to the northern end of Nant-y-Moor Reen and one west of the proposed substation site, to obtain additional information on otter activity along each water feature.
- 4.3.9 Otter presence was confirmed through the discovery of spraint which was recorded on two occasions along the Nant-y-Moor Reen. One spraint was recorded within the wider Imperial Park area (north of the abandoned Road to Nature highway and South of the former Quinn Radiator Building) and one spraint recorded to the south of the Site underneath footbridge (north west of TN6). A potential otter resting place was also recorded near to the southern spraint location, within the woodland south of the Site.
- 4.3.10 Whilst breeding sites / natal dens can be difficult to detect, much of the vegetation within and in proximity to the Site provided limited suitability for breeding given the predominantly artificial nature (i.e. the abandoned Road to Nature highway) and poor quality scrub, though dense scrub thickets and ditches in the wider Imperial Park area to the north of the abandoned Road to Nature highway could potentially support breeding sites. Resting places such as those found within cavities or under tree roots were absent from the Site during the targeted otter survey.
- 4.3.11 It is possible that the potential above ground resting place recorded to the south of the Site could be used intermittently and on a temporary basis by otter. The type of resting place discovered is often referred to as a 'couch', whereby an individual otter rests above ground during the day on a mat or platform of vegetation. Nevertheless, otter is evidently using the Nant-y-Moor Reen to commute and or forage given the presence of spraint. The Nant-y-Moor Reen runs through the Site, underneath the proposed cable route, through an engineered culvert (north of TN8).
- 4.3.12 At the current stage, the Proposed Development would not lead to direct impacts on otter individuals or their resting places. The potential resting place recorded outside of the Site was situated more than 40m away, which is more than the standard buffer distance required to be implemented as part of development, as referred to in best practice guidance (NIEA, 2011). Moreover, none of the ditches and watercourse within and in proximity to the Site would be directly impacted as part of construction, though as per paragraph 4.1.3, trenching above the Nant-y-Moor Reen should consider a shallower trench, with cables being laid laterally rather than vertically. This would avoid potential direct impacts on the watercourse and indirect impacts on otter. The current design drawings have referenced the culvert, with drawing information stating a shallower trench would be implemented.
- 4.3.13 No otter signs or evidence was recorded along Percoed Reed or the ditch network falling partly within (and in proximity) to the Site. Whilst otters could use the ditches to forage and commute between resting places and foraging areas, it is likely that the ditches are used much less than Nant-y-Moor Reen and the ditch and reen network in the wider Imperial Park area. The surrounding scrub thickets (near the ditch network) could be used by otter to breed given the density of bramble and willow, though as no spraint deposits, well used paths or slides were recorded, it is unlikely that otters were breeding at the time of survey. Moreover, a suitable volume of prey items is unlikely to be available within the ditch network that would sustain female otters and their cubs.
- 4.3.14 It is unlikely that disturbance impact from aural stimuli would lead to adverse effects on the otter population during construction. As otters are typically active at night, construction is unlikely to disturb, restrict or displace otters given that there would be limited temporal overlap. Indirect

impacts such as pollution run off into watercourses and ditches must be controlled as part of a CEMP. Pollution prevention measures such as those referred to in paragraph 4.1.5 and 4.1.6 should be implemented during construction. Implementing the Guidelines on Pollution Prevention (GPP) would control accidental pollution and reduce the potential for water quality changes, and resultant effects on otter. Specific precautionary measures for otter by way of a riparian mammal protection plan should be incorporated into the CEMP. The construction of the Proposed Development, specifically Site and vegetation clearance should be supervised by an ECoW as referred to in 4.1.7.

- 4.3.15 Prior to construction, it is recommended that a walkover is undertaken along Nant-y-Moor Reen, Percoed Reen and its associated ditch network where the ditches cross the Site or fall within proximity to the final HDD entrance and exit pit locations. The survey would aim to ascertain if new otter resting places are present, to ensure appropriate measures are implemented during construction. Should confirmed resting places be recorded within or in proximity to the Site (i.e. within 30m), an EPS licence may be required from Natural Resources Wales if destruction or disturbance to a resting place cannot be avoided.

- 4.3.16 Full otter survey results are set out in the Otter, Water Vole and Great Crested Newt Survey report (RPS, 2025^a)

Water vole

- 4.3.17 Two surveys visits were undertaken in 2025 to ascertain the presence or likely absence of water vole within and in proximity to the Site. Surveys were targeted to Nant y Moor Reen, Percoed Reen and the ditch network north of Percoed Reen, within and in proximity to the Site. Water vole presence was confirmed through water vole droppings recorded outside of the Site, to the south, along Nant y Moor Reen just before its confluence with Percoed Reen. No burrows, feeding stations or other signs or evidence was recorded during the two surveys. A floating raft was also recorded along one of the ditches north east of the abandoned Road to Nature highway, though no evidence was recorded on the raft and the fruit placed on the raft had not been eaten. It is estimated that a low density⁴ of water voles are commuting along ditches and reens, primarily to search for foraging areas, with resting places likely located in the wider Imperial Park area and the wider Gwent Levels.
- 4.3.18 Nant-y-Moor Reen would not be subject to direct impacts providing the recommended trenching technique is employed. Additionally, given the use of HDD techniques to cross the ditch network within the Site, and with the recommended implementation of a 15 m buffer from ditches (where practicably possible and agreed with Natural Resources Wales), direct impacts on water vole that could lead to mortality, injury or destruction of their burrows would not arise.
- 4.3.19 Whilst it is acknowledged that aural and visual stimuli, particularly from the HDD entrance and exit pits could lead to the disturbance of water vole (causing them to move away from the area), it is unlikely that this would lead to significant adverse effects that would otherwise lead to the reduction in the favourable conservation status of the local water vole population. Given the extensive ditch network within the wider Gwent Levels, there are plenty of foraging areas that could sustain water voles during the short-term duration of the Proposed Development's construction phase. As no burrows were recorded within the aquatic habitat covered by the Site, disturbance would not lead to water voles abandoning their burrows.
- 4.3.20 Other indirect impacts such as pollution run off into watercourses and ditches should be controlled as part of a CEMP. Pollution prevention measures such as those referred to in paragraph 4.1.5 and 4.1.6 should be implemented during construction. Implementing the measures set out in the Guidelines on Pollution Prevention (GPP) would control accidental pollution and reduce the potential for water quality changes, and resultant effects on water vole. Precautionary measures

⁴ As defined by presence of latrines in the Water Vole Mitigation Handbook (Strachan et al., 2016)

for water vole should be incorporated into a riparian mammal protection plan and included within the CEMP. The construction of the Proposed Development, specifically Site and vegetation clearance should be supervised by an ECoW.

- 4.3.21 Alongside a walkover for badger and otter, a follow up survey for water vole should also be conducted to reconfirm ecological baseline prior to construction. The survey should be targeted to the areas of Nant-y-Moor Reen, Percoed Reen and the ditch network within and in proximity to the HDD section. The results would inform the necessary mitigation measures
- 4.3.22 Full water vole survey results and photographs of aquatic and terrestrial habitats are set out in the Otter, Water Vole and Great Crested Newt Survey report (RPS, 2025^a)

Hazel Dormouse

- 4.3.23 No targeted presence or likely absence surveys for hazel dormouse have been undertaken to support Proposed Development. As hazel dormouse has been recorded adjacent to the Site (south of the abandoned Road to Nature highway) as recent as 2024, it is assumed that individuals have remained present in scrub habitats within and in proximity to the Site. Habitat suitability for hazel dormouse comprised a mix of optimal and sub-optimal features. Most of the Site is situated within hard standing habitat which is considered unsuitable for hazel dormouse. The dense scrub along the edge of the abandoned Road to Nature highway had colonised parts of the existing hardstanding and was considered to be sub-optimal given its patchy species poor nature, interspersed with invasive species. The scrub line was predominantly a bramble dominated habitat, with intermittent sections of butterfly bush, scattered blackthorn and hawthorn, with ash, willow and aspen saplings. Virginia-creeper was also recorded along the edge of the abandoned Road to Nature highway west of the HDD entrance pit.
- 4.3.24 The mixed woodland off-Site lacked structural diversity, with similar tree ages recorded. Much of the woodland was non-native, comprising red oak, aspen and sweet chestnut alongside ash, pedunculate oak and alder, with a varied shrub layer structure. Fly tipped waste and recently felled parts of the woodland were also recorded in the north of the woodland.
- 4.3.25 The habitats within and in proximity to the HDD sections comprised a bramble-willow scrub community, with intermittent dogwood, ash and pedunculate oak. The HDD exit pit offered more opportunities for nesting, foraging and commuting than compared to the scrub within and in proximity to the HDD entrance pit. The entrance pit included areas of isolated scrub, patchy stands of butterfly bush and low growing bramble.
- 4.3.26 On the assumption that hazel dormouse is present within suitable habitats, direct impacts could occur as a result of the Proposed Development's construction phase, potentially leading to the mortality and/or injury of hazel dormouse individuals, and destruction of nest sites. Direct impacts would include vegetation and Site clearance as part of the cable route's easement requirements along the abandoned Road to Nature highway, and scrub clearance as part of the HDD entrance and exit pits. At the current stage, it is estimated that up to 0.44 ha of scrub habitat would be cut back and temporarily lost to facilitate the Proposed Development, though, this area is a worst scenario and does not consist entirely of optimal dormouse habitat. Additionally, indirect impacts through aural and visual stimuli could lead to the disturbance of hazel dormouse, causing individuals to move away from the Site and/or abandon nest sites. Though, as hazel dormouse is typically present at night, visual stimuli is less likely to lead to disturbance.
- 4.3.27 As construction would be short-term in duration and temporary in nature, impacts would only be experienced over the course of one breeding season, restricted to a relatively small area of habitat loss. The cutting back and loss of scrub habitat would be fully replaced with better quality features (hazel planting), which would benefit hazel dormouse in medium term once the planting becomes established. As suitable habitat is present in the wider Imperial Park area, indirect impacts leading to the temporary displacement of hazel dormouse would not lead to adverse effects on the local population and would not impact the favourable conservation status of hazel dormouse in Newport and the wider county.

- 4.3.28 With that said, to mitigate the potential for adverse effects from direct impacts on the local population and to avoid the infringement of wildlife legislation, it is recommended that an EPS licence is sought from Natural Resources Wales for the construction stage of the Proposed Development. An application would be submitted to Natural Resources Wales following successful planning consent, and must contain an appropriate method statement, setting out vegetation clearance techniques including timing of works and type of machinery, precautionary measures and proportionate compensatory planting. An outline proposal for compensatory planting is set out within Section 5.

Nesting Birds

- 4.3.1 During the habitat surveys, common and widespread species of breeding bird were recorded including magpie *Pica pica*, carrion crow *Corvus corone*, robin *Erithacus rubecula*, wren *Troglodytes troglodytes*, blue tit *Cyanistes caerulea* and great tit *Parus major*. The majority of the Site is located within hard standing habitats, which is unsuitable for supporting nesting birds. Scrub habitats along the edge of the Site (i.e. along the abandoned Road to Nature highway) and within the HDD area could support nesting sites for a range of common and widespread breeding birds. Willow scrub surrounding the ditches could also support Cetti's warbler, a Schedule 1 species, which has been recorded in the wider Imperial Park area (based on obtained SEWBRc records).
- 4.3.2 The Proposed Development could lead to direct impacts on breeding birds through Site and vegetation clearance. At present the exact timing of construction is unknown. It is recommended that Site and vegetation clearance should be undertaken outside of the nesting bird season, considered to be Late February – August inclusive. This would reduce the potential direct impacts on breeding birds and ensure construction does not lead to an infringement of wildlife legislation.
- 4.3.3 Where practicably possible, all construction phase enabling works should take place outside of this period, with vegetation cleared to 300 mm. Trenching and directional drilling could then take place between March and August if necessary, with clearance of the remaining vegetation, to ground level.
- 4.3.4 Should this not be feasible and enabling works must be undertaken within the nesting bird season, any vegetation to be removed should first be checked by an ECoW for nesting activity no more than 48 hours prior to its removal. Should an active nest be encountered, a stand-off should be implemented around the nest to exclude construction activities until the young have fledged or the nest is no longer active. The buffer should be a minimum of 5 m for common and widespread species of breeding bird. As part of the pre-clearance check, the ECoW should listen and observe for the presence of Cetti's warbler, primarily in proximity to the HDD entrance and exit pits. As Cetti's warbler tend to breed in scrub habitats associated with ditches and wetlands, there is the potential for Cetti's warbler to be nesting within surrounding habitats. As Cetti's warbler is a Schedule 1 bird protected from breeding disturbance as well as the destruction of their nesting sites, a suitably sized buffer should be implemented around any confirmed Cetti's warbler nesting sites. Whilst no defined buffer size exists for Cetti's warbler, a 30 m buffer is considered sufficient to ensure disturbance impacts are avoided and no infringement of wildlife legislation is incurred.
- 4.3.5 As the construction of the Proposed Development is short-term, relatively small scale and temporary in nature, significant effects on the breeding bird assemblage would likely be negligible. The effects would be experienced over the course of one breeding season, with birds displaced into wooded vegetation into the wider Imperial Park area. Proposals for replacement planting in Section 5 would reinstate nesting habitat in the short-medium term, with additional, better quality scrub providing benefits to the assemblage in the medium term.
- 4.3.6 Environmental best practice measures should be implemented as part of a CEMP for the construction stage of the Proposed Development to limit the potential for indirect impacts on nesting birds. The construction of the Proposed Development, specifically Site and vegetation clearance should be subject to precautionary working methods and supervised by an ECoW as referred to in 4.1.7.

Reptiles

- 4.3.7 Most of the Site is considered to be artificial in nature, which is considered to be unsuitable for reptiles, though earth mounds recorded on edge of the Site, south west of TN10 and near TN7 could be used as hibernacula. Reptiles are likely to be present within grassland and scrub mosaics within the wider Imperial Park area, with grass snake potentially making use of the ditches. There is the potential for low numbers to be present within the scrub sections within the HDD entrance and exit pit locations based on habitat suitability and desk study records.
- 4.3.8 Given the likelihood of reptiles being present, impacts from construction could occur, which could lead to the mortality and injury of individuals. To reduce the impacts from Site and vegetation clearance (needed for the HDD entrance and exit pits), no trenching, earthworks or excavation should take place outside of the period late March – October. This would reduce impacts on hibernating reptiles that could be present at the base of scrub, or below ground.
- 4.3.9 Vegetation clearance can be undertaken outside of this period, following the approach as recommended in paragraph 4.3.3. Earth mounds and hibernacula could then be dismantled from April onwards, and vegetation could then be cleared to ground level. All hibernacula dismantling and vegetation clearance should be supervised by an ECoW. Reptiles encountered during the construction phase would be caught and moved away from the HDD area, within suitable habitat in the wider Imperial Park area. Precautionary measures should be set out within a CEMP, as referred to in paragraph 4.1.6. Given the scale and nature of the Proposed Development, the reptile population is unlikely to experience significant adverse effects. Scrub reinstatement and outline proposals for grassland enhancement would provide a benefit to reptiles in the medium term.

Amphibians

- 4.3.10 As great crested newt is considered to be absent from the Site and the wider Imperial Park area, no impacts from the Proposed Development are anticipated.
- 4.3.11 Precautionary measures as referred to above for reptiles would extend to the protection and safeguarding of common and widespread amphibians in the unlikely event that they should they be encountered during construction.

Invertebrates

- 4.3.12 Habitat loss is anticipated to be restricted to scrub, bare ground and hardstanding habitats only. Ditches would be protected and avoided through buffer zones and HDD techniques.
- 4.3.13 Bramble could provide foraging resource for common and widespread species of invertebrate and grasslands in the wider Imperial Park area could be of value to notable species of invertebrates, specifically shrill carder bee.
- 4.3.14 As the area required for the installation of the cables is largely situated within hardstanding habitats, with HDD techniques to be employed to avoid direct impacts on ditches and grasslands, significant adverse effects on notable species of invertebrates is unlikely to arise. Grassland enhancement proposals set out in Section 5 would provide additional features that could enhance the Site and wider Imperial Park for invertebrates.

Invasive Non-Native Plant Species

- 4.3.15 Construction of the Proposed Development could lead to the spread of invasive non-native plant species. Virginia-creeper and wall cotoneaster have been recorded within and in proximity to the Site, with both species recorded within scrub habitats.
- 4.3.16 As part a CEMP, an invasive species management plan should be prepared which sets out the steps required to control the species and prevent the spread to other areas of the Site. This would include timing of construction, handling of vegetation and appropriate disposal of arisings (as hazardous waste) should they be removed as part of a plan. If they are not removed from Site as

hazardous waste, an appropriate course of action should be taken so as not to contribute to the spread of the vascular plant material. Both species propagate by different modes of dispersal, which should be factored into the CEMP as part of an invasive species management plan.

- 4.3.17 Prior to construction, a Site walkover would be undertaken to adequately map any new growth of these species (and other invasive non-native plant species) to ensure they are considered as part of an invasive species management plan. The invasive species management plan, and awareness of the presence of invasive species would be briefed to all site personnel prior to construction.

4.4 Net Benefit for Biodiversity

- 4.4.1 Section 6 of the Environment (Wales) Act 2016 sets out the requirement for development in Wales to improve or enable the improvement of ecosystem resilience with the goal of delivering a Net Benefit for Biodiversity. To achieve a Net Benefit for Biodiversity, several core components must be incorporated into development or project design, set out within Planning Policy Wales, Edition 12 (Welsh Government, 2025).
- 4.4.2 The stepwise approach is necessary in demonstrating the delivery of a Net Benefit for Biodiversity (Welsh Government, 2024). The stepwise approach is a mitigation hierarchy for which development proposals should adhere to when undergoing design optioneering, and includes the following steps:
1. Avoid
 2. Minimise
 3. Mitigate / restore
 4. Compensate on site
 5. Compensate off site
- 4.4.3 At each level the additional value of habitat enhancement and the importance of long-term management is recognised in delivering a Net Benefit for Biodiversity. Proposals of a development design should be prepared in accordance with the stepwise approach. Where habitat loss cannot be fully avoided, and where minimisation has been exhausted, any residual loss of habitat would be offset through mitigation, restoration and as a last resort, compensation. The detailed proposals should include measures to retain, create and enhance habitats with biodiversity value as far as is practicably possible.
- 4.4.4 Alongside the stepwise approach, the DECCA framework should be used to inform the development design. The DECCA framework provides a series of aspects that should guide the development design in improving ecosystem resilience. The DECCA framework comprises the following aspects:
- Diversity - the need to consider diversity at all levels from genetic to ecosystem and landscape scale diversity in underpinning biodiversity and ecosystem resilience.
 - Extent – consideration of the scale at which a feature contributes to biodiversity and ecosystem resilience, and the importance of strategic integration.
 - Condition – consideration of the ecological condition and health of biodiversity features and the factors that contribute or detract from good condition such as climate change, recreational pressure, pollution and invasive non-native species.
 - Connectivity – consideration of the importance of connectivity in maintaining ecosystem function and particularly in ecosystem resilience by allowing species to move in response to environmental pressures such as climate change.

- Adaptability– considering all aspects of biodiversity and ecosystem and their interaction with the human environment in promoting the ability to adapt to and recover from environmental pressures.

4.4.5 The development should be designed to deliver a Net Benefit for Biodiversity as the design progresses to detailed design stage, in accordance with Section 6 of Planning Policy Wales, Edition 12. This should include the creation of new habitats with greater biodiversity value, and the restoration and enhancement of existing habitats that could be in poor, unfavourable condition.

5 GREEN INFRASTRUCTURE STATEMENT

5.1 Stepwise Approach

- 5.1.1 Habitat surveys have been undertaken across the wider Imperial Park area since February 2025. Otter, water vole and great crested newt survey work has been undertaken on the local ditch network. Tree surveys have also been undertaken in support of the Proposed Development (RPS, 2025^b).
- 5.1.2 The Proposed Development has sought to adhere to the stepwise approach by first avoiding direct impacts on biodiversity. This has been achieved through siting the majority of the Proposed Development footprint within existing, or former hardstanding habitats (i.e. the abandoned highway, and scrub encroached areas). Whilst it is acknowledged that Planning Policy Wales 12, Section 6, paragraph 6.4.26 states (in relation to development within SSSIs):
- 'There is a presumption against all other forms of development in a SSSI as a matter of principle and this presumption should be appropriately reflected in development plans and development management decisions. There is also a presumption against development not within a SSSI but likely to damage a SSSI.'*
- 5.1.3 PPW, Section 6, Paragraph 6.5.27 also states:
- 'In wholly exceptional circumstances and only where development is considered to be appropriate and is not likely to damage a SSSI and there is broad and clear agreement for mitigation and enhancement as part of a development plan should development be proposed.'*
- 5.1.4 In relation to paragraph 6.5.27, it is important to reiterate that the Proposed Development would be sited largely within artificial features, with limited areas of vegetation clearance and HDD techniques proposed to avoid impacts on the ditch network. As a result, it is concluded that the Proposed Development would not interfere with the Gwent Levels SSSI's ecosystem functioning. Moreover, the Proposed Development has been conceived to support energy connections for previously consented developments in the wider Imperial Park area.
- 5.1.5 As part of the optioneering process the Proposed Development has sought to minimise its footprint as far as practicably possible. Initially, the Proposed Development's cable route corridor was proposed to be constructed via open cut trenching from the northwest of the proposed substation site (planning reference 25/0520) to the proposed datacentre (planning reference 24/0006). To avoid impacts on features of the Gwent Levels SSSI and minimise habitat loss as far as practicably possible, the Proposed Development's site selection was optioneered to encompass the existing abandoned highway / Road to Nature. This was also seen to be the most appropriate route given the high congestion of cables already in the ground, north of the proposed substation site. The cable route design was then altered, moving the HDD entrance and exit pits away from Newport Local Nature Partnership's 'Orchid Meadow'. As a result of optioneering, habitat loss has been minimised with an estimated loss of up to 0.3 ha of scrub to be temporarily cleared as part of the Proposed Development. It should be noted that this is a worst case and could be further refined as part of detailed design.
- 5.1.6 Bramble and willow scrub is not associated with the qualifying features of the Gwent Levels SSSI and does not qualify as a Section 7 Priority Habitat. Whilst it is a common and widespread habitat, made up of species that are widely encountered in Wales, it is acknowledged that the estimated loss could give rise to impacts on protected and notable species of fauna.
- 5.1.7 As the Proposed Development design may be subject to changes, an outline of potential habitat creation, enhancement and restoration measures are proposed. This includes the reinstatement of temporarily lost scrub and areas that could form part of a detailed Biodiversity Strategy for the Proposed Development. A detailed Biodiversity Strategy or 'Landscape and Ecological Management Plan' would be secured through a condition of successful planning consent. Section

5.2 below sets out the potential mitigation, restoration and compensation that would support the Proposed Development's improvement of ecosystem resilience, with the aim of delivering a Net Benefit for Biodiversity. The outline proposals and their indicative locations are illustrated on Figure 4 of this document and were selected as part of a site visit in the summer of 2025.

5.2 Outline Biodiversity Strategy

- 5.2.1 Indicative locations of mitigation, restoration and enhancement measures are illustrated on Figure 4 of this PEA.
- 5.2.2 To mitigate for the estimated loss of 0.31 ha of scrub habitat from the edge of the abandoned Road to Nature highway, it is proposed that hazel scrub could be planted within the 'verge' adjacent to the abandoned Road to Nature highway beyond the Proposed Development's easement. Whilst most of the bramble scrub along the easement has colonised the existing road, hazel planting would be set back, and on the woodland fringe to introduce structural and vascular plant diversity in place of undesirable and invasive non-native woody species. This would restore nesting habitat for hazel dormouse and nesting birds, encourage the development of a valuable shrub layer within and on the edge of the woodland and provide foraging for an array of mammal and invertebrate species. Whilst hazel is not an abundant shrub species within the wider Imperial Park, it does form part of the wider landscape character and would increase the value of the habitats in the area. The proposed hazel planting would lead to the increase in condition of the scrub community with improved connectivity between layers of the woodland and neighbouring grassland, providing a valuable scrub-grassland ecotone.
- 5.2.3 To mitigate for the loss of up to 0.13 ha of bramble and willow scrub from the HDD exit and entrance pits, it is proposed that a series of willow shrubs would be planted in place of the loss (where it does not contravene easement requirements), which would include goat and grey willow. Much of the HDD entrance pit location comprised bramble dominated scrub, with intermittent, dogwood, hawthorn and blackthorn. The HDD exit pit comprised scattered bramble, grey willow, dogwood and intermittent ash. As bramble is a rapid colonisers, its direct replacement is not considered appropriate given the likelihood of further colonisation following construction. Its replacement with willow shrub would offer enhanced structural diversity. Suitable management for the proposed shrub reinstatement (both hazel and willow) should be designed as part of a detailed Biodiversity Strategy, to benefit the ecosystem and the long-term health of the replacement planting. As cable easements cannot typically be planted with trees or scrub, the vegetation cleared to facilitate HDD entrance and exit pits that fall within operational easements would be profiled and a tall forb habitat could be created to introduce a structural mosaic with the existing and created scrub. Where operational easements do not present restrictions, reinstatement of willow scrub should be implemented.
- 5.2.4 With the replacement of better-quality scrub features to reinstate temporarily lost habitats and the possibility of tall forb mosaics introduced to the area to enhance structural diversity, the Proposed Development would not lead to a net deficit in habitat area or quality. A benefit would be experienced in the medium term, given that all habitats would be reinstated in a relatively short period of time, with tall forb habitats becoming established in the first few years after sowing and planted hazel and willow reaching an appropriate condition in the following 10 years after construction. Bramble and other scrub species would also likely have colonised during first 10 years following construction.
- 5.2.5 For the Proposed Development to deliver the necessary biodiversity enhancement required to meet local and national policy targets, and ultimately a Net Benefit for Biodiversity, several other measures are proposed. The off-Site woodland has been subject to fly-tipping, including damage to trees and woodland ground flora. The restoration of this area through removal of debris / fly-tipped material and preparation of the ground substate to receive new tree whips would enhance the woodland condition and its long-term resilience. The enhancement could include the

introduction of native woodland flora, specifically hazel and pedunculate oak to increase the extent of valuable tree / shrub species and enhance the structural diversity of the woodland. Given that the woodland was composed of mostly non-native species, an array of native wooded plants could be introduced. Woodland meadow species, typical of the wider ground layer could also be sown or plug planted to help restore the woodland's ground layer alongside natural regeneration.

Dormouse boxes would also be sited within the woodland, though this would form part of an EPS licence for hazel dormouse following successful planning consent. At present, a minimum of three boxes are proposed within the woodland (as per Figure 4).

- 5.2.6 Two areas of ephemeral / short-perennial vegetation were recorded outside of the Site, to the north of the abandoned Road to Nature highway. These areas were assessed to be in unfavourable condition given the presence of scrub encroachment, non-native species and fly-tipped material. Enhancement and restoration of the grassland is proposed through the removal of encroached bramble scrub, reduction of Canadian fleabane and sowing of native, local grassland seed (or use of local green hay) to elevate species richness and reduce pressure on the grassland parcels. A detailed Biodiversity Strategy would set out the management techniques for grassland enhancement, but this could include routine cutting back of the bramble, multiple cuts to the grasslands and hand pulling of undesirable species to reduce the seed bank. Species such as knapweed, bird's-foot trefoil and fine leaved grasses such as sweet vernal-grass could be sown, with natural regeneration encouraged to allow the native seedbank to germinate. Yellow rattle *Rhinanthus minor* could also be introduced to areas of the ephemeral vegetation to manage coarse grasses and enable forbs to increase in abundance.
- 5.2.7 Ditch management could also be implemented as part of the detailed Biodiversity Strategy, though this would require consultation with Natural Resources Wales where ditches fall within the Gwent Levels SSSI. A section of the Nant-y-Moor Reen within the off-Site woodland was covered by a layer of common duckweed which could lead to reduction in oxygen levels, decreasing the ability for valuable aquatic macrophytes to colonise. A restoration approach could be introduced whereby common duckweed is controlled, such as through netting the surface to allow other more valuable aquatic macrophytes (such as arrowhead) to flourish. Additionally, to create a patchwork of vegetation, the dense bramble along the ditch bankside could be cut back to increase light and space for non-woody species to colonise.
- 5.2.8 At the current stage, it is proposed that 0.44 ha would be reinstated, created and restored as part of the Proposed Development, with 0.25 ha of ephemeral / short perennial vegetation, and 0.01 ha of recently felled woodland restored (though the extent of woodland restoration could increase if measures are applied the several woodland areas). Additionally, up to a 100m of the Nant-y-Moor Reen within the Gwent Levels SSSI could be targeted for restoration.
- 5.2.9 All measures set out above fall within NCC's land ownership and should be agreed and discussed with NCC's ecologist, with the final measures set out in a detailed Biodiversity Strategy. A detailed Biodiversity Strategy (or Landscape and Ecological Management Plan) and its long-term implementation would be secured as a condition of successful planning consent.

6 CONCLUSION

- 6.1.1 The Proposed Development is located within the Gwent Levels SSSI and overlaps a NRW Priority Lowland Wetland area.
- 6.1.2 Section 7 Priority Habitats were restricted to the ditch network within and in proximity to the HDD section of the Site. No other Section 7 Priority Habitat was recorded within the Site or in the wider Imperial Park area.
- 6.1.3 There was suitable habitat for roosting and foraging bats, hazel dormouse, otter, water vole, badger, nesting birds, reptiles, amphibians and notable invertebrate species in the wider Imperial Park area, some of these habitats fall within the Site, primarily within the HDD section.
- 6.1.4 Direct impacts on ditches, hazel dormouse, nesting birds and reptiles could arise in the absence of embedded and targeted mitigation. Indirect impacts on commuting and foraging bats, otter, water vole and notable invertebrate species could arise without embedded mitigation.
- 6.1.5 While the Site is located within an area designated as a SSSI, the Proposed Development would be sited largely within hardstanding habitats or habitats not considered to form part of the SSSI designation. Removal of vegetated features would be limited to scrub, bare ground and hardstanding habitats only. HDD is to be used under the Gwent Level SSSI ditches to avoid direct impacts on the qualifying features of the designated site, with suitably sized buffers between ditches and the nearest point of construction recommended.
- 6.1.6 The Proposed Development is to be sited largely within hardstanding and away from features considered to form part of the Gwent Levels SSSI. Nevertheless, SSSI assent would likely be required from Natural Resources Wales. This is due to construction activities taking place within the boundary of a SSSI.
- 6.1.7 Embedded mitigation such as environmental best practice should be set out within a CEMP, which should be prepared prior to construction of the Proposed Development and agreed with NCC. The CEMP should set out measures to protect adjoining habitats from adverse effects which could include pollution and siltation. Materials should be stored on hardstanding away from watercourses. A pre-construction walkover for badger, otter, and water vole should be undertaken to reconfirm the ecological baseline, with any new measures included within a CEMP. A precautionary method of works document and a riparian mammal protection plan should form part of the CEMP, to be implemented and supervised by an ECoW. The precautionary method of works should also comprise sensitive clearance methodologies for reptiles, amphibians and nesting birds.
- 6.1.8 Invasive non-native species should be re-mapped prior to construction and an invasive species management plan prepared as part of the CEMP. The invasive species management plan should include measures to control the spread of invasive vascular plant species particularly wall cotoneaster and Virginia-creeper.
- 6.1.9 A hazel dormouse EPS licence would be required to reduce the risk of direct mortality and injury as a result of Site and vegetation clearance and ensure construction does not lead to the infringement of wildlife legislation. The EPS licence must include appropriate mitigation in the form of a method statement, and should set out the precautionary measures and necessary compensatory planting.
- 6.1.10 Scrub replacement, tall forb creation and grassland, woodland and ditch restoration should be targeted within the Site and wider Imperial Park area so that the Proposed Development can achieve 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 within scrub and grassland habitats. These habitats and features would be targeted as part of a detailed Biodiversity Strategy to provide mitigation and compensation measures for the estimated worst case habitat loss (0.47

ha) and deliver enhancement, and restoration measures as per local and national policy. These measures could deliver a net increase in valuable habitats. Measures would be agreed with NCC and if necessary Natural Resources Wales (in relation to the Gwent Levels SSSI). At the current stage, it is estimated that up to 0.44 ha would be reinstated, restored and enhanced and a further 0.28 ha of grassland and woodland could be restored and enhanced. Depending on the goals and aims of Natural Resources Wales' management of the Gwent Levels SSSI, up to 100 m of linear ditch habitat could be restored.

- 6.1.11 With embedded mitigation, tertiary mitigation (EPS licence) and the outline biodiversity measures referred to above the Proposed Development is unlikely to give rise to adverse effects on ecological receptors and could deliver a Net Benefit for Biodiversity.

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Figure 1 Site Location

Figure 2 Designated Sites

Figure 3 Habitat Map

Figure 4 Outline Biodiversity Measures

Appendix A Proposed Development Designs

Appendix B

Relevant Legislation

BATS

All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. All British bats are also included on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 as European Protected Species. It is an offence to:

- intentionally or recklessly kill, injure or capture bats;
- deliberately or recklessly disturb bats (whether in a roost or not); and
- damage, destroy or obstruct access to bat roosts

A roost is defined as 'any structure or place which [a bat] uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of survey.

A licence will therefore be required by those who carry out any operation that would otherwise result in offences being committed.

The following bat species are listed as Priority Species under Section 7 of the Environment (Wales) Act 2016: Barbastelle, Bechstein's, noctule, soprano pipistrelle, common pipistrelle, brown long-eared, greater horseshoe, and lesser horseshoe.

BADGER

Badgers are protected under the Protection of Badgers Act 1992. This act is based on the need to protect badgers from baiting and deliberate harm or injury. The act makes it an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so;
- Intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access routes.

A sett is defined as "any structure or place that displays signs indicating current use by a badger".

HAZEL DORMOUSE

Hazel dormouse *Muscardinus avellanarius* is fully protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. The Regulations prohibit:

- Intentionally, recklessly or deliberately kill, injure or take a dormouse;
- The deliberate disturbance of this species in such a way as to be significantly likely to affect:
 - Their ability of to survive, hibernate, migrate, breed, or rear or nurture their young; or;
 - The local distribution or abundance of dormice.
- Damage or destruction of a breeding site or resting place (nest);
- The possession or transport of dormice or any other part of.

Dormice are also protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion in Schedule 5. Under the Act, they are protected from:

- Intentional or reckless disturbance (at any level);

- Obstruction of access to any place of shelter, breeding or rest;
- Selling, bartering or exchange of these species, or parts of.

Offences can be deliberate, intentional or reckless and penalties for any of the above include fines of up to £5k and imprisonment of up to 6 months, per animal affected.

Hazel dormouse is listed as a Priority Species under Section 7 of the Environment (Wales) Act 2016.

OTTER AND WATER VOLE

Water vole and otter and their habitats are fully protected under the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence to:

- Capture, kill or injure a water vole or otter;
- Damage, destroy or obstruct access to a breeding site or resting place (i.e. burrow);
- Disturb a water vole or otter whilst in a place of shelter;
- Possess or control a water vole or otter (live or dead), any part of a water vole or otter or anything derived from a water vole or otter;
- Sell, barter or exchange a water vole or otter (live or dead), any part of a water vole or otter or anything derived from a water vole or otter; and / or
- Advertise or offer for sale, barter or exchange a water vole or otter (live or dead), any part of a water vole or otter or anything derived from a water vole or otter.

Offences can result from intentional or reckless actions. Penalties include fines of up to £5000 and / or imprisonment for up to six months, per offence. Under certain circumstances a licence can be granted by Natural Resources Wales to permit activities that would otherwise constitute an offence.

Otters have additional protection, being listed as a European Protected Species (EPS) under Conservation of Habitats and Species Regulations 2017. This makes it an offence to deliberately or recklessly:

- Capture, injure or kill an Otter;
- Harass an Otter or group of Otters;
- Disturb an Otter in a holt or any other structure or place it uses for shelter or protection;
- Disturb an Otter while it is rearing or otherwise caring for its young;
- Obstruct access to a holt or other structure or place Otters use for shelter or protection or to otherwise deny the animal use of that place;
- Disturb an Otter in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species;
- Disturb an Otter in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young.
- It is also an offence to:
- Damage or destroy a breeding site or resting place of such an animal (note that this does not need to be deliberate or reckless to constitute an offence);
- Keep, transport, sell or exchange or offer for sale or exchange any wild Otter or any part or derivative of one (if obtained after 10 June 1994).

Both species are listed as Priority Species under Section 7 of the Environment (Wales) Act 2016.

BIRDS

All birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. It is an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
- intentionally take or destroy the egg of any wild bird.

Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. Licences can be issued to visit the nests of such birds for conservation, scientific or photographic purposes but not to allow disturbance during a development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

Multiple bird species are also listed as Priority Species under Section 7 of the Environment (Wales) Act 2016.

REPTILES

All common UK reptile species (adder *Vipera berus*, grass snake *Natrix helvetica*, common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*) are protected through part of Section 9(1 and 5) of the Wildlife & Countryside Act 1981 (as amended). This prohibits:

- Intentional or reckless injuring or killing;
- Selling, offering or exposing for sale, or having in possession or transporting for the purpose of sale, any live or dead wild animal or any part of, or anything derived from, such an animal; or
- Publishing or causing to be published any advertisement likely to be understood as conveying buying or selling, or intending to buy or sell, any of those things.

Slow worm, common lizard and grass snake are also listed as Priority Species under Section 7 of the Environment (Wales) Act 2016.