

IMPERIAL PARK SUBSTATION

Arboricultural Impact Assessment



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Arboricultural Impact Assessment
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ARBORICULTURAL IMPACT ASSESSMENT

Quality Management

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ARBORICULTURAL IMPACT ASSESSMENT

1 INTRODUCTION

- 1.1 This Arboricultural Impact Assessment (AIA) has been prepared by RPS on behalf of SSE Energy in respect of the proposed development at Imperial Park, Celtic Way, Coedkernew, Marshfield, Newport NP10 8BE (hereafter referred to as 'the site').
- 1.2 A tree survey of the application area was carried out by RPS in June 2025 in accordance with the requirements of BS5837:2012. The details recorded during the survey can be seen in the Tree Schedule at Appendix B and displayed spatially on the Tree Constraints Plan at Appendix C.
- 1.3 This report has also been prepared in accordance with the requirements set out in BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'(BS5837:2012).¹
- 1.4 The purpose of this report is to:
- Provide an assessment of the quality of the surveyed trees with reference to the categories and sub-categories listed within Table 1 - BS5837:2012.
 - Assess and quantify the arboricultural impact of the proposed development within the survey area, based on the proposed development layout.
 - Provide additional arboricultural information and advice in relation to the protection of trees throughout the development of the site.
 - Provide a Tree Removal and Protection Plan to detail the proposed protective measures to be taken in respect of the trees during development of the site.
- 1.5 The Tree Removal and Protection Plan included in Appendix D identifies the following:
- Trees to be retained
 - Trees to be removed
 - Alignment and design of protective fencing
 - Root Protection Area (RPA) of trees
- 1.6 The Tree Removal and Protection Plan shall be made available to all relevant site operatives prior to and throughout the construction process, so they understand the scope and importance of the tree protection measures.
- 1.7 To minimise the potential for harm to occur to retained trees, all works shall be carried out in accordance with the Tree Protection measures and construction techniques detailed within this report. In particular, the establishment of a Construction Exclusion Zone (CEZ) by erection of Tree Protection Fencing, will minimise the potential for harm to occur to retained trees.

¹ British Standards Institute. British Standard (BS5837) Trees in Relation to Design, Demolition and Construction - Recommendations. 2012.

2 SITE LOCATION

- 2.1 The survey site is located at Imperial Park, Celtic Way, Coedkernew, Marshfield, Newport NP10 8BE.
- 2.2 The land is roughly centred on OS grid reference ST 28210 83560. The Local Planning Authority (LPA) governing this site is Newport City Council.
- 2.3 The Soilscape of the area in which the survey site is situated typically consists of a mix of naturally wet loamy and clayey soils and freely draining slightly acid loam².
- 2.4 The site comprised of a metalled road adjacent to agricultural and floodplain land to the south, with an industrial complex to the north. Generally, the topography appears flat, and several trees are present within the area.

Tree Preservation Orders

- 2.5 Unfortunately, there is no interactive map on the council's website to check for the presence of Tree Preservation Orders (TPOs). The LPA have not been contacted directly to see if there are any TPOs located across the site. It is recommended that this is completed before any tree works are carried out on the site.
- 2.6 Trees covered by a Tree Preservation Order are protected under the Town and Country Planning (Trees) (Amendment) (Wales) Regulation 2017. The local authority must be consulted, and permission sought for any works that may affect them.
- 2.7 A Tree Preservation Order (TPO) is an order made by a local planning authority to protect specific trees, groups of trees or woodlands in the interests of amenity. An Order prohibits the:
 - cutting down
 - topping
 - lopping
 - uprooting
 - wilful damage
 - wilful destruction

of trees without the local planning authority's written consent. If consent is given, it can be subject to conditions which have to be followed. Cutting roots is also a prohibited activity and requires the authority's consent.

- 2.8 Exemptions for the need to obtain formal consent include, but are not limited to:
 - Dead trees.
 - The removal of dead branches.
 - Works necessary to remove a risk of serious harm.
 - Works necessary to implement a planning permission (excluding outline planning permission) or where permission is granted under the Town and Country Planning (General permitted Development Order 1995) (as amended).

² <https://www.landis.org.uk/soilscales/>

Conservation Areas

- 2.9 It is an offence to carry out work on a tree (with a trunk diameter of more than 75mm (3") measured 1.5 metres (5") above natural ground level) which lies within a Conservation Area without providing at least 6 weeks' notice. This includes felling any tree or some of the tree's branches, pruning, uprooting, etc.³
- 2.10 The presence of a Conservation Area has been assessed using the Data Map Wales interactive Map⁴ which confirms the site is not situated within a local Conservation Area.

Planning Policy Wales (Edition 12) February 2024

Trees, Woodlands and Hedgerows

- 2.11 6.4.37 Trees, hedgerows, groups of trees and areas of woodland are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make an essential wider contribution to landscape character, culture, heritage and sense of place, air quality, recreation and local climate moderation. They also play a vital role in tackling the climate emergency by locking up carbon, and can provide shade, shelter and foraging opportunities, wider landscape benefits such as air and diffuse pollution interception, natural flood management, and building materials. The importance of trees, in particular urban trees, in creating distinctive and natural places which deliver health and well-being benefits to communities, now and in the future should be promoted as part of plan making and decision taking. Planning authorities must promote the planting of new trees, hedgerows, groups of trees and areas of woodland as part of new development.
- 2.12 6.4.38 Welsh native tree and hedge species, characteristic of the local area, provide a strong ecosystem resilience function, and they provide resources for local wildlife, particularly other native plants and species. Native tree and hedge species can also complement opportunities for natural regeneration. Alongside broader woodland habitat types, such as wood pasture, parkland and traditional orchards, native tree and hedge species help to define our cultural heritage and landscape, creating a strong sense of place and connection to the past.
- 2.13 6.4.39 Planning authorities must protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial green infrastructure function. Planning authorities should consider the importance of trees and woodland, particularly native woodland and valued trees, and should have regard to local authority tree strategies or SPG and the Green Infrastructure Assessment. Planning authorities should adopt appropriate, locally relevant, time sensitive, minimum tree canopy cover targets for their authority area to guide the protection and where appropriate the expansion of canopy cover. The Green Infrastructure Assessment and tools such as NRW's Tree Cover in Wales' Towns and Cities study and Forest Research's i-Tree Eco tool will help establish a baseline of canopy cover and guide the identification of appropriate and measurable canopy targets. Tools to help with design and species choice in urban areas are also available.
- 2.14 6.4.40 Where trees, woodland and hedgerows are present, their retention, protection and integration should be identified within planning applications. Where surveys identify trees, hedgerows, groups of trees and areas of woodland capable of making a significant contribution

³ <https://www.gwynedd.llyw.cymru/en/Residents/Planning-and-building-control/Trees-and-hedges/Trees-in-Conservation-Areas.aspx#:~:text=It%20is%20an%20offence%20to,%2C%20pruning%2C%20uprooting%2C%20etc.>

⁴ https://datamap.gov.wales/maps/new?layer=inspire-wg:conservation_areas#/

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- to the area, these trees should be retained and protected. The provision of services and utilities infrastructure to the application site should also avoid the loss of trees, woodlands or hedges and must be considered as part of the development proposal; where such trees are lost, they will be subject to the replacement planting ratios set out below.
- 2.15 6.4.41 Whilst most focus within the planning system is targeted at urban trees, planning authorities should recognise the importance of trees within the countryside, either as woodlands, within hedgerows and hedge banks, or free-standing trees in fields, or as wood pasture. This is particularly important as the effects of climate change are leading towards pests and diseases that are damaging many of our native species in the rural landscape. Positive mechanisms of rural tree retention should be considered, and measures taken to replace them in an effective and economic manner, either with new planting or by allowing them to grow to their full potential.
- 2.16 6.4.42 Permanent removal of trees, woodland and hedgerows will only be permitted where it would achieve significant and clearly defined public benefits. Where individual or groups of trees and hedgerows are removed as part of a proposed scheme, planning authorities must first follow the step-wise approach as set out in paragraph 6.4.15. Where loss is unavoidable developers will be required to provide compensatory planting (which is proportionate to the proposed loss as identified through an assessment of green infrastructure value including biodiversity, landscape value and carbon capture). Replacement planting shall be at a ratio equivalent to the quality, environmental and ecological importance of the tree(s) lost and this must be preferably onsite, or immediately adjacent to the site, and at a minimum ratio of at least 3 trees of a similar type and compensatory size planted for every 1 lost. Where a woodland or a shelterbelt area is lost as part of a proposed scheme, the compensation planting must be at a scale, design and species mix reflective of that area lost. In such circumstances, the planting rate must be at a minimum of 1600 trees per hectare for broadleaves, and 2500 trees per hectare for conifers. The planting position for each replacement tree shall be fit to support its establishment and health and ensure its unconstrained long-term growth to optimise the environmental and ecological benefits it affords.
- 2.17 6.4.43 Ancient woodland, semi-natural woodlands, individual ancient, veteran and heritage trees and ancient hedgerows are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees, woodlands and hedgerows are to be afforded protection from development which would result in their loss or deterioration unless very exceptionally there are significant and clearly defined public benefits; this protection must prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW. Planning authorities should also have regard to the Ancient Tree Inventory, work to improve its completeness and use it to ensure the protection of trees and woodland and identify opportunities for more planting as part of the Green Infrastructure Assessment, particularly in terms of canopy cover.
- 2.18 6.4.44 The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally-specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs). They should also be incorporated into Green Infrastructure Assessments and plans.

Ancient Woodland and Veteran Trees

- 2.19 Planning Policy Wales recognises the significant value of ancient woodlands and makes provision for their protection against damage or loss.
- 2.20 Natural Resources Wales advises that planning permission should be refused if development will result in the loss or deterioration of ancient woodland, given that ancient woodland is irreplaceable unless there are wholly exceptional reasons.
- 2.21 Where a decision maker is satisfied there is a wholly exceptional reason, every endeavour should be made to minimise and compensate for loss. Although a compensation strategy cannot fully compensate for loss of ancient woodland it should include:
- planting new native woodland or wood pasture to improve the resilience of ancient woodland;
 - restoration of or managing other ancient woodland, including plantations on ancient woodland sites, and wood pasture;
 - proposals connecting woodland and ancient and veteran trees separated by development with green infrastructure;
 - long-term management plans for new woodland and ancient woodland;
 - planting individual trees that could become veteran and ancient trees in future;
 - monitoring the ecology of the site over an agreed period.
- 2.22 The Data Map Wales inventory can be used to help decide whether a stand-off zone is needed to protect the ancient woodland from the potential impacts of the development proposed. The stand-off or protection zone should be based on evidenced survey and assessment.
- 2.23 A stand-off or protection zone's purpose is to protect ancient woodland. The size and type of stand-off or protection zone should vary depending on the scale, type and impact of the development.
- 2.24 Some zones may only require a root protection area to prevent negative impacts on individual trees or groups of trees, and others are likely to extend further. Where possible, a stand-off or protection zone should:
- contribute to wider ecological networks;
 - be part of the green infrastructure of the area.
- 2.25 It should consist of retained semi-natural habitats such as woodland and/or a mix of native scrub, grassland, heathland and wetland.
- 2.26 Developers should consider if public access is appropriate and only allow access on foot to stand-off or protection zones if the habitat is not harmed by trampling. Developers should avoid including gardens in stand-off or protection zones.
- 2.27 A desktop investigation using the Natural Resources Wales interactive map⁵ confirmed that there are no Ancient Woodland designations on or adjacent to the site.

⁵ <https://experience.arcgis.com/experience/dd852f0e12864928973e3e165a1b4631/>

Local Planning Policy⁶

- 2.28 The Newport Local Development Plan 2011-2026 emphasises strong protection and enhancement of trees, woodlands, and hedgerows due to their importance to the city's character, biodiversity, and environmental benefits such as improving air quality and reducing noise. Developments must avoid unacceptable harm to these features and incorporate tree retention and planting where suitable. The Council administers Tree Preservation Orders and protects trees in Conservation Areas, often requiring arboricultural surveys to assess impacts. Landscape schemes should use native species and integrate green infrastructure to support ecological connectivity and climate adaptation. Special Landscape Areas and Environmental Spaces that include significant tree cover are safeguarded, with development required to respect their qualities. New detailed guidance on trees and development will be provided through supplementary planning guidance. The Plan also includes monitoring to prevent net loss of protected trees and woodlands, insisting on mitigation where impacts occur. Overall, the Plan ensures trees are a key consideration in sustainable development and environmental conservation throughout Newport.

⁶ <https://democracy.newport.gov.uk/documents/s18403/09a%20LDP%20October%20Cabinet.pdf?LLL=0>

3 SURVEY METHODOLOGY

- 3.1 The tree survey was completed and the report written by Charlie Moore of RPS and authorised by David Cox, a professional member of the Arboricultural Association and Chartered Landscape Architect of RPS Group.
- 3.2 The tree survey was carried out in accordance with the requirements set out in BS 5837:2012 “Trees in Relation to Design, Demolition and Construction – Recommendations”. The survey does not constitute a full arboricultural condition assessment involving the detailed inspection of trees in relation to their structural condition, decay, and any other physical and pathogenic defects.
- 3.3 During the survey, all information was digitally captured on site, using a tablet running Axciscap 4.07 software. This is a program specifically designed for arboricultural surveying, which allows trees to be located directly onto a digital copy of a sites topographical survey.
- 3.4 The tree survey involved a visual inspection from the ground of individual specimens and where deemed appropriate, trees have been assessed as groups of trees, woodland and hedgerows. Characteristics such as their amenity value, condition and dimensions have been recorded. A full breakdown of tree characteristics recorded during the survey can be seen in Appendix A.
- 3.5 Each arboricultural feature is marked on the Tree Constraints Plan at Appendix C with an identification number (T1, G1, H1, W1 etc), which can be seen at and cross referenced with the Tree Schedule at Appendix B. The Tree Schedule shows a breakdown of the raw data collected during the site visit.
- 3.6 The locations of the trees are based upon a topographic survey (Drawing no. 6621) produced by Geo-Info LTD in June 2023.
- 3.7 Measurements for tree height, minimum crown clearance and crown spread were rounded to the nearest 0.5m. Stem diameter measurements were recorded to the nearest 10 mm using a diameter tape where access to the stem was possible.
- 3.8 Trees retention categories were assigned by the following criteria and have been differentiated on the Tree Plans using the following colours:

Category A: Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
Category C: Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
Category U: Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. However, it may be possible to retain some trees assigned to retention Category U, where public access to them is limited, as they may exhibit conservation value providing unique wildlife habitat.
- 3.9 Categories A, B and C have further sub-categories with regards to the reasons for tree retention:

1) Mainly arboricultural qualities.
2) Mainly landscape qualities.
3) Mainly cultural values, including conservation.

ROOT PROTECTION AREA

- 3.10 The protection of the roots and soil structure within the RPA should be treated as a priority. To avoid damage to the roots or rooting environment of retained trees, the RPA has been calculated in accordance with section 4.6 of BS5837:2012. They have been displayed on the Tree Plans with a magenta circle and may be modified in shape where deemed necessary by obvious root barriers observed on site (although the total area remains the same).
- 3.11 This methodology is recommended as the minimum area around a tree that contains sufficient roots and rooting volume to maintain viable tree vigour and structure. Where groups of trees, woodlands and hedgerows have been assessed, the RPA has been shown based on the average sized tree stem in each arboricultural feature and so may fall short/exceed the RPA required for some of the individual specimens within the feature.

Limitations

- 3.12 The findings of this survey are not valid following adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events.
- 3.13 Trees are dynamic structures which are constantly growing and changing. Whilst reasonable effort has been made to identify defects which may compromise the trees longevity, no guarantee can be given as to the safety or otherwise of any individual tree or arboricultural feature. Due to the unpredictable laws and forces of nature, no tree can ever be deemed as safe. Natural failure of intact trees does occur, and changing climatic conditions can cause damage to even apparently healthy trees.
- 3.14 Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics. If trees have been recorded beyond the extent of the site, all dimensions have been estimated (unless stated otherwise) and the assessment of these trees has occurred from land within the Client's ownership and publicly accessible land only (unless formal access has been arranged to these additional areas).
- 3.15 Trees under 75mm diameter and woody vegetation were not assessed for their potential impact upon future construction issues such as foundation designs (re: NHBC chapter 4.2)⁷. Whilst this report may assist in assessing likely future impacts, it should not be classed as a comprehensive vegetation survey in relation to impact upon future designs.
- 3.16 The desktop study confirming statutory and non-statutory constraints uses publicly accessible third-party information, meaning the results of this exercise are only as accurate as the information available at the time of the assessment.
- 3.17 Provisional Tree Preservation Orders (TPOs) may be made whenever a LPA deems it appropriate, with only those persons interested in the land served with a copy of the Order. A further search for the presence of TPOs should be carried out prior to commencement of any tree works or removals specified within this report.
- 3.18 Where possible, the location of the arboricultural features identified at the site have been plotted using a topographical survey, which has been supplied by the client. If no topographical survey data has been provided, arboricultural feature locations have been plotted using GPS, aerial photography and/or OS maps, which have a reduced accuracy.

⁷ NHBC. 'Chapter 4.2- Building Near Trees'. NHBC Standards 2016. 2016.

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- 3.19 The basic survey was conducted using a combination of aerial imagery and topographic surveys. Although careful efforts were made to geo-reference the aerial imagery accurately, there may be up to a 5-meter discrepancy in the recorded tree locations.
- 3.20 There are no interactive maps available on the local council's website to identify Tree Preservation Order (TPO) protected trees, so it is not possible to determine whether protected trees are present on the site.

4 APPRAISAL AND RECOMMENDATIONS

Summary of Tree Survey

- 4.1 During the survey of the wider site area, 19 trees were surveyed as individuals. The survey also recorded 23 Groups, and 3 Hedges. However, this application relates only to works around the existing substation on the site.
- 4.2 For details on all the information on trees relevant to this application, please refer to the Tree Schedule in Appendix B.
- 4.3 The distribution of species recorded across the site has been shown in Table 1 below.

Table 1: Species distribution across the site

Species Breakdown of Individually Surveyed Trees						
Species	A	B	C	U	Total	Species Distribution
Quercus (Common Oak) robur	1	4	1	0	6	31.6%
Fraxinus (Ash) excelsior	0	1	4	0	5	26.3%
Alnus (Common Alder) glutinosa	0	0	4	0	4	21.1%
Betula (Silver Birch) pendula	0	0	1	0	1	5.3%
Populus (Aspen) tremula	0	0	1	0	1	5.3%
Prunus (Wild Cherry) avium	0	0	1	0	1	5.3%
Salix (Goat Willow) caprea	0	0	1	0	1	5.3%
Total	1	5	13	0	19	100.0%
Category Distribution Percentage	0.05263	0.26316	0.68421	0	1	

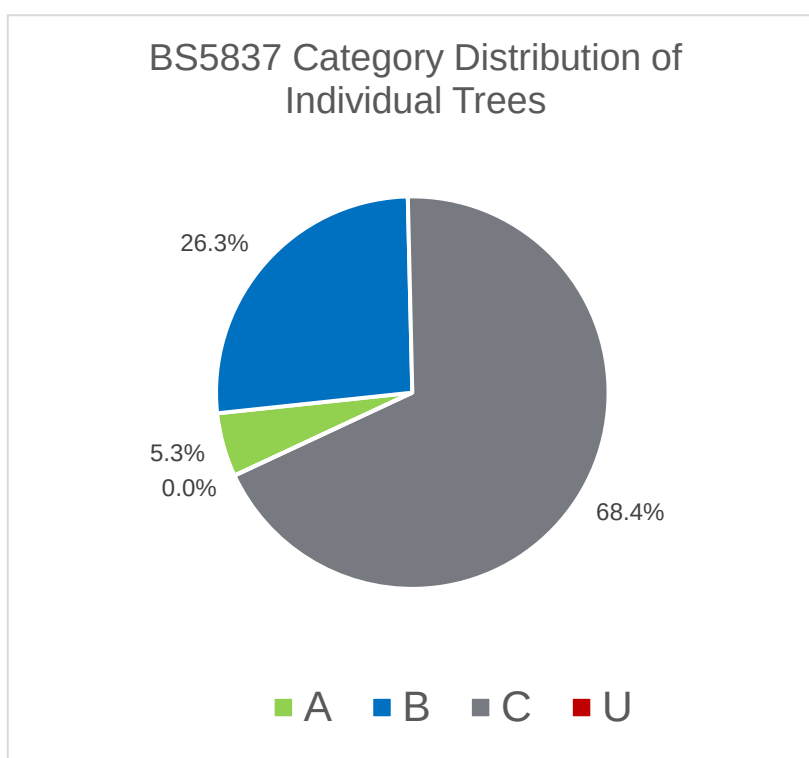
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4.4 The BS5837:2012 quality of the individually surveyed trees is broken down in

4.5

4.6 Figure 1 below.

Figure 1: BS5837:2012 quality of individual trees across the site



4.7 The BS5837:2012 quality of the Trees, Groups, Woodlands & Hedges recorded during the survey is broken down in Table 2 below.

Table 2: BS5837:2012 quality of Trees, Groups, Woodlands, Hedges and Scrub across the site

BS5837:2012 Category Breakdown of Surveyed Items					
Type	A	B	C	U	Total
Trees	1	5	13	0	19
Groups	0	5	17	1	23
Woodlands	0	0	0	0	0
Hedges	0	0	3	0	3
Grand Total	1	10	33	1	45
Distribution Percentage	2.2%	22.2%	73.3%	2.2%	100%

Planning considerations

- 4.8 Trees can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, adding maturity to new developments and by making places more comfortable in tangible ways e.g. contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall, and reducing glare.
- 4.9 New tree planting opportunities should be considered as part of any potential redevelopment; this will help to broaden the age diversity of the tree cover within the area. Sufficient space should be provided for species with significant stature to grow out into maturity.
- 4.10 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is still a material consideration that is considered when dealing with planning applications.

Design and Site Layout Considerations

- 4.11 During any future site planning exercises, the current and future growth potential of the trees should be considered.
- 4.12 The Root Protection Area (RPA) should become an exclusion zone during construction works and for any development. It should be fenced-off and protected in accordance with BS5837:2012. The canopy is likewise susceptible to damage during construction work and requires similar protection.
- 4.13 No activities that result in excavations, changes in level or soil compaction should take place within the RPA of any retained trees, especially older mature trees. This would include the storage of materials, any construction work, trafficking by vehicles or even excessive trafficking by pedestrians.
- 4.14 If some form of construction must take place within the RPA, then certain measures need to be adopted to avoid disturbance or damage to the roots and to maintain moisture infiltration and gaseous diffusion into the soil. It is recommended that these are detailed by a separate document called an Arboricultural Method Statement (AMS).

Services

- 4.15 The location and siting of new facilities near trees should consider the potential impact on and conflict with both tree roots and canopy. This should consider the ultimate size of existing young and middle-aged trees at maturity. Conversely the impact of the tree on the activities should also be considered regarding obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.
- 4.16 Services should be routed outside the existing or potential RPAs of trees. Where it is unavoidable, then the route of the services must be designed by an Engineer in consultation with an Arboriculturist. Further advice can be found in NJUG Volume 4- "Guidance for the planning, installation and maintenance of utility services in proximity of trees, 2007".

Tree Risk Management

- 4.17 It is recommended that a programme of periodic arboricultural assessments be undertaken to regularly assess the full health and safety of all trees both in full leaf and bare stemmed. The assessments should prioritise areas with high footfall and/or presence of a constant target and accord with arboricultural advice, taking account of relevant factors (where known) that affect safety such as the age class, condition, size and species of the trees.

5 ARBORICULTURAL IMPACT ASSESSMENT

Introduction

- 5.1 Trees have finite energy reserves, developed each year throughout the growing season, which are utilised for biological processes such as growth and defence against pests or diseases throughout the following year.
- 5.2 Any development in proximity to trees has the potential to cause harm to those trees unless control measures are identified and acted upon; as such it is essential to consider the relationship between the proposed development and the retained trees to identify what precautions are necessary, proportionate and appropriate.
- 5.3 Development has the potential to impact upon the above ground and below ground parts of trees. Whilst some damage that can occur, such as physical damage to the trees stems and branches from machinery movements, is clearly visible, the impact from other aspects of work common on development sites, which can have a significant effect upon the continued health of trees, are not always immediately evident.
- 5.4 Damage that is not immediately evident, but which can cause long term harm to retained trees, includes things such as damage to the soil structure by compaction causing root damage and levels changes altering the water table and affecting moisture availability.
- 5.5 In general, by adopting appropriate methods of working, precautionary and protective measures, significant harm to retained trees can be avoided. The establishment of a CEZ by erection of Tree Protection Fencing will minimise the potential for harm to occur to retained trees.
- 5.6 The retention and protection of significant trees and vegetation will assist in assimilating the proposed development into the wider landscape and offer long term tree cover.
- 5.7 Furthermore, redevelopment of the site may offer an excellent opportunity to actively manage any retained vegetation and accordingly we recommend restorative tree works be undertaken as appropriate. This will further improve the amenity value and landscape setting of the site and increase the useful life of any retained trees.

Brief Description of Proposed Development

- 5.8 SSE is seeking to construct a new 132kv substation building within the existing Imperial Park substation complex, hereafter referred to as the 'Proposed Development'. The existing substation site currently supports a 400kv substation operated by National Grid. A planning application for construction and operation of the Proposed Development is to be submitted to Newport City Council for planning consent.

Reference Documents

- 5.9 To assess the impacts of the proposed development on the arboricultural features at the site, the proposed site plan was overlaid onto the TCP to create a Tree Removal and Protection Plan (TRPP). As well as identifying trees required to be retained and removed to facilitate the proposed development, the TRPP assessed potential conflicts between the arboricultural constraints (such as the RPA and tree crowns) and the proposed site plan. Mitigation measures to negate these conflicts (such as ground protection, tree protection fencing and pruning requirements) and to protect the trees during the construction process have been included on the TRPP, which can be found at Appendix D of this report.

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5.10 The following documents have been referenced to create these plans:

- Topographical survey – Drawing No 6621, Geo-Info LTD, June 2023.
- Proposed site plan – General Arrangement Plan, Drawing No B2494900-JAC-ZZ-XX-DR-C-003, Jacobs, May 2025.

Proposed Tree Removal

- 5.11 To facilitate the proposed development, the removal of 2 groups of trees is required (G21 and G22). The removals are shown on the Tree Removal and Protection Plan at Appendix D by a red transparent hatch.
- 5.12 The proposed removals are all confined to Category C (low quality) features set within the confines of the site and which are largely obscured from view beyond the site boundaries. As such, their removal will have minimal impact on the amenity value and scene of the wider surrounding area.
- 5.13 Section 5.1.1 of BS5837:2012 recognises that the competing needs of development mean that trees are only one factor requiring consideration. It also states that misplaced tree retention can be detrimental on a site where it will cause excessive pressure on those trees being retained and could necessitate their removal in the future.

Tree Pruning Works

- 5.14 No tree pruning works are required to facilitate the proposed development.
- 5.15 It may be necessary to lift the crowns of any trees that overhang the Tree Protection Fencing into the development site to lift them clear of works. This should be assessed on site as and when necessary and any pruning carried out to the specification laid out in Section 6 of this report.
- 5.16 This pruning work, if carried out in accordance with Section 6 of this report, should be minimally invasive and have little impact on the overall health of the tree.

Proposed Works Within Root Protection Areas

- 5.17 As the protection of soil and roots within the RPA must be treated as a priority, the primary position for any construction activities should be situated outside of these protected areas.
- 5.18 However, in instances where justification can be given to work within an RPA, technical solutions may be available to minimise the potential damage to tree roots and soil volume. If work is proposed within any RPAs of trees to be retained, a compensatory RPA offset must be demonstrated which borders the existing RPA and mitigation measure can be implemented to prevent damage to roots and improve the soil environment available to the tree.
- 5.19 Due to the construction of the sub terranean cables to the north of the substation, the proposed development is going to result in new incursions within the RPA of Group G23, which is set to be retained.

Table 3: Percentage of new incursion within the RPAs of arboricultural features to be retained

Tree Number	Reason for incursion	Incursion Area (m2)	RPA Area (m ²)	Total Incursion % of RPA
#G23	Excavation to facilitate underground cabling	33	366	9.02%

ARBORICULTURAL IMPACT ASSESSMENT

- 5.20 Given the small percentage of the incursion listed in the above table, a large proportion of the rooting environment will remain unaltered. Therefore, the impact arising from the proposed works is considered minimal given that significant, structural roots are unlikely to be adversely impacted. Works within the RPA should be outlined by a sympathetic methodology of work, undertaken under arboricultural supervision to ensure no unforeseeable damage occurs during the excavation process.
- 5.21 The pruning of roots is likely to be a requirement of this excavation. Pruning roots over 25mmØ will be monitored by arboriculturist/ and or appointed person, with ongoing monitoring of trees condition by an arboriculturist being recommended.

Tree Planting and Green Infrastructure

- 5.22 A detailed planting plan should be considered to ensure appropriate compensation for the proposed tree loss and fulfil the requirements of the NPPF (December 2024). An appropriate tree planting strategy will provide an opportunity to incorporate feature trees, and through careful consideration for tree species can help diversify the tree population. This diversification will help to increase resilience to pests & diseases and in the long term, improve the arboricultural resource at the site. If this can be successfully implemented, the proposed tree loss is a short-term adverse impact, with a mid to long-term gain in the site's arboricultural value. An appropriate tree management and tree planting plan intrinsic to the development would serve to provide a net positive impact for arboricultural interests at the site.

6 TREE WORKS

Standard of Work

- 6.1 The tree work required to facilitate this development will adhere to the following standards.
- 6.2 All tree works shall be carried out in accordance with BS3998:2010 and latest arboricultural best practice.
- 6.3 All tree work shall be carried out by suitably qualified, competent and insured arboricultural contractors in accordance with Arboricultural Association Standard Conditions of Contract and Specifications for Tree Works (2008) Edition and BS 3998:2010 Tree Work.
- 6.4 All green and woody waste generated by the tree works shall be removed from site and disposed of in an environmentally sustainable manner.
- 6.5 When a branch is removed at its point of attachment, injury of the wood and bark of the parent stem or branch above the cut shall be avoided. If a branch collar is visible, the final cut shall be just outside it and care shall be taken to avoid tearing retained wood and bark when the cut is made. Preliminary cuts shall be made, if necessary, so as to remove weight, before a final cut is made. Care shall be taken to prevent falling branches from harming other parts of the tree (including its roots), its surroundings, people or property. Heavy branches shall be removed in sections and, where necessary, shall be lowered with ropes.
- 6.6 Prior to the commencement of any tree works an appropriate risk assessment shall be produced to describe the measures required to fulfil the statutory safety obligations. It shall aim to identify and prioritise the necessary control measures and precautions.
- 6.7 Following the works, it is recommended that the trees are monitored on a regular basis to ensure their ongoing vitality and health. These inspections shall be completed by a suitably qualified and experienced person.

Timing of Works

- 6.8 Any tree works required shall be completed prior to any construction and enabling works on the site.
- 6.9 All works shall be timed to have regard to the phenological cycles of protected species that are associated with trees; notably birds and bats.
- 6.10 Nesting birds are protected by law and any removal / tree works should not be carried out during the bird nesting season (March-August inclusive). Should any vegetation be outlined for removal during this period, then an ecological inspection would be required to check that no nesting birds are present. Should checks reveal nesting birds the vegetation must remain until September or until an ecologist has certified that the fledglings have left the nest. A visual inspection for bats shall also be carried on mature / ivy clad trees prior to commencing operations.

7 OUTLINE TREE PROTECTION MEASURES

Construction Exclusion Zone

- 7.1 The protective fence line defines the Construction Exclusion Zone (CEZ), and the fencing shall not be moved or taken down at any time. Within the CEZ there must be no mechanical digging or scraping; no alteration to existing ground levels including soil stripping; no earthworks; and no handling or discharge of any chemical substance, concrete washings or of any fuels.
- 7.2 Furthermore, vehicular or pedestrian access and the storage of any materials is prohibited within the CEZ.
- 7.3 Additionally, no materials that may contaminate the soil such as concrete mixings, diesel oil and vehicle washings shall be discharged within 10m of the stem of any tree and no fires shall be lit within 10m of the maximum extent of a trees crown.

Tree Protection Fencing

- 7.4 Unless otherwise agreed in writing with the Arboricultural Consultant and/or LPA Tree Officer, the fencing system to be utilised shall be in accordance with Appendix E and compliant with BS5837:2012.
- 7.5 The tree protection fence shall be erected as shown on the Tree Removal and Protection Plan (Appendix D) included with is report.
- 7.6 The fence line shown is the minimum required, and the length of the fence shall be extended or adjusted on site as agreed with the Arboricultural Consultant to ensure satisfactory protection of all retained trees and RPAs.
- 7.7 Where proposed (permanent) construction site-hoarding provides the same level of protection to the retained trees and RPAs as the proposed tree protection fence, subject to agreement with the Arboricultural Consultant, the hoarding may serve as the tree protection fence. Notwithstanding, depending on the form and alignment of the construction site- hoarding it may be necessary to provide additional tree protection fence to ensure adequate protection of retained trees and RPAs as shown on the Tree Removal and Protection Plan.
- 7.8 Once the protective barrier is in place it must remain in situ throughout the course of the development until the completion of development, other than to facilitate agreed tree removal; see below.
- 7.9 Where necessary, tree protection fencing may be temporarily re-aligned in order to facilitate tree removal. Fencing is to be re-instated immediately following removal in a manner that encompasses the remaining trees and their respective RPAs.
- 7.10 During tree removal, no wheeled or tracked machinery is to enter the area previously encompassed by tree protective fencing as shown in the Tree Removal and Protection Plan.
- 7.11 Copies of the Tree Removal and Protection Plan shall be placed in the site office for reference by all site staff.
- 7.12 Signs detailing the purpose of the protective barrier shall be attached to the barriers at 10m intervals. Such signs should be weatherproof and shall be substantially in the form of the examples provided in . Signs must Appendix F be replaced as necessary should they be removed or become illegible.

ARBORICULTURAL IMPACT ASSESSMENT

- 7.13 Following erection of the protective barriers and prior to commencement of the development it is recommended that an inspection of the site, by either the Council's Tree Officer or the Arboricultural Consultant, is arranged to confirm fencing has been installed in accordance with the Tree Removal and Protection Plan and that any relevant arboreal conditions attached to the planning consent have been met.

Reporting

- 7.14 Should any arboricultural issues become apparent during the works the site manager should immediately contact the Arboricultural Consultant or the Council's Tree Officer for advice upon how to proceed.

8 SUMMARY

- 8.1 This Arboricultural Impact Assessment (AIA) has been prepared by RPS on behalf of SSE Energy in respect of the proposed development at Imperial Park, Celtic Way, Coedkernew, Marshfield, Newport NP10 8BE (hereafter referred to as 'the site').
- 8.2 During the survey of the wider site area, 19 trees were surveyed as individuals. The survey also recorded 23 Groups, and 3 Hedges. However, this application relates only to works around the existing substation on the site. For details on all the information on trees relevant to this application, please refer to the Tree Schedule in Appendix B.
- 8.3 To facilitate the proposed development, the removal of 2 groups of trees is required (G21 and G22). The removals are shown on the Tree Removal and Protection Plan at Appendix D by a red transparent hatch.
- 8.4 The proposed removals are all confined to Category C (low quality) features set within the confines of the site and which are largely obscured from view beyond the site boundaries. As such, their removal will have minimal impact on the amenity value and scene of the wider surrounding area.
- 8.5 Due to the construction of the sub terranean cables to the north of the substation, the proposed development is going to result in new incursions within the RPA of Group G23, which is set to be retained.
- 8.6 Given the small percentage of the incursion listed in the above table, a large proportion of the rooting environment will remain unaltered. Therefore, the impact arising from the proposed works is considered minimal given that significant, structural roots are unlikely to be adversely impacted. Works within the RPA should be outlined by a sympathetic methodology of work, undertaken under arboricultural supervision to ensure no unforeseeable damage occurs during the excavation process.
- 8.7 The pruning of roots is likely to be a requirement of this excavation. Pruning roots over 25mmØ will be monitored by arboriculturist/ and or appointed person, with ongoing monitoring of trees condition by an arboriculturist being recommended.

APPENDICES

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Appendix A

Tree Characteristics Recorded During Survey

Tree Ref No:	Sequential reference number of trees or groups of trees. Avenues, woodlands and hedgerows were also recorded on the tree constraints plan. # - denotes inaccessible trees (best estimates are made about the location, physical dimensions and characteristics.)				
Species	Species listed by common name, with scientific names (italic lettering).				
Height (m)	Estimated height of canopy to nearest metre.				
Branch Spread	branch spread, taken as a minimum at the four cardinal points, to derive an accurate representation of the crown				
Stem diameter @ 1.5 m (m)	Estimated diameter of trunk at 1.5 m above ground level in metres unless otherwise indicated, multi-stemmed trees being measured in accordance with Annex C: BS5837:2012				
Existing height above ground level	To inform on ground clearance, crown/stem ratio and shading the estimated height of the first significant branch and direction of growth and canopy above ground level.				
Stem No.	Number of stems (if necessary) of individual tree.				
Life Stage	Expressed as:-	Y SM EM M	(Young) (Semi-mature) (Early mature) (Mature)	OM V D	(Over-mature) (Veteran) (Dead)
Physical Condition	Apparent condition expressed as the following categories, based upon a brief visual inspection from the ground only:-				Good Fair Poor Dead
Comments / Management Recommendations	General observations, particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect), and/or preliminary management recommendations and potential for wildlife habitats (not exhaustive).				
Estimated remaining contribution (years)	Estimated remaining contribution, in years (<10, 10+,20+,40+)				
Tree Quality Assessment Value: <u>Category</u>	Criteria grading with regards to Table 1: BS 5837:2012, expressed as:-	A (Trees/Vegetation of high quality and value) B (Vegetation of moderate quality and value) C (Trees/Vegetation of low quality and value) U* (Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years)			
	* Category U trees can have existing or potential conservation value which might be desirable to preserve.				
Tree Quality Assessment Value: <u>Sub - Category</u>	Criteria grading with regards to Table 1: BS 5837:2012, expressed as:-	1 (Trees with mainly <i>arboricultural</i> value) 2 (Trees with mainly <i>landscape</i> value) 3 (Trees with mainly <i>cultural / conservation</i> value)			

APPENDICES

Appendix B

Tree Survey Schedule

TREE SURVEY SCHEDULE

Site:	Imperial Park Substation, Dryffin Way, Newport, Wales, CF	Surveyor:	C. Moore
Project Schedule Ref:	5457-RPS-XX-XX-SH-AR-91001	Status:	For Information
Drawing Reference:	5457-RPS-XX-XX-DR-AR-91001	Revision:	P01
Survey date:	18/06/2025 & 19/06/2025	Notes:	-

Ref. no	Species	Height (m)	Canopy Spread (m)				Crown Area (m²)	Stem dia. (mm)	Stem no. at 1.5m	Height of crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	Estimated remaining contribution (yrs)	Tree Quality Category (BS5837)	RPA Radius (m)
			N	E	S	W											
#G16	Acer pseudoplatanus (Sycamore);Salix caprea (Goat Willow);Quercus robur (Common Oak)	12	See	plans	for	extents	-	300 (avg.)	-	0	-	M	Good	Estimated values due to access, not plotted on original survey, linear group, recorded dimensions denote maximum of the group.	20+	B2	3.6
#G17	Salix caprea (Goat Willow);Acer pseudoplatanus (Sycamore);Crataegus monogyna (Hawthorn)	9	See	plans	for	extents	-	100 (avg.)	-	0	-	EM	Good	Estimated values due to access, not plotted on original survey, group located in grassland adjacent to waterbody.	10+	C2	1.2
#G18	Salix caprea (Goat Willow);Salix fragilis (Crack Willow);Salix alba (White Willow)	12	See	plans	for	extents	-	300 (avg.)	-	0	-	EM	Good	Estimated values due to access, not plotted on original survey, large group, recorded dimensions denote maximum of the group.	10+	C2	3.6
#G19	Salix caprea (Goat Willow);Acer pseudoplatanus (Sycamore);Crataegus monogyna (Hawthorn)	9	See	plans	for	extents	-	100 (avg.)	-	0	-	EM	Good	Estimated values due to access, not plotted on original survey, group located in grassland.	10+	C2	1.2
#G20	Salix fragilis (Crack Willow);Salix caprea (Goat Willow);Alnus glutinosa (Common Alder)	17	See	plans	for	extents	-	250 (avg.)	-	0	-	M	Good	Estimated values due to access, not plotted on original survey, dense group, recorded dimensions denote maximum of the group.	10+	C2	3.0
#G21	Salix fragilis (Crack Willow);Salix caprea (Goat Willow);Alnus glutinosa (Common Alder)	8	See	plans	for	extents	-	300 (avg.)	-	0	-	M	Good	Estimated values due to access, not plotted on original survey, dense group, recorded dimensions denote maximum of the group.	10+	C2	3.6
#G22	Salix fragilis (Crack Willow);Salix caprea (Goat Willow);Alnus glutinosa (Common Alder)	14	See	plans	for	extents	-	300 (avg.)	-	0	-	M	Good	Estimated values due to access, not plotted on original survey, dense group, recorded dimensions denote maximum of the group.	10+	C2	3.6

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
- indicates estimated values. * - indicates off site tree.

TREE SURVEY SCHEDULE

Site:	Imperial Park Substation, Dryffn Way, Newport, Wales, CF	Surveyor:	C. Moore
Project Schedule Ref:	5457-RPS-XX-XX-SH-AR-91001	Status:	For Information
Drawing Reference:	5457-RPS-XX-XX-DR-AR-91001	Revision:	P01
Survey date:	18/06/2025 & 19/06/2025	Notes:	-

Ref. no	Species	Height (m)	Canopy Spread (m)				Crown Area (m²)	Stem dia. (mm)	Stem no. at 1.5m	Height of crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	Estimated remaining contribution (yrs)	Tree Quality Category (BS5837)	RPA Radius (m)
			N	E	S	W											
#G23	Salix fragilis (Crack Willow);Salix caprea (Goat Willow);Alnus glutinosa (Common Alder)	18	See	plans	for	extents	-	400 (avg.)	-	0	-	M	Good	Estimated values due to access, not plotted on original survey, dense group, recorded dimensions denote maximum of the group.	20+	B2	4.8
#S14	Rosa canina (Dog Rose);Rubus fruticosus (Bramble spp.);Salix fragilis (Crack Willow)	2	See	plans	for	extents	-	70 (avg.)	-	0	-	EM	Good	Estimated values due to access, not plotted on original survey, group of shrubs and small trees under 75mm diameter, recorded dimensions denote maximum of the group.	-	-	-
#S15	Rosa canina (Dog Rose);Rubus fruticosus (Bramble spp.);Salix fragilis (Crack Willow)	2	See	plans	for	extents	-	70 (avg.)	-	0	-	EM	Good	Estimated values due to access, not plotted on original survey, group of shrubs and small trees under 75mm diameter, recorded dimensions denote maximum of the group.	-	-	-

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
- indicates estimated values. * - indicates off site tree.

APPENDICES

Appendix C

Tree Constraints Plan

APPENDICES

Appendix D

Tree Removal & Protection Plan