Project title

Bla'en Cefn Temporary Workers Accommodation National Grid Visual Impact Provision Project-Eryri

Arboricultural Planning Assessment (BS5837:2012)

Project no: C0233-HUK-GES-CG-AS-X-0001 Rev P02

Client	Hochtief (UK) Construction Second Floor Whitemill House 3 Windmill Business Park Whitehill Way Swindon SN5 6PE
Instructed by	Mr David Grantham- Environmental & Sustainability Manager
Inspected by	Scott Fairley- Principal Consultant
Date of inspection	6th July 2023
Produced by	Scott Fairley- Principal Consultant
Date submitted	2nd November 2023

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1. Introduction

1.1 Scope

I have been engaged by Mr David Grantham, environmental and sustainability manager at Hochtief (UK) Construction Ltd, to assess trees at the Bla'en Cefn caravan site, just east of Penrhyndeudraeth, Gwynedd. The site is to be partly converted to provide temporary accommodation for workers on the National Grid's Visual Impact Provision (VIP) project across the Dwyryd Estuary in the Eryri National Park. The trees on site have been assessed such as to comply with the requirements of BS 5837:2012 "Trees relation to design, demolition and construction-Recommendations."

Fig 1: Site location

1.2 Methodology

I attended site over three days, most recently on the 6th of July 2023 and assessed the trees from ground level only. The tree data was captured using a handheld computer, following West Coast Arboriculture & Land Planning Ltd's *Development Site Tree Appraisal* format, as described in Appendix 1 of this report. No specialised measuring equipment was employed at this stage.

1.3 Plans

This report is accompanied by a set of 10 Tree Assessment Plans. In order to achieve a legible resolution for the tree data, the site has been broken up into 3 plans per theme, at 1:350 scale at A3 paper size, along with an overview site plan.

- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 1 Arboricultural Site Overview (1:2,500 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 2 Preliminary Tree Assessment West (1:350 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 3 Preliminary Tree Assessment Centre (1:350 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 4 Preliminary Tree Assessment East (1:350 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 5 Arboricultural Impact Assessment West (1:350 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 6 Arboricultural Impact Assessment Centre (1:350 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 7 Arboricultural Impact Assessment East (1:350 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 8 Tree Protection Plan West (1:350 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 9 Tree Protection Plan Centre (1:350 @ A3)
- C0233-HUK-GES-CG-DR-X-0001 P06 Sheet 10 Tree Protection Plan East (1:350 @ A3)

2. The Site

2.1 Site Extents

The site broadly breaks up into three, distinct extents from west to east. There is an initial extent of the red line which leads from the sewage treatment plant in the adjacent Griffin industrial Estate, and along the A487 and enters to the via a field gate. This first extent involves excavation into roads, and therefore will not impact on trees. Once the development enters the fields the the west of the site, it crosses this unmanaged land which is not being development as such, but through which will be constructed an access track from the main road (see figure 2 for details). There follows a second, central extent, which primarily houses a substantial pond, which is not impacted, but a track easement is to be provided along the pond's northern bank. The final, open extent is the area which is to be developed.

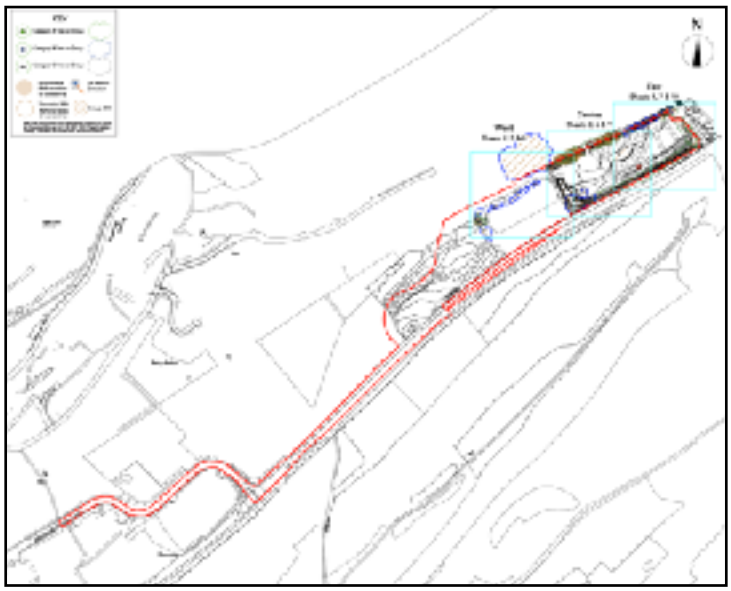

Fig 2: Site Extents

2.2 Site Description

The western extent of the site is fairly rugged and open in nature, with very few trees and small areas of scrub. The lake occupies most of the central area of the site and is well-vegetated along its periphery. There is a significant area of planted trees which runs along the A487 from the western limit of the lake, to the main entrance to the caravan park. This was presumably planted when the road was improved some 30 or so years ago. This feature is a substantial and highly functional screen for the site from the wider landscape. There is a parallel feature of spruce, cypress and younger mixed hardwoods running between the core site and the caravan park. The eastern half of the site comprises a network of mown grass, coarse grass and linear features of trees south of the main Bla'en Cefn caravan site. This is the area which is to be temporarily converted to accommodation for site workers.

3. Trees

3.1 Tree Data Collection Methodology

The trees on site have variously been collected as individual trees or tree groups. The individual trees collected are generally of a substantial size, and/or are located in a position which is in proximity to a key aspect of the design, and therefore detailed information is required. Tree groups have been aggregated as a function either of spatial similarities (they occupy a linear feature or a fixed area), or they share physical characteristics (scrubby small trees, similar species or growth rates). Alternatively, the group may be selected on the basis of the trees within it being the subject of common management recommendations. For example, a linear feature to be side-pruned, or a scrubby area to be cleared entirely.

3.2 Arboricultural Data Tables

The details of the 47 trees and 15 tree groups within the operational area can be found in the Arboricultural Data Tables in Appendix 3 of this report. Note that data collected complies with BS 5837:2012 "Trees relation to design, demolition and construction-Recommendations." A glossary, outlining the terms used in this standard can be found in Appendix 2.

Fig 3: Western gate

3.3 Trees in the Western Extent: Discussion

The field extent which provides the basis for an access road from the A4087 features very few trees, and the proposed track does not intersect with any of them, so has not been considered from an arboricultural point of view. The western limit of the tree assessment begins at the gate leading from the west into the extent which houses the lake, and will feature the operational track into the main site. At the western end there is an intermittent hedgerow feature running broadly northwest to southeast, with a few larger trees within it. As the track progresses from west to east, we see a number of early-mature birch, willow, gorse and other scrub running between the track and the northern bank of the lake.

Fig 4: Lakeside approach to second gate

Prior to the second gate into the main development site, there is a maturing woodland block of oak and birch on the north side of a drainage ditch. In order to access the site, a 5m wide by 6m high clearance will need to be created to either side of the track centreline, and smaller tree groups along the lake edge may need to be laterally cut back. Any overhanging branches in the woodland group (G6) may also need to be cut back.

Fig 5: Spruce on northern boundary. Western extent.

3.4 Trees on the Northern Boundary: Discussion

The northern boundary of the main development field, which separates it from the active caravan site, initially comprises a linear feature of Sitka spruce. The trees are relatively mature and average from 18 to 22 metres in height. Some of the spruce in these groups are either dead or dealing and will need to be removed for non-development reasons. Some lateral branches to 6 metres height may need to be cut back if access is impeded to the south. The eastern half of this feature comprise Sitka spruce, Lawson cypress, Monterey cypress willow and alder, in generally fairly good condition. The golden Monterey cypress in the eastern corner are generally in poor condition, and should be removed in order to access the existing gate.

3.5 Trees on the Eastern Boundary: Discussion

The eastern boundary of the site adjoins the main existing drive into the caravan site. It comprises a dominant component of mature hazel in very good condition, along with some ash. Some ash are in decline and have been picked up for removal individually.

3.6 Trees on the Southern Boundary with the A4087: Discussion

This substantial planted feature is essentially a linear woodland, which provides vital connectively between existing woodland blocks to the south. Unlike many highway plantings I see, this one is a thoughtful and well-proportioned mix of hazel, oak, field maple, alder, birch, cherry and sensible shrub species. It is functionally and structurally diverse, and its value is likely to increase over time. The proposed construction in this area appears suitably located away from the relatively small RPAs. Nevertheless, the feature should be protected and any lateral branches which may be contacted by site equipment, should be pruned back.

Fig 6: Planted linear woodland along A4087

4. Development Proposals

4.1 General Development Proposals

The proposals are broadly to improve the access into the site from the west by creating a track across the field, to the gate just prior to the lake area. The aperture of the gate will need to be increased to a width of 5 metres, with an overhead clearance of 6 metres. The track will need to be improved in order to cross the second gate into the main project field, with a gate clearance of 5 metres once again.

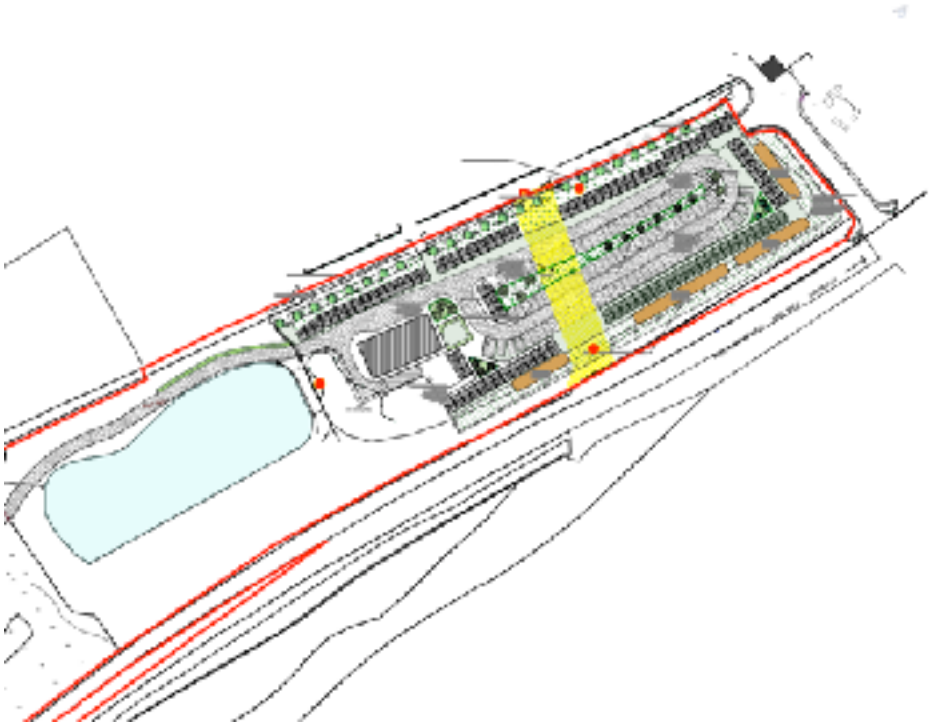

Fig 7: General arrangement

The core of the main field site is to be reconfigured entirely, in order to locate the accommodation units, an internal road network, and sufficient parking for all workers' vehicles. As shown in figure 7, there is a wide gravel apron for the approach from the western end of the site, which also serves the general services building. The driveway then runs parallel to the northern boundary, returns at the eastern boundary and ties back in to the west, forming a road circuit. The development avoids most of the peripheral tree RPAs, and provided fencing is maintained, these important edge trees should not be impacted.

4.2 Material Import & Export

The material for the surfacing and bases for the internal roads and temporary structures will need to be imported into the site, and recovered as part of decommissioning. While none of the surfaces proposed are going to overlap the RPAs of any retained trees, care should be taken to ensure that the shallow topsoil strip, likely required, remains outside of the tree protection fencing. This should also apply to the locations of any stockpiles of such topsoil, stored on site to be re-applied during the restoration phase. The aggregate required to make up the pad should be laid onto a geotextile membrane rather than the bare soil, in order to assist with the stone being selectively lifted and removed from site during the decommissioning phase.

5. Arboricultural Impacts Summary

5.1 Tree Management Recommendations

The following table summarises the likely arboricultural impacts of the proposed development, and proposes solutions or mitigation for each in turn.

Arboricultural Solutions Matrix		
Ref.	Issue	Solution
1	T1, T2 and T5 obstruct access to the site as gate is to be widened.	Remove trees and stumps. Ensure gate is large enough to admit plant. Replace trees within restoration strategy.
2	Edges of G1 and G2 adjoining fence may need to be cut back.	Prune trees back to sufficient clearance. Plant replacement trees in gaps of G1 and G2 to enhance connectivity.
3	North edges of G3, G4 & G5 may need to come back for track access	Prune trees back to sufficient clearance. Plant replacement trees in gaps to enhance connectivity.
4	G6 Lateral of large trees may possibly enter work areas.	Prune back carefully to secondary laterals only. Ensure 6m height clearance is achieved.
5	G7 May need to be lightly cut back to enable access	Cut back laterals only and ensure lower stems remain intact and are allowed to re-sprout.
6	G14 vegetation is mixed in with discarded material and Japanese knotweed.	Will look very unsightly. Better to remove all material off site. Be aware of handling restrictions for Japanese knotweed.
7	Some lower laterals of T8-T21 may need to be pruned back to a height of 5 metres.	Remove prior to work commencing.
8	The spruces T22-T25 have died off, and may pose a hazard to site operatives.	Prune up branches of spruces to 5m along entire northern boundary.
9	G15 Multi-stemmed cabbage palm in decline.	Obstructs layout, and is of limited aesthetic or conservation interest. Remove.
10	G16 Scrubby group of thorns, bramble and assorted scrub.	Obstructs layout, and is of limited aesthetic or conservation interest. Remove

11	T32-T36 Cypresses and willows have lateral branches overhang accommodation units.	Carefully crown lift lateral branches on south side to 5m.
12	T39-T41 Group of golden Monterey cypresses, badly pruned and in poor overall condition.	Remove these trees and replace with more suitable species, such as hazel and field maple.
13	T45, 46, & 47 Heavily declining ash	Ash dieback seen in all cases. Better removed while carefully maintaining existing, healthy trees.
14	G10 some laterals tending towards accommodation.	Prune back lower laterals, as required.
site-wide	Numerous trees are to be the subject of tree pruning, dead-wooding, and/or shaping works to enable the development.	All pruning works have been specified in the arboricultural data tables enclosed within the arboricultural submission report. All work should be undertaken by a suitably qualified and experienced contractor, strictly in accordance with the guidance set out in BS 3998:2010 "Tree Work. Recommendations". Any deviation sought from the above specifications should be submitted to the project arboriculturists for approval prior to be carried out.
site-wide	Potential damage to overhanging branches from construction activities.	Ensure all crown-lifting, dead-wooding and other arboricultural operations proposed are undertaken prior to work on site commencing, and prior to protective fencing being erected.
site-wide	The interests of general site enhancement and net arboricultural gain.	Replacement trees will be specified in the restoration strategy. All trees are to be planted and maintained on site in accordance with BS 8545:2014 "*Trees: From Nursery to Independence in the Landscape-Recommendations*"

Table.1 Arboricultural Solutions Matrix

6. Tree Protection

6.1 Tree Protection Recommendations

The following table summarises the proposed protection measures for the trees on the development, and outlines specific solutions or mitigation for a number of areas of concern.

Tree Protection Matrix		
Ref.	Issue	Solution
1	Construction and delivery vehicle access.	Ensure that trees are crown-lifted such that branches do not become damaged, and that this condition is maintained throughout the build.
site-wide	Significant volumes of temporary hard standings and surfaces are proposed to access and park in the accommodation area.	No temporary surfaces are proposed within the RPAs of retained trees. However, care should be taken to ensure that material is only deposited outside of the tree protection fencing. All material should be deposited in such a way that it can be readily recovered without undue soil damage.
site-wide	Potential root damage caused by construction activities straying into RPAs of retained trees.	Prior to any work, including demolition, commencing, the project arboriculturist will provide a briefing to site workers on the importance of tree protection on site. Thereafter, regular toolbox talks will be held to reinforce this position. Regular inspections of the site fencing will be undertaken by the project arboriculturist to ensure that fencing remains intact, as per the tree protection plan.
site-wide	Access and space for storage of materials, site cabins etc will need to be allocated prior to construction commencing.	All construction activity will be undertaken outside of the tree protection fencing.
site-wide	Potential root damage to retained trees caused by the installation of new below-ground services, whether by contractors or statutory undertakers.	Ensure that an M&E drawing is available to the designers to allow them to check whether root incursions are proposed, and allow them the opportunity to re-route, or devise appropriate working methods to avoid root damage.

Table.2 Tree Protection Matrix

6.2 Tree Protection Specification

The following specification should be followed for the tree protection fencing. Note, where existing barriers exist between construction and the trees (site hoarding, large ditches retained roads etc), additional fencing may be redundant. If this condition exists on site, the protection fencing plans may be updated.

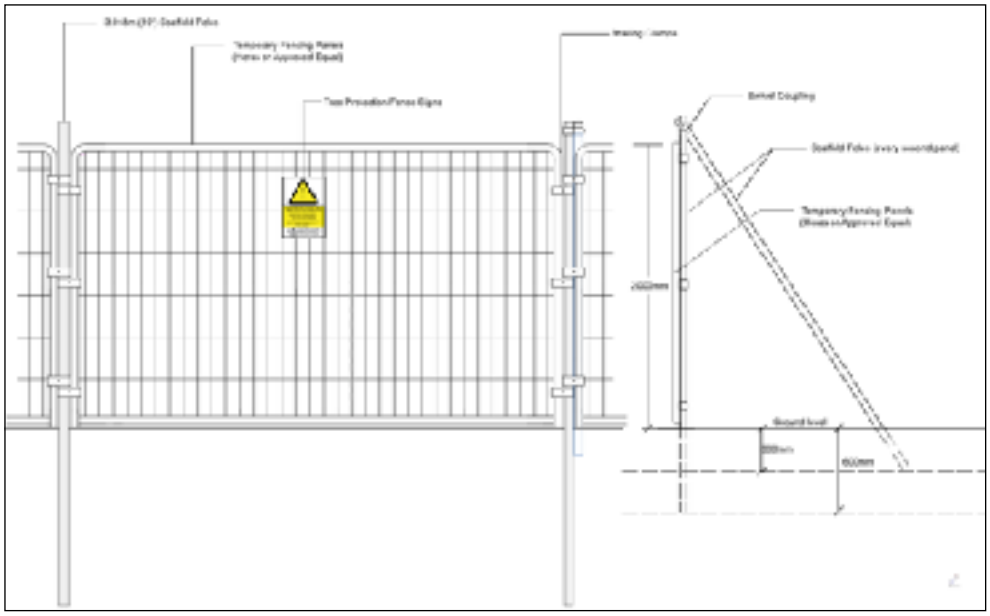

Fig.8 BS 5837:2012-compliant tree fencing detail

7. Conclusion

7.1 Summary Recommendations

In order to deliver the proposed temporary development at Bla'en Cefn, while retaining and protecting the retained trees on site, I would recommend that the following measures be followed:

1. The following trees should be removed to enable the development: T1, T2, T5, T39, T40 and T41.
2. The following tree groups should be removed to enable the development: T14, T15 & T16.
3. The following U-category trees should be removed irrespective of the development: T22, T23, T24, T25, T42, T46, T45 & T47.
4. Any tree groups impeding access or installation should have their lateral carefully pruned back clear of any conflict.
5. All tree pruning and felling should be undertaken at the earliest opportunity, prior even to demolition.
6. Protective fencing for all retained trees should be erected as per the Tree Protection Plan prior to construction commencing, and should only be removed once all construction activities on the site have been concluded.
7. A program of periodic inspections should be undertaken in order to ensure fencing remains intact until work is complete. All site operatives should be made aware of the purpose and the importance of the protective fencing prior to coming on site.

If you require any clarification relating to this report, please do not hesitate to contact me.

Yours faithfully,

Scott Fairley MA(landarch) MSc(for) M.arbor.A ISA Cert. Arb TRAQ
Arboricultural Consultant
Professional Member of the Arboricultural Association
Institute of Chartered Foresters Associate Member
Professional Tree Risk Assessor (PTI) LANTRA Awards
American Society of Consulting Arborists Member
ISA Certified Arborist UI-1192A
TRAQ Tree Risk Assessor

Qualifications and Experience

As well as having over 25 years of practical arboricultural and forestry experience, I hold Masters degrees in both landscape architecture and environmental forestry, having studied at Bangor University and the Manchester School of Architecture, both in the UK. I am a professional member of the UK Arboricultural Association, an Associate member of the Institute of Charted Foresters, an associate member of the UK Landscape Institute, an ISA Certified Arborist and a member of the American Society of Consulting Arborists. I have worked in the fields of urban forestry, forest management, landscape management, landscape design and land restoration. Within the arboricultural realm, I provide arboricultural impact assessments, tree risk assessments, and management plans. In addition, I provide expert, on-site support on live construction sites; monitoring, managing and mitigating the potential impacts of such activities. I have worked on infrastructure, planning and development projects at all scales, for a range of public and private stakeholders in five countries, to date.

APPENDIX 1 LIMITATIONS

It is the policy of West Coast Arboriculture & Land Planning Ltd to attach the following clauses regarding limitations. We do this to ensure that developers, owners, and approving officers are clearly aware of what is technically and professionally realistic in retaining trees.

The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. Except where specifically noted in the report, none of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Notwithstanding the recommendations and conclusions made in this report, it must be realised that trees are living organisms, and their health and vigour constantly changes over time. They are not immune to changes in site conditions, or seasonal variations in the weather.

While reasonable efforts have been made to ensure that the trees recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or all parts of them, will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree - or group of trees - , or all their component parts, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure in the event of adverse weather conditions, and this risk can only be eliminated if the tree is removed.

Although every effort has been made to ensure that this assessment is reasonably accurate, the trees should be re-assessed periodically. In accordance with standard practice, the assessment presented in this report is valid at the time it was undertaken. It is not a guarantee of safety.

Notwithstanding the recommendations made in this report, West Coast Arboriculture & Land Planning Ltd accepts no responsibility for the implementation of all or any part of this plan, unless we have specifically been requested to examine said implementation activities. Approval and implementation of this plan in no way implies any inspection or supervisory role on the part of West Coast Arboriculture & Land Planning Ltd. In the event that inspection or supervision of all or part of the implementation of the plan is requested, said request shall be in writing and the details agreed to in writing by both parties. Any on site inspection or supervisory work undertaken by West Coast Arboriculture & Land Planning Ltd shall be recorded in written form and submitted to the client as a matter of record.

Although this Trees and Development submission has been prepared for Hochtief (UK) Construction Ltd., accepting that it may be used by other parties or agencies, West Coast Arboriculture & Land Planning Ltd shall not be held responsible for the manner of use of the interpretations that other parties may attach to the report.

The report shall be considered a whole, no sections are severable, and the report shall be considered incomplete if any pages are missing.

This report is best viewed in colour. Any copies printed in black and white may make some details difficult to properly understand. West Coast Arboriculture & Land Planning Ltd accepts no liability for misunderstandings due to a black and white copy of the report.

APPENDIX 2 DEVELOPMENT SITE ASSESSMENT GLOSSARY BS 5837:2012

- **Tree number**: The unique identifier for each tree or group. This can relate to a simple number from the tree location plan, or can relate to a tag number where trees have been tagged;
- **Species**: The tree species, or list of species where groups are concerned
- **Age Class**: The age range of the tree described as
  Y: young
  SM: semi-mature
  EM: early-mature
  M: mature
  LM: late-mature
  V: veteran
- **Height**: The overall height of the tree, in metres;
- **DBH**: (Diameter at Breast Height) the average diameter of the stem of the tree at 1.4m above nominal ground level.
- **RPA-R**: (Tree Protection Zone) the optimal radial distance, in metres, from the tree stem which should be, as far as is practicable, left undisturbed during construction (equates to 12x stem diameter in single-stemmed trees). This is the extent from which one can expect to encounter roots and mitigation should be explored.
- **RPA-A**: (Tree Protection Area) surface distance, in square metres, from the tree stem which should be, as far as is practicable, left undisturbed during construction. Note: this measure is most usefully employed where "nominal" (circular) root protection areas are constrained by roads, buildings, walls etc, but adequate rooting areas must still be allocated.
- **1st significant branch (FSB)**: The height and direction of the first branch worthy of specific consideration in the context of the development.
- **Crown Spread:** The crown spread of the tree in metres, measured to the 4 cardinal compass points (N,E,S,W)
- **Comments:** General observations on the tree's situation, condition, defects, suitability and constraints to retention;
- **Recommendations:** Advice on whether the trees might be retained, removed, what corrective actions might be prescribed and how retained trees might be protected
- **SULE**: The Safe Useful Life Expectancy of the tree. This does not describe the likely "full" lifespan of the tree, but rather seeks to describe how many years the tree might be retained prior to its maintenance becoming burdensome.
- **Category**: The category awarded to each tree or group is a function of the following attributes:

Category	1: mainly arboricultural qualities	2: mainly landscape qualities	3: mainly cultural qualities, including conservation
A	tree of excellent quality with a SULE exceeding 40 years which will greatly enhance the proposed development and should be retained wherever possible		
B	tree of good quality with a SULE exceeding 20 years, perhaps with some remediable defects which should be retained, if practicable		
C	a tree with a SULE of approximately 10 years of indifferent quality which could be retained, but should not constrain the development		
U	a tree with a SULE of less than 10 years, with irremediable defects. which should not be included in any future development		

APPENDIX 3 ARBORICULTURAL DATA TABLES

Blaen Cefn: Arboricultural Data Tables

Tag	Name	Age	Height (m)	DBH (mm)	RPA-R (m)	RPA-A (m2)	FSB (m)	Crown Spread N-E-S-W (m)	Comments	Recommendations	SULE	Category
T1	Goat Willow	EM	4	160	1.92	11.58	0	7-5-2-4	Moderate vitality. Spreading habit. Coppice. Multiple stems above 1.5m. Included bark present in fork.	Access requires removal	10	C1
T2	Goat Willow	EM	5	350	4.2	55.42	0	6-4-4-3	Moderate vitality. Spreading habit. Coppice. Multiple stems above 1.5m. Low branches over road/footpath.	Access requires removal	10	C1
T3	White Willow	EM	6	110	1.32	5.47	0	3-3-2-1	Typical form for species. Narrow, fastigiate habit. Minor dead wood in crown.	Prune back to enable access	20	B1
T4	Silver Birch	EM	6	130	1.56	7.65	0	6-3-4-3	Good vitality. Good form. Narrow, fastigiate habit. Stem divides below 1.5m.	Prune back to enable access	20	B1
T5	White Willow	EM	8	400	4.8	72.39	0	7-4-4-3	Moderate vitality. Spindly. Coppice. Multiple stems above 1.5m. Included bark present in fork.	Access requires removal	10	C1
T6	Silver Birch	EM	9	150	1.8	10.18	0	2-3-6-2	Moderate vitality. Typical form for species. Narrow, fastigiate habit. Minor dead wood in crown. Crown distorted due to group pressure.	Access requires removal	20	B1
T7	Silver Birch	EM	7	104	1.25	4.91	0	2-3-2-2	Good vitality. Good form. Narrow, fastigiate habit. Minor dead wood in crown.	Prune back to enable access	20	B1

Tag	Name	Age	Height (m)	DBH (mm)	RPA-R (m)	RPA-A (m2)	FSB (m)	Crown Spread N-E-S-W (m)	Comments	Recommendations	SULE	Category
T8	Sitka Spruce	M	13	560	6.72	141.89	0	3-2-5-3	Moderate vitality. Typical form for species. Spindly. Mechanical damage to roots. RPA constrained to South. Minor mechanical damage to stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m.	20	C1
T9	Sitka Spruce	M	13	400	4.8	72.39	0	5-2-6-2	Moderate vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	C1
T10	Sitka Spruce	M	17	680	8.16	209.21	0	7-2-7-2	Moderate vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Exudation on stem. Minor dead wood in crown. Low branches over road/footpath.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T11	Sitka Spruce	M	19	430	5.16	83.66	0	3-1-5-2	Low vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Dieback in crown. Major dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side..	20	B1
T12	Sitka Spruce	M	15	480	5.76	104.24	0	5-4-6-3	Good vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Low bud/leaf density. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1

Tag	Name	Age	Height (m)	DBH (mm)	RPA-R (m)	RPA-A (m2)	FSB (m)	Crown Spread N-E-S-W (m)	Comments	Recommendations	SULE	Category
T13	Sitka Spruce	M	15	740	8.88	247.76	0	6-2-8-3	Good vitality. Typical form for species. Part of linear group. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T14	Sitka Spruce	M	13	430	5.16	83.66	0	4-3-4-3	Low vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	C1
T15	Sitka Spruce	M	16	660	7.92	197.09	0	8-4-9-3	Moderate vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T16	Sitka Spruce	M	17	700	8.4	221.7	0	9-2-5-2	Moderate vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Exudation on stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T17	Sitka Spruce	M	19	710	8.52	228.08	0	8-3-9-3	Moderate vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Exudation on stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T18	Sitka Spruce	M	18	700	8.4	221.7	0	9-4-9-4	Good vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1

Blaen Cefn: Arboricultural Data Tables

Tag	Name	Age	Height (m)	DBH (mm)	RPA-R (m)	RPA-A (m2)	FSB (m)	Crown Spread N-E-S-W (m)	Comments	Recommendations	SULE	Category
T19	Sitka Spruce	M	17	650	7.8	191.16	0	8-3-8-4	Good vitality. Typical form for species. Spindly. Mechanical damage to roots. Minor mechanical damage to stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T20	Sitka Spruce	M	14	480	5.76	104.24	0	1-1-1-1	Dead. Spindly.	Remove tree irrespective of development proposals.	<10	U
T21	Sitka Spruce	M	15	430	5.16	83.66	0	5-7-6-2	Moderate vitality. Minor dead wood.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T22	Sitka Spruce	M	12	510	6.12	117.68	0	7-2-3-7	Declining. Low vitality. Poor shape & form. Dieback in crown.	Remove tree irrespective of development proposals.	<10	U
T23	Sitka Spruce	EM	9	270	3.24	32.98	0	1-1-1-1	Dead.	Remove tree irrespective of development proposals.	<10	U
T24	Sitka Spruce	M	21	860	10.32	334.63	0	8-7-6-6	Moderate vitality. Spindly. RPA constrained to South. Fungal brackets evident on roots. Broken branches in crown. Minor dead wood in crown. *Phaeolus schweinitzii* root-rotting fungus	Remove tree irrespective of development proposals.	10	U
T25	Sitka Spruce	EM	14	390	4.68	68.82	0	0.5-0.5-0.5-0.5	Dead.	Remove tree irrespective of development proposals.	<10	U

project name: Blaen Cefn: Arboricultural Planning Submission

client: Hochtief (UK) Construction

project number: C0233-HUK-GES-CG-AS-X-0001 Rev P02

date: 02.11.2023

Blaen Cefn: Arboricultural Data Tables

Tag	Name	Age	Height (m)	DBH (mm)	RPA-R (m)	RPA-A (m2)	FSB (m)	Crown Spread N-E-S-W (m)	Comments	Recommendations	SULE	Category
T26	Sitka Spruce	M	21	470	5.64	99.95	0	6-5-6-4	Low vitality. Narrow, fastigiate habit. Low bud/leaf density. Major dead wood in crown.	Remove major deadwood. Remove broken/damaged branches. Crown lift to 5m on south side.	10	C1
T27	Sitka Spruce	EM	18	290	3.48	38.05	0	2-1-4-2	Low vitality. Ivy on tree. Low bud/leaf density. Unbalanced crown shape.	Crown lift to 5m on south side. Remove major deadwood.	10	C1
T28	Sitka Spruce	M	24	490	5.88	108.63	0	8-3-7-4	Moderate vitality. Ivy on tree. Epicormics on stem. Minor dead wood in crown.	Crown lift to 5m on south side. Remove major deadwood.	20	B1
T29	Sitka Spruce	M	24	560	6.72	141.89	0	7-4-6-2	Moderate vitality. Typical form for species. Ivy on tree. Exudation on stem. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T30	Sitka Spruce	M	22	470	5.64	99.95	0	6-3-7-4	Moderate vitality. Ivy on tree. Broken branches in crown. Major dead wood in crown.4m gap	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T31	Sitka Spruce	M	25	470	5.64	99.95	0	9-5-7-4	Moderate vitality. Typical form for species. Spindly. Ivy on tree. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1
T32	Lawson Cypress	M	19	360	4.32	58.64	0	4-4-5-3	Good vitality. Typical form for species. Good form. Minor dead wood in crown.	Remove major deadwood. Crown lift to 5m on south side.	20	B1

Blaen Cefn: Arboricultural Data Tables

Tag	Name	Age	Height (m)	DBH (mm)	RPA-R (m)	RPA-A (m2)	FSB (m)	Crown Spread N-E-S-W (m)	Comments	Recommendations	SULE	Category
T33	Lawson Cypress	M	18	540	6.48	131.93	0	4-3-7-2	Moderate vitality. Part of linear group. Stunted. Leaning East. Stem divides below 1.5m. Minor dead wood in crown. Crown distorted due to group pressure. Linear group.	Crown lift to 5m on south side.	10	C1
T34	Bay Willow	SM	13	170	2.04	13.08	0	3-8-2-2	Moderate vitality. Typical form for species. Leaning North. Minor dead wood in crown. Unbalanced crown shape. Crown distorted due to group pressure.	Crown lift to 5m on south side.	10	B1
T35	Bay Willow	M	9	310	3.72	43.48	0	8-6-2-1	Moderate vitality. Poor shape & form. Spreading habit. Stem divides above 1.5m. Minor dead wood in crown. Unbalanced crown shape. Crown distorted due to group pressure.	Crown lift to 5m on south side.	10	B1
T36	Lawson Cypress	M	19	420	5.04	79.81	0	3-5-2-5	Moderate vitality. Narrow, fastigiate habit. Minor dead wood in crown. Unbalanced crown shape. Crown distorted due to group pressure.	Crown lift to 5m on south side.	20	B1
T37	Lawson Cypress	M	17	460	5.52	95.74	0	2-6-8-3	Moderate vitality. Poor shape & form. Narrow, fastigiate habit. Leaning South. Stem divides below 1.5m.	Crown lift to 5m on south side.	10	C1
T38	Sitka Spruce	EM	19	310	3.72	43.48	0	2-5-2-2	Declining. Low vitality. Part of linear group. Low bud/leaf density. Crown distorted due to group pressure.	None required	10	C1

Blaen Cefn: Arboricultural Data Tables

Tag	Name	Age	Height (m)	DBH (mm)	RPA-R (m)	RPA-A (m2)	FSB (m)	Crown Spread N-E-S-W (m)	Comments	Recommendations	SULE	Category
T39	Monterey Cypress	M	13	310	3.72	43.48	0	7-5-5-4	Low vitality. Typical form for species. Spreading habit. Multiple stems above 1.5m. Low bud/leaf density. Broken branches in crown. Major dead wood in crown. Low branches over road/footpath.	Trees have been poorly pruned and are in poor conditions. Replace with better screening trees set back.	<10	C1
T40	Monterey Cypress	M	14	330	3.96	49.27	0	6-2-4-2	Low vitality. Poor shape & form. Typical form for species. Low bud/leaf density. Minor dead wood in crown.	Trees have been poorly pruned and are in poor conditions. Replace with better screening trees set back.	10	C1
T41	Monterey Cypress	EM	11	270	3.24	32.98	0	4-1-3-1	Declining. Low vitality. Poor shape & form. Spindly. Dieback in crown. Low bud/leaf density. Major dead wood in crown.	Trees have been poorly pruned and are in poor conditions. Replace with better screening trees set back.	<10	C1
T42	Monterey Cypress	EM	13	280	3.36	35.47	0	1-2-5-2	Declining. Low vitality. Poor shape & form. Leaning South. Low bud/leaf density. Major dead wood in crown.	Trees have been poorly pruned and are in poor conditions. Replace with better screening trees set back.	<10	U
T43	Monterey Cypress	EM	13	280	3.36	35.47	0	7-6-5-2	Declining. Low vitality. Poor shape & form. Low bud/leaf density. Broken branches in crown. Major dead wood in crown.	Trees have been poorly pruned and are in poor conditions. Replace with better screening trees set back.	<10	C1
T44	Sycamore	EM	9	270	3.24	32.98	2E	5-6-5-5	Moderate vitality. Typical form for species. Spreading habit. Low branches over road/footpath.	Crown lift to 3m.	10	B1

Blaen Cefn: Arboricultural Data Tables

Tag	Name	Age	Height (m)	DBH (mm)	RPA-R (m)	RPA-A (m2)	FSB (m)	Crown Spread N-E-S-W (m)	Comments	Recommendations	SULE	Category
T45	Ash	EM	16	340	4.08	52.3	0	4-2-2-5	Moderate vitality. Spindly. Low bud/ leaf density. Major dead wood in crown. Unbalanced crown shape.	Remove tree irrespective of development proposals.	<10	U
T46	Ash	EM	11	300	3.6	40.72	0	1-1-1-1	Dead.	Remove tree irrespective of development proposals.	<10	U
T47	Ash	EM	9	300	3.6	40.72	0	3-3-3-3	Declining. Low vitality. Dieback in crown.	Remove tree irrespective of development proposals.	<10	U

no.	species	ave. age class	max. height (m)	ave. DBH (mm)	RP offset (m)	description	recommendations	SULE	Cat
G1	Goat Willow	M	8	300	3	Good vitality. Coppice. Multiple stems below 1.5m. Minor dead wood in crown. Crown distorted due to group pressure. Linear group. Screening group.	Partly remove to enable the development.	20	B2

no.	species	ave. age class	max. height (m)	ave. DBH (mm)	RP offset (m)	description	recommendations	SULE	Cat
G2	Silver Birch, Goat Willow, Common Oak	EM	5	200	3	Good vitality. Coppice. Multiple stems below 1.5m. Minor dead wood in crown. Crown distorted due to group pressure. Linear group. Screening group.	Partly remove to enable the development.	20	B2
G3	Silver Birch, Goat Willow	EM	7	150	2	Good vitality. Typical form for species. Unbalanced crown shape. Linear group. Scrubby group. Screening group.	Partly remove to enable the development.	20	B2
G4	Goat Willow, Silver Birch	EM	7	200	2	Typical form for species. Part of linear group. Coppice. Scrubby group. Screening group.	Lateral clearance may be required to install site protection fence to pond	20	B2
G5	Silver Birch, Goat Willow	EM	9	250	3	Good vitality. Typical form for species. Part of linear group. Coppice. Multiple stems above 1.5m. Included bark present in fork. Low branches over road/footpath.	Partly remove to enable the development.	20	B1
G6	Common Oak, Silver Birch	M	16	400		Good vitality. Good form. Narrow, fastigiate habit. Coppice. Linear group. Scrubby group.	Ditch protects roots from disturbance. Carefully prune back only those branches likely to reach working area. Do not exceed 5m in height.	20	B2

no.	species	ave. age class	max. height (m)	ave. DBH (mm)	RP offset (m)	description	recommendations	SULE	Cat
G7	Goat Willow	SM	4	100		Good vitality. Good form. Leaning South. RPA constrained to South. Minor dead wood in crown. Unbalanced crown shape. Crown distorted due to group pressure. Low branches over road/footpath. Linear group. Group on boundary.	Reduce laterally to the south to enable protective fencing can be installed.	20	B2
G8	Common Alder, Bay Willow, Goat Willow, Silver Birch	EM	12	100		Poor shape & form. Typical form for species. Part of linear group. Multiple stems below 1.5m. Major dead wood in crown. Crown distorted due to group pressure.Buddleja, bindweed, scrub	Prune back laterals to south as required for construction access.	10	C2
G9	Goat Willow	EM	5	100		Good vitality. Good form. Part of linear group. Coppice. RPA constrained to South. Low branches over road/ footpath. Scrubby group. Screening group. Group on boundary.	Prune back laterals to south as required for construction access.	20	B2
G10	Hazel. Intermittent ash, field maple	M	6	200		Moderate vitality. Coppice. Scrubby group. Screening group.	No work required	20	B2

no.	species	ave. age class	max. height (m)	ave. DBH (mm)	RP offset (m)	description	recommendations	SULE	Cat
G11	Hazel, Sessile Oak, Field Maple, Common Alder, Silver Birch, Cherry Laurel, Rowan	EM	15	300	4xx	Excellent roadside screening group. Good mixture of species, not yet over-dense. Well planted and managed. Good vitality. Good form. Part of linear group. Coppice. Minor dead wood in crown. Low branches over road/ footpath.	Crucial to maintain this feature as a cohesive and effective screen. Only carefully crown lift (3m) to clear fencing and prune back only overhanging laterals.	20	A2
G12	Silver Birch, Goat Willow, White Willow	M	14	200		Good vitality. Good form. Part of linear group. Coppice. RPA constrained to South. Low branches over road/ footpath. Screening group. Some dumping of material here.	Avoid conflict with RPA. Erect protective fencing to extent of RPA. Crown lift to 3m. Reduce by 15% of lateral width where access is required.	20	A2
G13	Common Alder	EM	5	100		Good vitality. Good form. Part of linear group. RPA constrained to South. Crown distorted due to group pressure. Linear group. Screening group.	Conflicts with layout. Isolated feature, readily replaced. Remove.	40	B2

no.	species	ave. age class	max. height (m)	ave. DBH (mm)	RP offset (m)	description	recommendations	SULE	Cat
G14	White Willow, Goat Willow	SM	5	100		Good vitality. Typical form for species. Spindly. Narrow, fastigiate habit. Soil levels altered. Multiple stems below 1.5m. Scrubby group. G Group value collective only. Scrubby group on area of tipped soil and rubbish. Extensive buddleja, Himayalan balsam and some Japanese knotweed.	Area contaminated with Invasive non-native species, rubbish and tipped soils. Clear area with INNS protocol in mind. Carry out further inspection.Fence off and exclude Japanese knotweed as an urgent matter.	20	B2
G15	Cabbage palm	EM	3.5	150		Moderate vitality. Poor shape & form. Stunted. Coppice. Material tipped on RPA. Compaction of rooting area. Multiple stems below 1.5m. Low bud/ leaf density. Minor dead wood in crown. Scrubby group.	Remove tree to enable the development.	<10	C1
G16	Common Alder, birch, willow	SM	4	100		Declining. Low vitality. Major mechanical damage to stem. Epicormics on stem. Dieback in crown. Major dead wood in crown.	Trees of collective value only. Clear area to enable the development.	<10	U