

MYNYDD TIMBER SERVICES LIMITED

18 Tan y Bwlch. Mynydd Llandegai, Bangor. Gwynedd. LL57 4DX

Company Number 5250394

VAT Number 709 5762 09

Pre-development Arboricultural Report (revision 2)

For:

Natural Resources Wales

(River Dee LIFE project – Erbistock Weir)

25th March 2023

CONTENTS

1. BACKGROUND INFORMATION	Page 3
2. EXECUTIVE SUMMARY	Page 4
3. ARBORICULTURAL IMPACT ASSESSMENT	Page 6
4. ARBORICULTURAL METHOD STATEMENT	Page 9
5. CONTACT INFORMATION	Page 14

APPENDICES:

Appendix I Tree Survey Data Tables

Appendix II Tree Survey Data Recommended works.

Appendix III BS5837:2012 Cascade Chart for Tree Quality Assessment

Appendix IV Tree Protective Fence Detail

Appendix V Tree Protection Notices

Appendix VI Tree Constraints Plan (TCP)

Appendix VII Tree protection Plan (TPP)

1. BACKGROUND INFORMATION

1.1. Description of Proposed Development.

Preliminary access works in advance of re-profiling of Erbistock weir as part of the River Dee LIFE restoration project

1.2. Brief.

To carry out a tree survey in accordance with BS 5837 2012, in order to assess the implications posed by any arboricultural features on the site in relation to the above development, and to detail any necessary measures to be taken in order to both facilitate the development, and to protect any arboricultural features that are to be retained.

1.3. References:

The British Standard Institute publication: BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' is referred to throughout this report. This is a nationally recognised standard typically used by Local Planning Authorities (LPAs) to assess planning applications. It is frequently referred to in planning conditions to enforce protection or control of works that may be harmful to trees both on and off the site.

1.4. Terms and Definitions

- 1.4.1. Arboricultural Impact Assessment (AIA) – Evaluates any constraints found in the survey in relation to the proposed development.
- 1.4.2. Arboricultural Method Statement (AMS) – Demonstrates how any operations in close proximity to trees that are to be retained can be carried out with minimal adverse impact.
- 1.4.3. Root Protection Area (RPA) – These represent below ground constraints. Work in these areas should be avoided where possible. Where work in these areas cannot be avoided, it should be carried out in accordance with an Arboricultural Method Statement.
- 1.4.4. Tree Constraints Plan (TCP) – This plan shows above and below ground constraints that may impact on a planning proposal such as the tree branch spread and Root Protection Areas.
- 1.4.5. Tree Protection Plan (TPP) – This shows the layout of protective measures for retained trees. This drawing is intended to be used for planning purposes and also as a reference on-site.

2. EXECUTIVE SUMMARY ^[L]_[SEP]

2.1. Survey.

A site survey was carried out by Mynydd Timber Services on 30th November 2022 and 01 December 2022. A total of 45 arboricultural features were recorded, including 38 trees and 7 groups of trees. The majority of the trees recorded are recorded as individuals. ^[L]_[SEP]

There was a broad mix of trees at different life stages, consisting of native and naturalised species. The majority of the trees were assigned category A and category B, with 12 category C and 4 category U trees.

2.2. Arboricultural Implications.

2.2.1. According to an on site meeting on 30th November with Mr Joel Rees-Jones, the preferred access ramp would be from the South West corner of the field in a North Westerly direction onto the river bed. This access would be approximately 12m wide and configured to allow access for heavy construction machinery and vehicles.

2.2.2. The mature trees (T1 to T5 inclusive) Oak, Beech and Sycamore, to the South West of the fence line should be protected from damage by heavy machinery or site activities by erecting a tree protection fence according to the arboricultural protection plan. ^[L]_[SEP]

2.2.3. The stand of trees to the south of the access ramp (T7 to T17 Inclusive) should be retained, and their RPA protected by erecting a tree protection fence according to the arboricultural protection plan. This fence is designed to prevent encroachment by heavy machinery onto the RPA's but can also form part of the site boundary fencing. It may be necessary to protect the RPA of the Large mature Oak (T16) using a ground protection mat where this projects into the Access ramp area. However, the damaged condition of it's rootplate to the East indicates that previous excavation have damaged this trees rootplate already.

2.2.4. The stand of trees (T24 to G30 inclusive) are within the proposed access development footprint and may have to be removed. However, I would recommend that these trees be pollarded and only removed as a last resort. By pollarding at 2m to 5m above ground level, the likelihood of the trees becoming unstable due to excavations within the root protection areas (RPA) is reduced, and the trees may make a recovery once the site has been re-instated.

2.2.5. Trees (T18 and T19) are mature Alder multistems with significant deadwood over the proposed works area. It is recommended that this deadwood is removed for the safety of personnel working within the vicinity..

2.2.6. Trees (T20, G21 and T22) are Ash trees within the proposed works area. There are signs of Ash die-back within these trees, though the timing of the tree

survey (Late November 2022) prevented a full assessment of the extent of the disease. It is recommended that these trees be felled for the safety of personnel working within the vicinity.

- 2.2.7. Trees (G23, T31, T32 and T33 Alders, Lime and Sycamore are within the proposed development area for the access ramp. If possible, these should be coppiced at ground level with the rootplates retained as they should regenerate if not excessively damaged.
 - 2.2.8. Tree (T37) is a large mature Ash tree, growing from 3 metres up the embankment. Its rootplate has lifted in the past, allowing the tree to fall to the west, where it is now partially supported by an Alder (T38). At present, the tree seems to have stabilised in this position and has continued to grow. The extent of Ash Die-back in T37 and the poor condition of T38 indicate that these two trees be removed as they are a threat to personnel working within the vicinity. A Bat survey would be recommended prior to work being undertaken on these trees prior to any work taking place.
 - 2.2.9. There are significant mature trees along the Western boundary of the field along the proposed access track from the A528. To protect the tree roots along this route, the track should keep at least 10m to the east of the fence line.
 - 2.2.10. The semi mature Ornamental trees within the garden of property to the West of the site entrance off the A 528 should be protected from compaction by laying a ground protective mat from the edge of the carriageway to the field gate on the South West corner of the property. A minimal amount of side pruning of the two Cherry trees (G46) will be required to prevent damage to these trees by construction traffic entering the site. The Owners permission for these works will need to be sought. No-one was at home at the time of the surveys.
- 2.3. Tree Protection Measures Required.
- 2.3.1. Tree protection fencing as detailed on the Tree Protection Plan.
 - 2.3.2. Ground protection as detailed on the Tree protection plan.
 - 2.3.3. Pruning of one Category B tree group (**G46**) to avoid damage by construction traffic.
 - 2.3.4. Supervision of all works as detailed in the Arboricultural Method Statement.

[[
SEP]]

2.4. Conclusion. [[SEP]]

The arboricultural impact is restricted to pollarding and possible removal of a small number of trees, as demonstrated in the Arboricultural Impact Assessment, and any negative impact to the trees can be satisfactorily mitigated as proposed in the Arboricultural Method Statement and associated Tree Protection Plan. A diverse range of regeneration of broadleaf trees is present on the site, but some additional enrichment planting should be undertaken on

any bare areas once the site has been re-instated.

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1. Introduction.

BS 5837:2012 provides a methodology for determining the above and below ground constraints presented by trees on and adjacent to the site. These have been recorded on the following appended documents.

3.2. Associated Documents.

3.2.1. Tree Constraints Plan (TCP)

3.2.2. Tree Survey Data Tables

3.2.3. Tree Survey Data Tables - Additional

3.3. Tree Survey.

3.3.1. The Landscape in general.

The site currently consists of woodland groups, tree lines and individual isolated trees within agricultural land.

3.3.2. Survey Methodology.

Data was collected in accordance with the requirements of British Standard 5837:2012. All observations were from ground level without detailed or invasive investigations.

Measurements were taken using a diameter tape and laser measure. Where this was not possible or reasonably practical, measurements have been estimated by eye. [L]
[SEP]

The trees were surveyed and assessed impartially and irrespective of the proposed development. Management recommendations should be implemented regardless of any proposed development for reasons of sound arboricultural management or safety. [L]
[SEP]

Appendix III shows the methodology set out in BS5837:2012 for categorising trees according to their quality.

BS 5837:2012 requires retention of better quality (category A and B trees) where possible. Planning permission overrides a Tree Preservation Order and Conservation Area. Furthermore, trees are a material consideration in the UK planning system irrespective of their legal status. It is therefore not considered necessary to highlight or give additional merit to trees that have legal protection. Trees in land adjacent to the site are considered where they may be impacted by development. For example when roots or branches encroach onto the site as in G46 on the access off the A528. [L]
[SEP]

Trees may be recorded as a tree group or woodland where the canopies touch, where the trees have more group value than individual merit, where they are part of a formal landscape

feature like an avenue, or it is impractical to record them individually. ^[11]_{SEP} Trees within groups or woodlands etc. are only recorded individually where it is necessary to distinguish them from others. In the case of trees (T41, T42, T43, T44 and G45), these are recorded to give an estimated RPA which indicates that the access track should not encroach within 10m of the fence line to the west. ^[11]_{SEP}

3.4. Observations.

3.4.1. Below Ground Constraints.

The proposed access ramp encroaches into the RPA of multiple trees (**T7** to **T17** inclusive). Where the trees are to be retained (To the west of the Access ramp), measures should be taken to minimise damage by the use of protective mats and protective fences to limit the incursion of heavy equipment onto the RPA's of these trees.. Arboricultural methodology (careful pruning of any exposed roots with a sharp secateurs, covering any roots left exposed on the surface with hessian sacking) can be adopted as a precaution to protect any roots exposed during excavations.

The RPA's of **T24** to **T30** inclusive incur into the proposed access route. If it is unavoidable, the trees may be removed, but it is recommended that the pollarding of these stems will allow their retention, and therefor as little as possible of the RPA should be excavated, to facilitate their recovery.

The RPA of **G41. T42. T43, T44** and **G45** are some of the larger trees along the woodland edge to the West of the proposed site access. Their RPAs extend up to 10 metres to the east of the fence line indicating the access track should maintain 10 metres clearance to the East of the boundary. ^[11]_{SEP}

3.4.2. Above Ground Constraints.

The Access ramp will require removal of scrub and minor regeneration (Below 75mm diameter) along the route of the proposed ramp. It will also be necessary to prune interfering branches on T8 and T9 to allow for the installation of the tree protective fence along the western side of the ramp.

The canopies of the remaining retained trees can be protected with the proposed tree protection fencing.

3.4.3. Trees to be removed.

The development footprint does not require the removal of any trees. It is only the access ramp, as currently proposed, and the clients duty of care to personnel working within the area to reduce any excessive tree hazards which indicate the removal or reduction of trees on the site.

For construction of the Access ramp,

3.4.4. Trees to be pollarded; Oak (T24) pollard at 1.6m, Oak (T26) pollard at 1.6m, Sycamore (T27) pollard at 1.6m.

3.4.5. Trees to be coppiced (in the hope that they will regenerate); Hornbeam

(T25& T31), Ash (T28), Hornbeam (T29), Sycamore (T32), Alder (T33, T38, T39), Holly (T34)

3.4.6. Trees to be felled; Ashes (T20, G21, T22, T28, T36, T37) Cherry (T30)

3.4.7. Trees requiring reduction of dangerous branches/stems; Alder (T19 and T19)

3.5. Conclusion.

The arboricultural impact is relatively low, and can be mitigated with the tree works detailed in the Tree Works Schedule, the protective barriers as shown on the Tree Protection Plan and the arboricultural supervision as set out in the Arboricultural Method Statement. On completion of the site re-instatement works, additional planting to replace felled trees will be required, the numbers and species to be confirmed once construction work is completed.

4. ARBORICULTURAL METHOD STATEMENT

4.1. Description of intended works in close proximity to trees.

- 4.1.1. Access point 1 (Erbistock Weir- Site Access Plan-Drawing 60672359-ACM-XX-XX-DR-CE-100033) Access point for construction traffic off the A528 in the vicinity of **G46**.
- 4.1.2. Construction of temporary access track from A528 to Compound.
- 4.1.3. Construction of temporary access ramp onto riverbed.
- 4.1.4. Construction of Compound/Site storage area.

4.2. Tree Works.

- 4.2.1. All tree works should be carried out by professional arboricultural contractors with appropriate qualifications, experience and public liability insurance. The work should be carried out in accordance with British Standard document number 3998:2010 “Recommendations for Tree Work”.
- 4.2.2. Where possible, all arisings should be retained on site, in the case of branch wood and stems over 75mm in diameter, these should be cut into handle-able lengths, no longer than 1 meter long, and stacked within area to be enclosed within tree protection barriers for retention as deadwood habitat.
- 4.2.3. Branch wood less than 75 mm in diameter should be chipped and the chip retained on site either in piles or removed according to directions of the chief environmental officer.

4.3. Excavations within Root Protection Areas.

- 4.3.1. Where the development footprint encroaches onto the RPA of protected trees (T7- to T16 inclusive), any excavation should be undertaken with great care, and arboricultural supervision will be required for all works in this area. Any tree roots found during excavations, up to a diameter of 25mm can be pruned back with sharp secateurs leaving a wound of the smallest diameter possible. If any roots over 25mm are found, these must be retained undamaged, wrapped in Hessian and re-buried as soon as possible. Root pruning is to be carried out by the project arboriculturalist only.

4.4. Tree Protection.

4.4.1. Tree Protection Barriers.

The barriers shall be installed and removed in accordance with the timing of operations detailed below, and laid out as specified on the Tree Protection Plan. The notices detailed in Appendix V should be used to create all weather notices that must be fixed to the tree protection barriers at suitable intervals.

Appendix IV shows three specifications for tree protection barriers. The left hand diagram shows the default specification: A vertical and horizontal scaffold framework braced to resist impacts. The vertical tubes are spaced at a maximum interval of 3m and these are driven securely into the ground. Welded mesh panels are securely attached to the frame.

During installation it is important to consider the position of below ground services and structural roots, which must not be damaged. Where these constraints prevent the use of this specification, the following alternative specification should be used: 2 metre tall welded mesh panels standing in rubber or concrete feet joined using a minimum of two anti-tamper couplers installed so they can only be removed from inside the protected area. The fence couplers should be at spaced least 1 m apart, but uniformly across the whole barrier. These panels must be supported within the protected area with struts attached to a base plate secured by ground pins This specification is illustrated in Appendix IV (top right diagram).

Where the fencing is installed above retained hard surfacing and or it is otherwise not feasible to use ground pins (e.g. due to underlying services or structural roots), the struts can be mounted on a block trays. This specification is illustrated in Appendix IV (bottom right diagram).

No alterations or variations shall be made to the approved tree protection measures without written approval from the senior environmental officer (Mr Joel Rhys Jones) following consultation with the project arboriculturalist.

4.4.2. Ground protection.

The objective of temporary ground protection is to avoid the compaction of soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root function is not impaired.

Temporary ground protection shall be installed and removed in accordance with the timing of operations detailed below, and located as specified on the Tree Protection Plan.

The temporary ground protection should be capable of supporting any traffic entering the site without being distorted or causing compaction of underlying soil.

For wheeled or tracked construction traffic exceeding 2 tons gross weight, pre-cast reinforced concrete slabs or other proprietary systems to an engineering specification designed to accommodate the likely load to which it will be subjected is required.

An example proprietary temporary root protection matting system is illustrated in Appendix VII.

4.5. Timing and order of operations.

4.5.1. The development must be carried out in the following order. Each step must be completed before moving onto the next:

1. Preliminary Tree Works as set out in the Tree Works Schedule.
2. Installation of Tree Protection Barriers and Temporary Ground protection as specified on the Tree Protection Plan.
3. Construction works undertaken in accordance with the Arboricultural Method Statement.
4. Removal of the remaining ground protection and barriers on completion of all works.

4.6. Prohibited Activities.

The following must not be carried out under any circumstances:

Cutting down, uprooting, damaging or otherwise destroying any retained tree.

Lighting a fire within 10 metres of the canopy of any retained tree. ^[L]_[SEP]

Equipment, signage, fencing, tree protection barriers, materials, components, vehicles ^[L]_[SEP] or structures shall not be attached to or supported by a retained tree.

Mixing cement, use of chemical toilets and other use or storage of anything that would be harmful to trees shall not take place within, or close to a Root Protection Area (RPA). The distance away from the RPA must be sufficient, and the slope of the site must be such that contamination of soil in the RPA would not occur if there were spillage, ^[L]_[SEP] seepage or displacement. ^[L]_[SEP]

No plant machinery or equipment or vehicle with a hydraulic arm such as a mini digger shall be operated within striking distance of the stem and branches or the RPA of any retained tree.

4.7. Arboricultural Supervision.

4.7.1. Arboricultural monitoring and supervision will be required as detailed in the table below:

Stage of Process	Requirement
Prior to commencement of works.	'Tool box talk' to all personnel on site.
	Supervision of preliminary arboricultural operations.
	Supervision of erection of tree protection fencing.
	Supervision of installation of temporary ground protection over RPA of G46 at Access point off A528.
	Identification of machine exclusion zone.
Installation of Tree Protective Fencing according to TPP	Full supervision of works.

Stage of Process	Requirement
On completion of works.	Supervision of removal of tree protection fencing.
	Check final ground levels.
	Send audit report form to Chief Environment Officer.

4.8. Responsibilities.

Successful implementation of tree protection measures and long term tree retention depends on co-ordination between the client and key personnel involved in the development. [L] [SEP]

4.8.1. The client and agent shall ensure that:

- The site manager and all other personnel are provided with this document; [L] [SEP]
- All planning conditions relating to underground works, services, trees and landscaping are cleared before development commences;
- All requirements of this Tree Protection Scheme are adhered to;
- The site manager is updated of any approved changes or variations to this document. [L] [SEP]

The client and site manager shall ensure that:

- A copy of this document together with the associated Tree Protection Plan is easily accessible for site personnel to refer to before and during the time construction activity is taking place;
- All personnel working on the site are made aware of the tree protection plan and arboricultural method statements covering any activities they will undertake. This duty includes delegating the task of briefing personnel in the absence of the site manager;
- Site personnel are updated of any approved changes or variations to the approved tree protection measures;
- Personnel work in accordance with this document at all times, or in accordance with approved variation;
- The tree protection measures are left in place until the construction phase of development is completed, except with the written consent of the senior environmental officer (Mr Joel Rhys Jones).

4.6. Procedures for Incidents.

4.6.1. If any breach of the approved tree protection measures occurs:

The senior environment officer shall be immediately notified.

The site manager must be informed.

Swift action must be taken to halt the breach and prevent any further breach. [L] [SEP]

Damage mitigation measures appropriate to the scale of the incident will be deployed where required. [L] [SEP]

5. CONTACT INFORMATION

Name	Position	Address	Telephone
Mr Joel Rees Jones	Project Manager (NRW)	NRW	Tel: 07776 474308
	Chief Environment Officer (NRW)		Tel:
Mr John Sweeny	Project Arboriculturalist	Mynydd Timber Services Ltd. 18 Tan y Bwlch, Mynydd Llandegai, LL57 4DX	01248 601032 07985548725