



Cardigan Memorial Hospital

BS5837:2012 Tree Survey 9th December 2023

Membership No: TE03654



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9th December 2023

Carmarthen Memorial Hospital

| | |
|---|--|
| Site Location: Former Cardigan Hospital | Report Reference: 02/21/CDH/V8 |
| Client: Iestyn Evans I&G Ecological Consulting Ltd. | Date of Report: 9 th December 2023 Date of Site Visits: 15 th February 2021 |
| Report Prepared By: Liz Phillips | Survey Carried Out By: Liz Phillips |

RTAC, 6 COURTYARD FLATS, STABLE YARD, STACKPOLE, PEMBROKESHIRE, SA71 5DE

07823332279, info@rtactrees.co.uk, www.rtactrees.co.uk

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1. Introduction

1.1 Site Location

1.1.1 Site Address: Former Cardigan Hospital, Pont-y-Cleifion, Cardigan, SA43 1DW.

1.1.2 Ordnance Survey grid reference: SN181460.

1.2 Instructions

1.2.1 RTAC has been instructed to produce a tree survey in compliance with BS5837:2012 'Trees in Relation to Design, Demolition and Construction' to include a Tree Constraints Plan, Arboricultural Impact Assessment, Shade Plan, Tree Protection Plan and Arboricultural Method Statement. The instruction was given by Iestyn Evans of I&G Ecological Consulting Ltd.

1.3 Documents Provided

1.3.1

| Document Description | Reference Number | Produced By | Date |
|---|---------------------------|---|---------------|
| Ecological Appraisal Report: Land Cardigan Memorial Hospital, Pontycleifion, Cardigan | | Wendy J. Larcombe Consultant Ecologist I&G Ecological Consulting Ltd. | December 2019 |
| Topographical Survey 1:200@A0 | JR-1261 | JR Land Surveys | |
| Cardigan & District Memorial Hospital Site Survey 1:200@Undefined | 01021 | John Vincent Surveys Ltd. | February 2021 |
| Proposed Site Plan | | Gaunt Francis Architects | |
| Proposed Site Layout 1:250@A1 | 20041-GFA-ZZ-ZZ-DR-A-1017 | Gaunt Francis Architects | 07/04/21 |

1.3.2 No independent verification or assessment of these documents has been made by RTAC. Cardigan & District Memorial Hospital Site Survey February 2021 and the Proposed Site Layout 1:250@A1 have been used to form the basis of the plans in this report.

1.4 Scope of Report

1.4.1 The purpose of this report is to survey the trees within and immediately adjacent to the curtilage of the former hospital site including the adjoining churchyard.

1.4.2 This report is concerned with the arboricultural features of the site solely and including any physical features which directly affect or are affected by the trees.

1.4.3 This survey is a record of the condition of the trees at the time of the survey being carried out, notwithstanding this, the purpose of this survey is to assess the trees in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations and with respect to the proposed development and the survey is not intended to be a full tree condition or hazard survey.

1.5 Survey Methodology and Limitations

1.5.1 The survey was carried out on Monday 15th February 2021, the weather was dry, cold, and overcast and visibility was good

1.5.2 No discussion took place between the surveyor and any other party.

1.5.3 The heights and crown spreads of the trees recorded were measured with an SNDWAY SW-1000A Laser Distance Meter Telescope. Stem diameters of all trees recorded were measured at 1.5 metres above ground level with a diameter tape.

1.5.4 Tree locations were plotted using the existing trees marked on the site plan.

1.5.5 No vegetation has been removed to inspect trees and where trees are not visible or accessible because of vegetation, fences, ditches, or other obstructions a limited assessment has been carried out.

1.5.6 Observations were made using Visual Tree Assessment (VTA) methodology (Mattheck 1994). The data was recorded using Pear Technology Pocket GIS on a Panasonic Toughbook CF-19.

1.5.7 The trees recorded were tagged with two-inch diameter aluminium tree tags numbered from 0450 to 0477 inclusive. Only trees with a stem diameter above 75mm at 1.5m above ground level were plotted on the Tree Constraints Plans (Appendix II). Smaller trees and shrubs have not been recorded. Three trees in St. Mary's Church yard have been recorded and given the prefix 'X'.

1.5.8 This survey was undertaken in accordance with BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations.

1.5.9 The trees have been categorised in accordance with the British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations as listed below:

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 150mm.

These categories are subdivided into 1. Arboricultural qualities, 2. Landscape qualities and 3. Cultural values, including conservation.

Trees not suitable for retention have been categorised as U.

See Appendix I for table of categories.

1.5.10 All observations were made from the ground. No climbing surveys were carried out.

1.5.11 No soil samples were taken.

1.5.12 No invasive decay detection techniques have been used.

1.5.13 This report is valid for one year from the date of inspection. Trees are living organisms, and no responsibility can be accepted by the surveyor for the failure of a tree or part of a tree due to adverse weather conditions, *force majeure*, or other

unpredictable occurrences. It is the responsibility of the tree owner to inspect and maintain his or her trees on a regular basis.

1.5.14 The tree survey was carried out by Liz Phillips TechArborA of RTAC. Liz has worked in the arboricultural industry for 14 years as a tree surgeon, surveyor, local authority tree officer and consultant.

1.6 Planning Policy

1.6.1 Planning Policy Wales Edition 11 February 2021 Chapter 6: Distinctive and Natural Places contains the following policies:

Trees, Woodlands and Hedgerows

6.4.24 *Trees, woodlands, copses and hedgerows are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make a valuable wider contribution to landscape character, 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 and shelter, a sustainable energy source and building materials. The particular role, siting and design requirements of urban trees in providing health and well-being benefits to communities, now and in the future should be promoted as part of plan making and decision taking.*

6.4.25 *Planning authorities should 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 and identified green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or SPG. Permanent removal of woodland should only be permitted where it would achieve significant and clearly defined public benefits. Where woodland or trees are removed as part of a proposed scheme, developers will be expected to provide compensatory planting.*

6.4.26 *Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should 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.*

6.4.27 *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.*

1.6.2 Ceredigion County Council's Local Development Plan 2007-2022 (adopted 2013) contains the following policy:

DM20: Protection of Trees, Hedgerows and Woodlands

Development will be permitted providing:

- 1. it would not remove, damage, or destroy trees, hedgerows, or woodlands of visual, ecological, historic, cultural or amenity value unless the need of the proposed development outweighs these values;*
- 2. it is able to mitigate or if necessary compensate for any negative impacts of the loss or damage;*
- 3. it would achieve appropriate biodiversity gain; and*
- 4. compensation and enhancement measures are mainly native species of local provenance and are not non-native invasive species.*

1.7 Protected Wildlife

1.7.1 Before any treeworks are carried out, the trees should be inspected for any evidence of bats or nesting birds.

1.7.2 It is an offence under the Wildlife and Countryside Act 1981 to intentionally:

- kill, injure, or take any wild bird;
- take, damage, or destroy the nest of a wild bird included in Schedule ZA1;
- take, damage, or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird,

1.7.3 It is also an offence to:

- deliberately capture, injure, or kill a bat;
- damage or destroy any structure or place which any bat uses for shelter or protection;
- disturb any bat while it is occupying a structure or place which it uses for shelter or protection; or
- obstruct access to any structure or place which any bat uses for shelter or protection.

1.8 Statutory Designations

1.8.1 Paul Evans, Countryside Officer, Coast and Countryside Section, Ceredigion County Council has confirmed that part of the western area of the site is covered by the Cardigan Conservation Area.



2. Site Analysis

2.1 Site Description

2.1.1 The site is a former hospital situated on the outskirts of the small town of Cardigan. The site measures approximately 1.5 hectares on level ground on the north bank of the river Teifi and is bordered to the east by the A487; Pont-Y-Cleifion, a residential street, to the north and St. Mary’s Church and its grounds to the west.

2.1.2 The former hospital buildings and car parks occupy the northern half of the site. The southern part of the site is laid to lawn with a few small and semi-mature trees.

2.1.3 Also included in this survey is a piece of rough ground between the eastern boundary of the hospital site and the group of semi-mature trees bordering the A487. This ground is lower than the site and overgrown with scattered young ash trees and bordered to the south by a mixed group of conifers and broadleaved trees.

2.2 Proposed Works

2.2.1 The existing buildings will be converted into residential accommodation and offices with a car parking area on the rough ground to the east. The lawned area adjacent to the river will be unaltered apart from a SUDS drainage basin in the south-west corner of the site.

3. The Trees

3.1 Thirty-one trees and two mixed species groups were recorded; the tables of species, age class and retention category are below:

3.2 Tree Species

| Common Name | Botanical Name | Number of Trees |
|-----------------------|------------------------------------|-----------------|
| Mixed groups | | 2 |
| Leyland cypress | <i>X Cupressocyparis leylandii</i> | 7 |
| Sycamore | <i>Acer pseudoplatanus</i> | 6 |
| Kanzan cherry | <i>Prunus ‘Kanzan’</i> | 4 |
| Common beech | <i>Fagus sylvatica</i> | 3 |
| Japanese crab | <i>Malus floribunda</i> | 3 |
| Atlas cedar | <i>Cedrus atlantica</i> | 1 |
| Erman’s birch | <i>Betula ermanii</i> | 1 |
| Common lime | <i>Tilia europaea</i> | 1 |
| Japanese red cedar | <i>Cryptomeria japonica</i> | 1 |
| Robinia | <i>Robinia pseudoacacia</i> | 1 |
| Rough Arizona cypress | <i>Cupressa arizonica</i> | 1 |
| Schmitt’s cherry | <i>Prunus x schmittii</i> | 1 |
| Common yew | <i>Taxus baccata</i> | 1 |

3.3 Age Classes

| Age Class | Number of Trees |
|-------------|-----------------|
| Young | 2 |
| Semi-mature | 18 |
| Mature | 11 |
| Over Mature | 0 |

3.4 Retention Category

| Retention Category | Number of Trees |
|--------------------|-----------------|
| A | 3 |
| B | 9 |
| C | 18 |
| U | 3 |

4 Treeworks Recommendations

4.1

| Tree Number | Species | Work Required | Priority |
|------------------|---------------------|---------------------|----------|
| T450 | Norway maple | Fell | 1 Year |
| T451/ T452/ T472 | Japanese crab apple | | |
| T467/ T468 | Sycamore | | |
| T473 | Japanese red cedar | | |
| T474/ T475 | Kanzan cherry | | |
| T476 | Robinia | | |
| T454 | Beech | Climbing inspection | 6 Months |

4.2 All treeworks must be carried out in accordance with BS3998:2010 Recommendations for Treeworks.

5 Arboricultural Impact Assessment

5.1 Tree Constraints Plan

5.1.1 All site plans are in Appendix II.

5.1.2 Above Ground Constraints - current crown spread is marked on the Tree Constraints Plan (TCP). This does not indicate the ultimate crown spread of the individual trees.

5.1.3 Below Ground Constraints – the root protection area (RPA) is a circle of radius 12 x the diameter of the stem of the tree measured at 1.5 metres above ground level. For a multi-stemmed tree, the RPA is calculated using the following formula:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

5.1.4 The RPA is usually depicted as a complete circle; however, this area can be altered in shape to reflect compromised growing conditions such as the presence of

buildings, watercourses, etc. In this case, the RPAs of T450, T451, T452, T453, T454, T455, T460, T468, T477, X1, X2 and X3 have been redrawn to reflect the existing road layout and structures within the site.

5.1.5 The shade patterns of the trees have been plotted on the Shade Plan as these can cause significant constraints on the enjoyment of use of a building. X2 will cast some shade on Block A during the latter part of the day; this tree is off-site and cannot be removed. The remaining retained trees will not have an adverse shading effect on the new development.

5.2 Arboricultural Impact Assessment

5.2.1 Three trees, T451, T459 and T477 are in poor condition and need to be removed.

5.2.2 One lime, T453, one off site sycamore, X1, and seven leylandii, T455, T456, T457, T458, T459, T460 and T461 have already been removed.

5.2.3 T450 will need to be removed to enable the construction of the new parking area. This tree is a small C category tree, and the loss of this tree will not be detrimental to the amenity value of the site. A small group of young self-set ash trees will also be removed.

5.2.4 T472, T473, T474, T475 and T476 will need to be removed to excavate the SUDS drainage basin. Mitigative planting will be provided as part of the landscaping scheme.

5.2.5 The existing boundary wall will protect the churchyard trees from any adverse effects from construction and will prevent any root encroachment from these trees into the site.

5.2.6 The proposed footpaths around the lawns in the southern and eastern parts of the site may encroach into the rpas of some retained trees. The route of this path has not been finalised, if it does encroach into any rpas, this section of the path will need to be constructed of a non-compressible geogrid such as Cellweb (see Appendix III).

5.3 Tree Protection Plan & Method Statement

5.3.1 All treeworks must be carried out prior to the commencement of construction works.

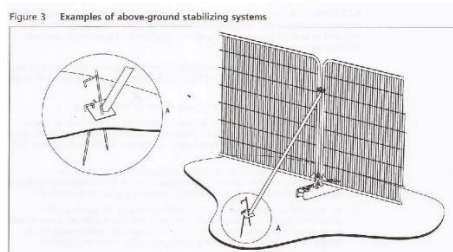
5.3.2 Heras fencing as shown below will be erected as marked on the Tree Protection Plan in Appendix II. The existing fences and walls will provide additional protection. Signage as shown below must be attached to the tree protection fencing.

5.3.3 The fenced off area will be designated as the construction exclusion zone (CEZ). All fencing must be in place before construction works begin and must not be moved or removed until all construction works have finished.

5.3.4 Works within the CEZ are restricted as follows:

- No excavations to be carried out unless agreed as part of the planning permission.
- No vehicle access.
- No fires to be lit within the CEZ or within 10 metres of the crown of a tree to be retained.
- No storage of construction materials or spoil within the CEZ.

- No mixing of cement or discharge of contaminants such as fuel within the CEZ.
- Soil levels within the CEZ must not be altered unless agreed as part of the planning permission.
- No signs or lighting to be attached to trees to be retained



Tree Protection Fencing



Tree Protection Signage



9th December 2023

Carmarthen Memorial Hospital

APPENDIX

I. Survey Data

Terms used in data tables

BS5837 Survey

Tag No – corresponds to numbered metal tag attached to tree.

Species – common and Latin names are given.

Height - measured with a Suunto PM5/360 clinometer to the nearest metre unless otherwise stated.

Stem diameter - measured at 1.5 metres above ground level with a dbh (diameter at breast height) tape.

Crown spread - measured at the cardinal points to 0.5 metres.

Clear - the lowest height of the crown above ground measured in metres.

Age - NP – newly planted; Y – young, a tree in the first third of life expectancy; SM – semi-mature, a tree in the second half of life expectancy; M – mature, tree in final third of life expectancy; OM – over-mature, tree in decline; V – veteran, tree with major physiological decline, surviving beyond the typical age range for the species.

RP – root protection area; radius and area of circle.

Phys. Condition - physiological condition; poor, fair, good, dead, or dangerous.

Structural condition - crown, stem, and basal area.

Preliminary recommendations - recommendations for remedial works.

Cat - retention category as defined in BS5837:2012 A, B, C and U.

Table 1 Cascade chart for tree quality assessment

| Category and definition | Criteria (including subcategories where appropriate) | Identification on plan |
|---|--|---|
| Trees unsuitable for retention (see Note) | | |
| Category 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 | <ul style="list-style-type: none"> Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</p> | See Table 2 |
| | 1 Mainly arboricultural qualities | 2 Mainly landscape qualities |
| | | 3 Mainly cultural values, including conservation |
| Trees to be considered for retention | | |
| Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years | Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue) | Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features |
| Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years | Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation | Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality |
| 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 | Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories | Trees with no material conservation or other cultural value |
| | | Trees with material conservation or other cultural value |
| | | Trees with significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits |
| | | Trees with no material conservation or other cultural value |

BS5837:2012 Tree Survey

RTAC

Client: Iestyn Evans
 Project: Cardigan Hospital Dec 2023
 Survey Date: 15/02/2021
 Surveyor: Liz Phillips



6 Courtyard Flats
 Stable Yard
 Stackpole
 Pembrokeshire
 SA71 5DE
 Phone: 07823332279

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations Survey Comment | Cat ERC | |
|--|-------------|---------------|-----------|---------------|-------------------|-----|------------------------------------|--------------------|-------------------------|---|--|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | | | |
| T450 | | | | | | | | | | | | |
| Norway Maple <i>Acer platanoides</i> | 8 | 1 | 370 | N | 4 | 2 | SM | A: 61.9 R: 4.43 | Fair | C: Good S: Fair B: Good | Fell :: Fell to facilitate development Bark splits in several places. | C.2 20 to 40 yrs |
| T451 | | | | | | | | | | | | |
| Japanese Crab <i>Malus floribunda</i> | 5 | 1 | | N | 2.5 | 2 | SM | A: 0 R: 0 | Poor | C: Fair S: Poor B: Good | Fell :: Fell to ground level 95% of bark stripped from stem. | U |
| T452 | | | | | | | | | | | | |
| Japanese Crab <i>Malus floribunda</i> | 5 | 1 | 250 | N | 3 | 2 | SM | A: 28.3 R: 3 | Good | C: Fair S: Good B: Good | Fell :: Fell to facilitate development Heavily pruned over road. | C.2 10 to 20 yrs |
| T453 | | | | | | | | | | | | |
| Common Lime <i>Tilia europaea</i> | 18 | 2 | 1273 (Eq) | N | 6 | 2 | M | A: 707 R: 15 | Fair | C: Fair S: Good B: Good | Felled :: Unspecified Felled in agreement with LPA Tree Officer. | A.2 >40 yrs |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | | C | Crown | Stems: | Ø | Diameter |
| | Y | Young | M | Mature | | | | S | Stem | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | ERC: | | Estimated Remaining Contributio |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations Survey Comment | Cat ERC | |
|---|-------------|---------------|-----------|------------------|--------------------|--------------------|------------------------------------|-------------------|-------------------------------|--|---------------------------------|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | | | |
| T454 Common Beech <i>Fagus sylvatica</i> | 15 | 1 | 1000 | N E S W | 7 11 10 5 | 2 4 3 6 | M A: 452.4 R: 12 | Fair | C: Fair S: Fair B: Good | Re-inspect :: See Comment Pruned on west side to clear lamppost; asymmetrical crown; crossing branches in crown; 4 large cavities at stem break at 5- 6m - climbing inspection to assess extent of cavities recommended. | C 20 to 40 yrs | |
| T455 Leyland Cypress <i>X Cupressocyparis leylandii</i> | 13 | 1 | 700 | N E S W | 3 4 6 6 | 3 2 0.5 3 | M A: 221.7 R: 8.4 | Good | C: Good S: Good B: Good | Felled :: Unspecified | B.2 >40 yrs | |
| T456 Leyland Cypress <i>X Cupressocyparis leylandii</i> | 13 | 1 | 750 | N E S W | 5 2 6 4 | 6 6 2 1.5 | SM A: 254.5 R: 9 | Good | C: Good S: Fair B: Good | Felled :: Unspecified Leaning. | B.2 20 to 40 yrs | |
| T457 Leyland Cypress <i>X Cupressocyparis leylandii</i> | 11 | 1 | 250 | N E S W | 1 1 3 1.5 | 7 6 3 7 | SM A: 28.3 R: 3 | Good | C: Fair S: Good B: Good | Felled :: Unspecified Suppressed. | C.2 >40 yrs | |
| T458 Leyland Cypress <i>X Cupressocyparis leylandii</i> | 13 | 1 | 920 | N E S W | 6 5 6 4 | 4 2 1.5 7 | M A: 383 R: 11.04 | Good | C: Good S: Good B: Good | Felled :: Unspecified | B.2 >40 yrs | |
| T459 Leyland Cypress <i>X Cupressocyparis leylandii</i> | 6 | 1 | 220 | N E S W | 2 1 1 3 | | SM A: 21.9 R: 2.64 | Dead | C: Poor S: Poor B: | Felled :: Unspecified | Estimated Measurements U | |
| Age Classifications: | N | Newly planted | EM | Early Mature | | | Condition: | C | Crown | Stems: | Ø | Diameter |
| | Y | Young | M | Mature | | | | S | Stem | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | ERC: | | Estimated Remaining Contributio |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations Survey Comment | Cat ERC | |
|---|-------------|---------------|-----------|------------------|-------------------|----------------------|------------------------------------|-------------------|-------------------------------|---|---|--|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | | | |
| T460 Leyland Cypress <i>X Cupressocyparis leylandii</i> | 15 | 2 | 1020 (Eq) | N E S W | 6 7 8 4 | 4 1.5 4 1.5 | M A: 470.7 R: 12.24 | Good | C: Good S: Good B: Good | Felled :: Unspecified | B.2 >40 yrs | |
| T461 Leyland Cypress <i>X Cupressocyparis leylandii</i> | 15 | 2 | 628 (Eq) | N E S W | 7 8 7 2 | 4 3 3 7 | M A: 178.4 R: 7.53 | Good | C: Fair S: Good B: Good | Felled :: Unspecified Asymmetrical crown. | B.2 >40 yrs | |
| T462 Cupressus <i>Cupressus Spp.</i> | 12 | 5 | 744 (Eq) | N E S W | 6 5 7 7 | 2 1.5 4 0 | M A: 250.2 R: 8.92 | Good | C: Good S: Good B: Good | No action :: Unspecified | A.2 >40 yrs | |
| T463 Sycamore <i>Acer pseudoplatanus</i> | 9 | 1 | 230 | N E S W | 6 2 4 4 | 2 5 4 5 | SM A: 23.9 R: 2.75 | Good | C: Good S: Good B: Good | No action :: Unspecified | C.2 >40 yrs | |
| T464 Sycamore <i>Acer pseudoplatanus</i> | 9 | 2 | 278 (Eq) | N E S W | 5 3 3 2 | 3 3 3 4 | SM A: 35 R: 3.33 | Good | C: Good S: Good B: Good | No action :: Unspecified | C.2 >40 yrs | |
| T465 Common Beech <i>Fagus sylvatica</i> | 16 | 1 | 620 | N E S W | 6 8 7 7 | 3 1.5 1 1 | SM A: 173.9 R: 7.44 | Good | C: Good S: Good B: Good | No action :: Unspecified | A.2 >40 yrs | |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | C | Crown | Stems: | Ø | Diameter | |
| | Y | Young | M | Mature | | | S | Stem | | (Eq) | Equivalent stem diameter using BS5837:2012 definition | |
| | SM | Semi-mature | OM | Over Mature | | | B | Basal area | ERC: | | Estimated Remaining Contributio | |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations Survey Comment | Cat ERC | |
|---|-------------|---------------|-----------|------------------|----------------------|----------------------|------------------------------------|-------------------|-------------------------------|--|---------------------|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | | | |
| T466 Common Beech <i>Fagus sylvatica</i> | 11 | 2 | 391 (Eq) | N E S W | 3 1 6 6 | 5 8 2 0.5 | Y A: 69 R: 4.68 | Good | C: Fair S: Good B: Good | No action :: Unspecified Suppressed. | C.2 >40 yrs | |
| T467 Sycamore <i>Acer pseudoplatanus</i> | 8 | 1 | 260 | N E S W | 4 5 1 3 | 4 2 5 3 | SM A: 30.6 R: 3.12 | Fair | C: Fair S: Good B: Good | Fell :: Fell to facilitate development Suppressed; minor deadwood. | C.2 20 to 40 yrs | |
| T468 Sycamore <i>Acer pseudoplatanus</i> | 10 | 1 | 260 | N E S W | 2 2 3 3 | 6 7 5 3 | SM A: 30.6 R: 3.12 | Fair | C: Fair S: Good B: Good | Fell :: Fell to facilitate development Minor deadwood; ivy covered. | C.2 >40 yrs | |
| T469 Erman's Birch <i>Betula ermanii</i> | 9 | 1 | 370 | N E S W | 6 4 5 4 | 4 2 2 3 | SM A: 61.9 R: 4.43 | Good | C: Good S: Good B: Good | No action :: Unspecified | C.2 >40 yrs | |
| T470 Sargent Cherry <i>Prunus sargentii</i> | 4 | 1 | 160 | N E S W | 2 1.5 1.5 1 | 3 2 1.5 2 | SM A: 11.6 R: 1.92 | Good | C: Good S: Good B: Good | No action :: Unspecified | C.2 20 to 40 yrs | |
| T471 Prunus 'Kanzan' <i>Prunus 'Kanzan'</i> | 4 | 1 | 500 | N E S W | 6 7 6 5 | 1.5 2 1.5 2 | M A: 113.1 R: 6 | Good | C: Good S: Good B: Good | No action :: Unspecified | B.2 10 to 20 yrs | |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | | C | Crown | Stems: | Ø | Diameter |
| | Y | Young | M | Mature | | | | S | Stem | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | ERC: | | Estimated Remaining Contributio |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations Survey Comment | Cat ERC | |
|---|-------------|---------------|-----------|---------------|-------------------|-----|------------------------------------|--------------------|-------------------------|---|---|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | | | |
| T472 | | | | | | | | | | | | |
| Japanese Crab <i>Malus floribunda</i> | 3.5 | 1 | 180 | N | 3 | 2 | SM | A: 14.7 R: 2.16 | Good | C: Good S: Good B: Good | Fell :: Fell to facilitate development | C.2 10 to 20 yrs |
| T473 no tag | | | | | | | | | | | | |
| Japanese Red Cedar <i>Cryptomeria japonica</i> | 6 | 1 | 300 | N | 5 | 0 | SM | A: 40.7 R: 3.59 | Good | C: Fair S: Fair B: Good | Fell :: Fell to facilitate development Asymmetrical crown; leaning. | C.2 20 to 40 yrs |
| T474 | | | | | | | | | | | | |
| Prunus 'Kanzan' <i>Prunus 'Kanzan'</i> | 5 | 1 | 500 | N | 6 | 3 | M | A: 113.1 R: 6 | Good | C: Good S: Fair B: Fair | Fell :: Fell to facilitate development Leaning; exposed roots. | B.2 10 to 20 yrs |
| T475 | | | | | | | | | | | | |
| Prunus 'Kanzan' <i>Prunus 'Kanzan'</i> | 4 | 1 | 370 | N | 3 | 2 | M | A: 61.9 R: 4.43 | Fair | C: Good S: Good B: Good | Fell :: Fell to facilitate development Crown covered in ivy. | C.2 10 to 20 yrs |
| T476 | | | | | | | | | | | | |
| Robinia <i>Robinia pseudoacacia</i> | 6 | 1 | 320 | N | 4 | 3 | SM | A: 46.3 R: 3.83 | Fair | C: Poor S: Fair B: Good | Fell :: Fell to facilitate development Deadwood; leaning; bark wounds. | C.2 10 to 20 yrs |
| T477 | | | | | | | | | | | | |
| Prunus 'Kanzan' <i>Prunus 'Kanzan'</i> | 3 | 1 | 230 | N | 1.5 | 3 | Y | A: 23.9 R: 2.75 | Poor | C: Poor S: Good B: Good | Fell :: Fell to ground level Crown damage; split branches; major deadwood. | U |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | | C | Crown | Stems: | Ø | Diameter |
| | Y | Young | M | Mature | | | | S | Stem | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | ERC: | | Estimated Remaining Contributio |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations Survey Comment | Cat ERC |
|--|-------------|---|-----------|------------------|--------------------------|-----|------------------------------------|-------------------|-------------------------------|--|-----------------------|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | | |
| X1 no tag | | | | | | | | | | | |
| Sycamore <i>Acer pseudoplatanus</i> | 11 | 1 | 540 | N E S W | 6 7 6 7 | M | A: 131.9 R: 6.47 | Good | C: Good S: Good B: Good | Felled :: Unspecified Felled under CA approval. | B.2 >40 yrs |
| X2 no tag | | | | | | | | | | | |
| Atlas Cedar <i>Cedrus atlantica</i> | 16 | 1 | 570 | N E S W | 6 6 6 6 | SM | A: 147 R: 6.84 | Good | C: Good S: Fair B: Fair | No action :: Unspecified Weak fork at stem break. | B.2 >40 yrs |
| X3 no tag | | | | | | | | | | | |
| Common Yew <i>Taxus baccata</i> | 7 | 10 | 999 (Eq) | N E S W | 1.5 1.5 1.5 1.5 | SM | A: 451.8 R: 11.99 | Good | C: Good S: Good B: Good | No action :: Unspecified | C.2 >40 yrs |
| Age Classifications: | N | Newly planted | EM | Early Mature | | | | | | | |
| | Y | Young | M | Mature | | | | | | | |
| | SM | Semi-mature | OM | Over Mature | | | | | | | |
| Condition: | C | Crown | | | | | | | | | |
| | S | Stem | | | | | | | | | |
| | B | Basal area | | | | | | | | | |
| Stems: | Ø | Diameter | | | | | | | | | |
| | (Eq) | Equivalent stem diameter using BS5837:2012 definition | | | | | | | | | |
| ERC: | | Estimated Remaining Contributio | | | | | | | | | |

Report selection criteria.

Projects.

Cardigan Hospital Dec 2023

Date Range.

Any Date

Work types.

----> Fell :: Fell to facilitate development
 ----> Fell :: Fell to ground level
 ----> Felled :: Unspecified
 ----> No action :: Unspecified
 ----> Re-inspect :: See Comment

Latest Survey.

All surveys for the selected trees.
 ---> Last survey for each selected tree.

Work Completed.

---> Work Completed
 ---> Work Not Completed

Number of trees in selected Project(s) 31

Number of trees in Report selection 31

Age Classifications: N Newly planted EM Early Mature
 Y Young M Mature
 SM Semi-mature OM Over Mature

Condition: C Crown
 S Stem
 B Basal area

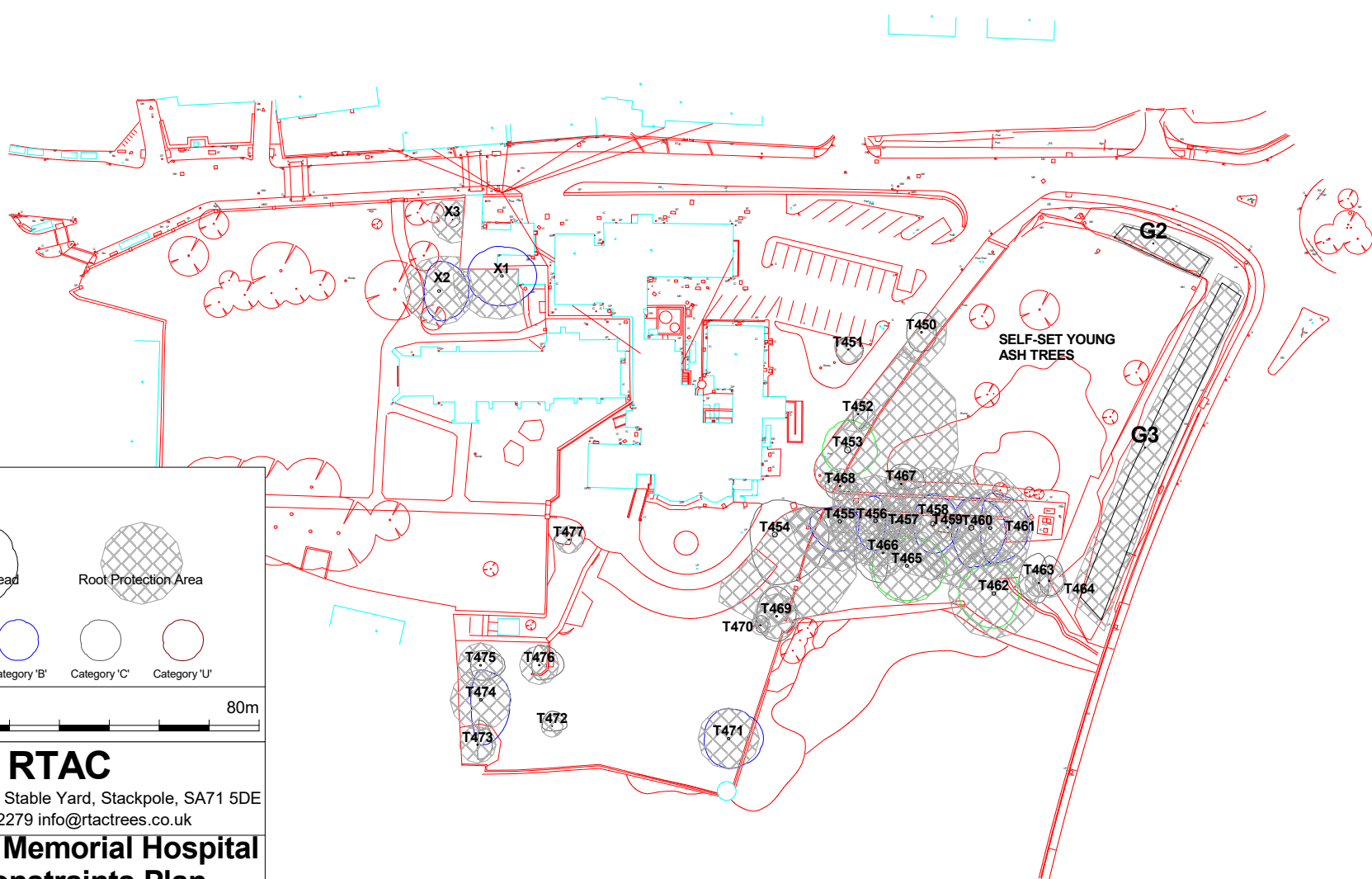
Stems: Ø Diameter
 (Eq) Equivalent stem diameter using BS5837:2012 definition
ERC: Estimated Remaining Contributio



9th December 2023

Carmarthen Memorial Hospital

II. Site Plans



Crown Spread Root Protection Area

Category 'A' Category 'B' Category 'C' Category 'U'

0 80m

RTAC

6 Courtyard Flats, Stable Yard, Stackpole, SA71 5DE
 07823332279 info@rtactrees.co.uk

**Cardigan Memorial Hospital
 Tree Constraints Plan**

| | |
|------------------------------|----------------------|
| SCALE : 1 : 1250 @ A4 | DATE : 20/02/2021 |
| MAP FILENAME : [Filename] | |

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RTAC

6 Courtyard Flats, Stable Yard, Stackpole, SA71 5DE
07823332279 info@rtactrees.co.uk

Cardigan Memorial Hospital Site Layout Tree Constraints Plan

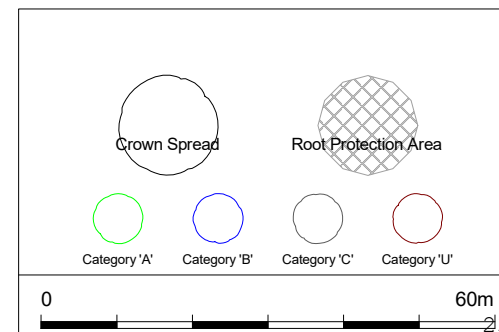
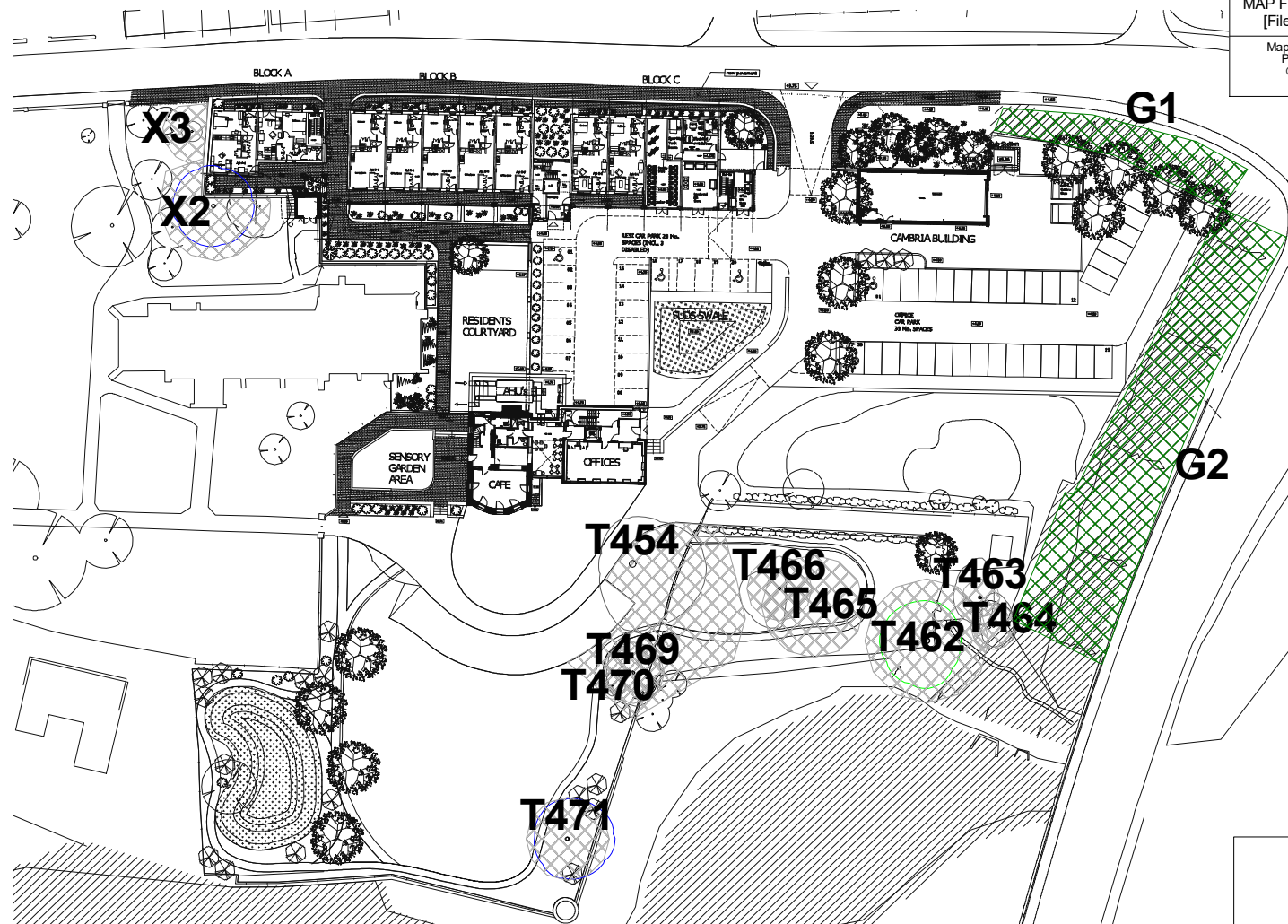
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09/12/2023



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Cardigan Memorial Hospital Site Layout Tree Shade Plan

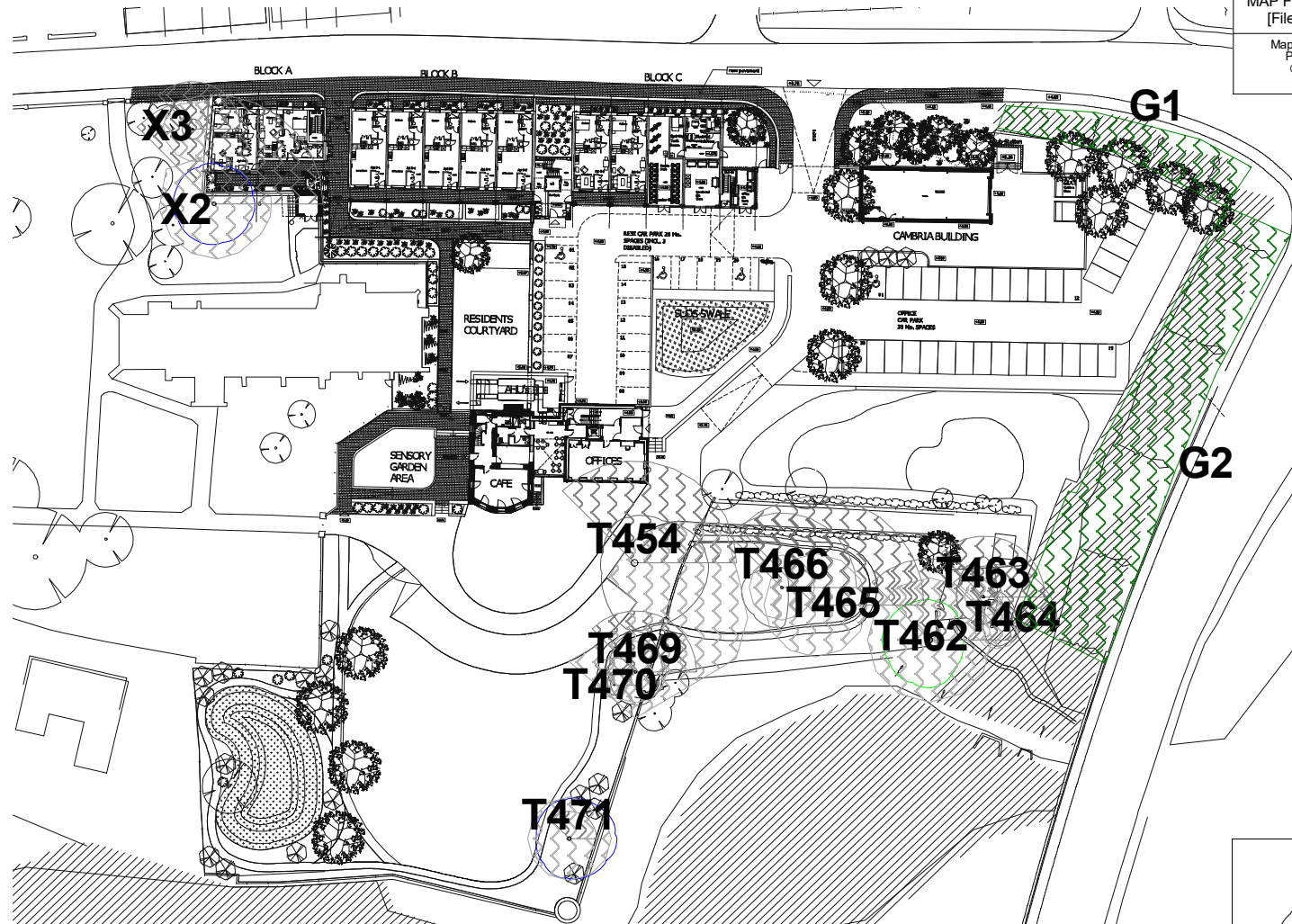
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DATE :
08/12/2023



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[Filename]

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| | | | |
|--------------|----------------------|--------------|--------------|
| | | | |
| Crown Spread | Root Protection Area | Shading Arc | |
| | | | |
| Category 'A' | Category 'B' | Category 'C' | Category 'U' |

0 60m 24

RTAC

6 Courtyard Flats, Stable Yard, Stackpole, SA71 5DE
07823332279 info@rtactrees.co.uk

Cardigan Memorial Hospital Site Layout Tree Protection Plan

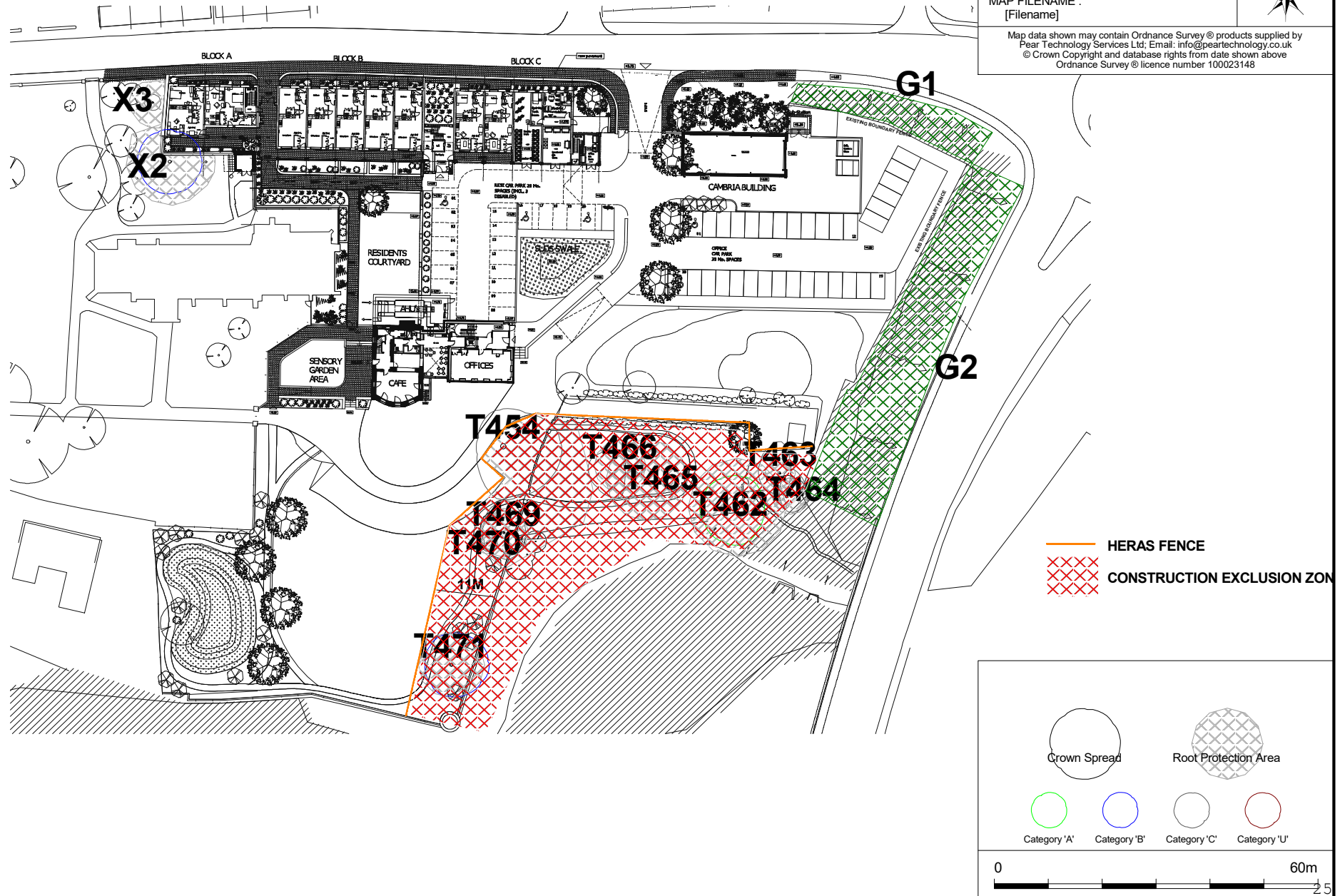
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9th December 2023

Carmarthen Memorial Hospital

III. Cellweb

Cellweb® TRP Installation Guide



Step 1: Prepare Surface



Step 2: Lay out Treetex™



Step 3: Lay out Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
 - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
 - Arboricultural Advisory and Information Service: Practice note 12 – 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

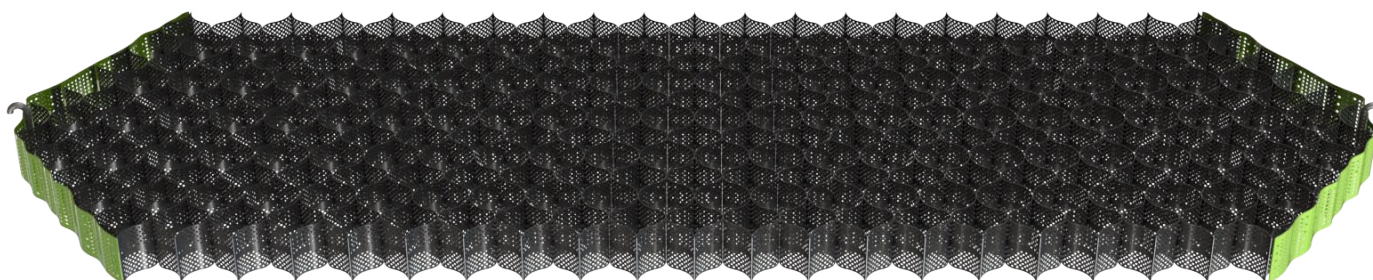
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

2. Lay out the Treetex™ Non-Woven Geotextile

- Lay out the Treetex™ over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).

3. Lay out the Cellweb® TRP Cellular Confinement System

- Lay out the collapsed Cellweb® TRP on-top of the Treetex™.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.



Cellweb® TRP - Installation Guide

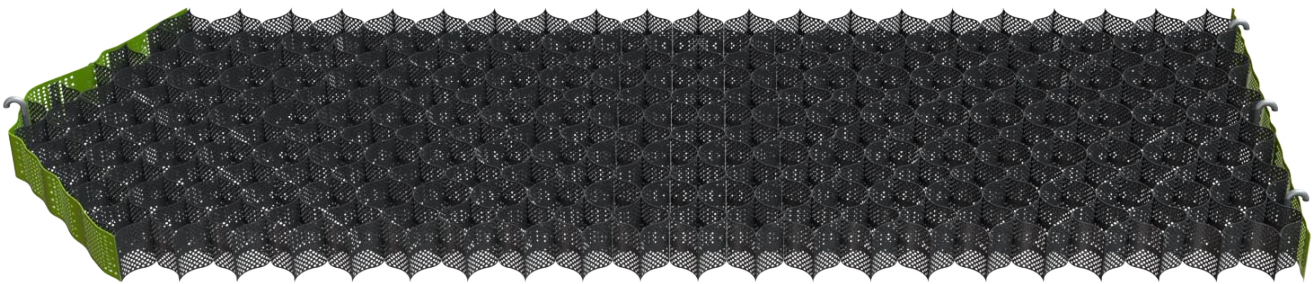


Step 3: Pinning Cellweb® TRP

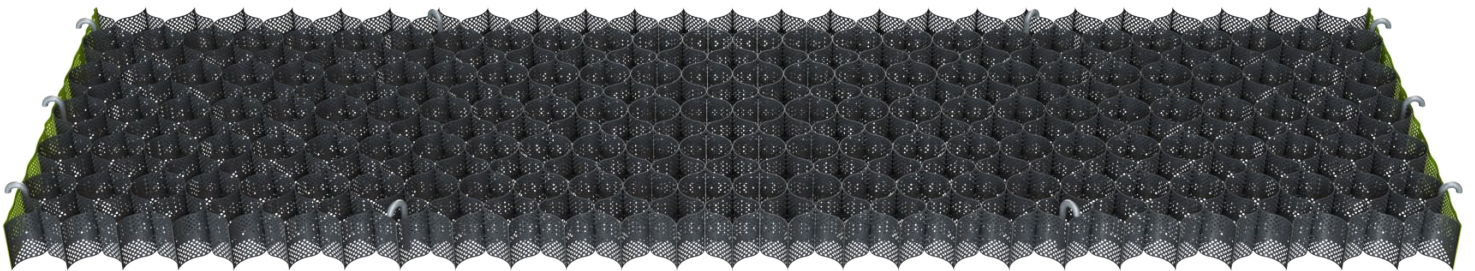


Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.



- Now measure its width to 2.56m and secure in each of the corners with the J pins.
- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.



- This will produce a cell size of 259mm x 224mm which is the required cell diameter. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- All cells must be fully opened to the required diameter.

Cellweb® TRP - Installation Guide



Step 4: Clean Angular Stone



Step 5: Edge Restraints



Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- Minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.
- Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.
- If the clean angular stone is being used as the final surface; regular maintenance will be required to ensure a minimum overfill of 50mm.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- All surfaces in Root Protection Areas must be porous. Surfaces can include block paving, asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel, concrete etc.

NOTES

- 1. Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
- 2. Geotextile:** We recommend the installation of a Treetex™ under the Cellweb® TRP, or under the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
- 3. Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
- 4. Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.

IV. Photographs



Entrance to site



T454



T454



T455-T466



Young self-set ash to be removed



Site looking west



T472-T476



Site looking east



X1



X2



X3



T461 from A487



G1



G2

V. Qualifications

Qualifications:

AA Technicians Certificate 2009
BSc. Heritage Conservation 2ii
Electrical Arboriculture Units 1 and 2a
NVQ Level 2 Environmental Conservation
NPTC CS 30, 31, 39, climb trees and perform aerial rescue

CPD:

Bats and Arboriculture: A Practitioner's guide
BS 5837:2012. Tree Surveying and Categorisation
Subsidence 1 day workshop
Assessment of Tree Forks: Assessment of Junctions for Risk Management
The Hollow Tree – Arboriculture
Introduction to Soils

VI. Bibliography

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Diagnosis of Ill-health in Trees (1994) Strouts and Winter; TSO.

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Complete field guide to the Trees of Britain & Europe (2004) Johnson & More; Collins.

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Modern Arboriculture (2003) Shigo; Sherwin Dodge Printers, Littleton, New Hampshire.

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