

Tree Survey

In accordance with BS 5837:12

Trees in relation to design, demolition and constructions
-Recommendations



Project Number: 1157
Site: North Kessock Campsite
Client: HRI Munro Architecture
Site visit: 17th and 22nd January 2020
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1. Introduction

1.1. Terms of references

PALS Tree Service Ltd have been commissioned by HRI Munro Architects to prepare a tree survey to support a planning application at Northbound A9 Rest Area, North Kessock, Inverness, IV1 3YE, Grid Ref: NH 65527 47988. This survey focused specifically on the survey extents area supplied by the client during instruction (*see Tree Constraints Plan in appendix*)

Lawrence Monckton carried out the site survey on the 17th and the 22nd of January 2020. The relevant qualitative tree data was recorded in order to assess the quality of the existing trees and their constraints upon future development of the site.

Relevant information is given on condition, age, size and accurate positioning of all the trees both on and affecting the site, according to British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations.

1.2. Scope of works

The survey focused on trees within the boundary specified by during initial survey request. All individual trees, areas and groups of trees within and close to the boundary set out in supplied plan have been surveyed. The objective of the survey is to gather tree data relevant to any future works at the site and to categorise individual trees and tree groups in accordance with BS 5837:12 based on their condition, quality and future potential.

BS 5837:12 Section 4.5.2 states ‘ *The purpose of the tree categorization method, which should be applied by an arboriculturist, is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.*’

The detailed inspection of individual trees with respect to decay, defects and hazard is beyond the scope of this survey.

1.3. Survey Methodology

1.3.1 All trees within the site with a stem diameter greater than 75mm at 1.5m above ground level were surveyed and tagged accordingly. Survey method was in the manner of Visual Tree Assessment (Matheck, 1994) the basis of which is a non-invasive visual inspection from the ground.

1.3.2 Tree dimensions were taken with a Trupulse 200 handheld laser and a DBH tape. All were recorded to the nearest half metre for dimensions up to 10m and the nearest whole metre for dimensions over 10m. Stem diameter was recorded in millimetres and rounded to the nearest 10mm.

1.3.3 Trees were accurately positioned using a Total Station

1.3.4 Trees of similar dimensions and growing as a cohesive unit have been recorded and plotted in groups.

1.3.5 General tree condition and suitability were assessed, along with a BS5837 Category for quality attributed. (*See Tree Schedule Key for definition of categories.*)

1.4. Limitations

- No specialist decay detection equipment was used.
- No soil assessment or root collar examination beneath soil level was carried out.
- No tree can be declared safe as they are living organisms that can change rapidly, and the forces of nature can dictate failure of sound trees. Therefore, any assessments within this report should only be considered as valid at the time of inspection.
- The author is not responsible for any legal matters that may arise from this report

2.0 The Site

2.1 Site Description

The site is chiefly comprised of a rest area and picnic site, adjacent to the north bound A9 just west of the Kessock Bridge. Essentially a narrow strip of land, the site extends to a little over 2 Ha, bounded to the north by the A9, residential properties to the east and west and a bank to the south which drops steeply to the village of North Kessock. A car park, public toilets and bakery are in the centre of the site, whilst existing picnic areas are located to the east and west. Interpretation boards and the former Dolphin Watch building can also be found overlooking the Firth.

The site has a high frequency of use from users of the rest area, the Harry Gows bakery and passing motorists, and is highly visible, particularly from the south due to its elevated position. The tree cover is an important sound and pollution buffer from the A9 for the residents of North Kessock.

2.2 Overview of trees and areas surveyed

In total 128 trees were surveyed and tagged individually, T7760 – T7789 in the eastern half of the site, and T6801 – T6873 in the west of the site. 23 trees were surveyed and attributed BS5837 Categories, however due to the trees being located out with the site ownership boundary they were not tagged; these are listed as T1-T23 within the Tree Schedule and accompanying Tree Constraints Plan. In addition, 5 Groups were assessed; these are G1-G5.

The tree stock is varied, from planted shelter belts and individual amenity trees, to mature native woodland. The planted shelter belts running adjacent to the A9 play an important role as a noise and pollution buffer, whilst also acting as ‘wildlife corridor’, albeit one that is severed by the exiting slip road and layby. Throughout the picnic areas many semi-mature specimen trees have been planted, which unfortunately have nearly all suffered with basal damage from grass cutting operations; the damage varies in significance but has had an overall effect on the quality and life expectancy of many of the trees.

Several high quality Scots Pines are present in the western half of the site, which if managed correctly will contribute for many generations to come, whilst some of the most striking trees are the ‘off-site’ Elms located along the top of the bank to the south. Sadly, some of these trees are over-mature, ivy infested and in decline. Further appraisal of these trees may be required in terms of hazard management if the current land use changes.

Several of the trees are positioned adjacent to hard surfacing. It is unlikely that the tree roots be present beneath these surfaces due to the inhospitable growing conditions, and so the RPA’s have been modified within the Tree Constraints Plan to better reflect likely root distribution, without any reduction in actual area.

In the western half of the site there is an existing track, albeit it overgrown. The soil is likely to be already compacted beneath this track, however if frequent use by heavy vehicles, or if any surface upgrade is required, then investigative measures carried out under arboricultural supervision will be required to determine root extents on any retained trees. Installation of a suitable load spreading cellular containment system may be required if conflicts with retained trees present themselves.

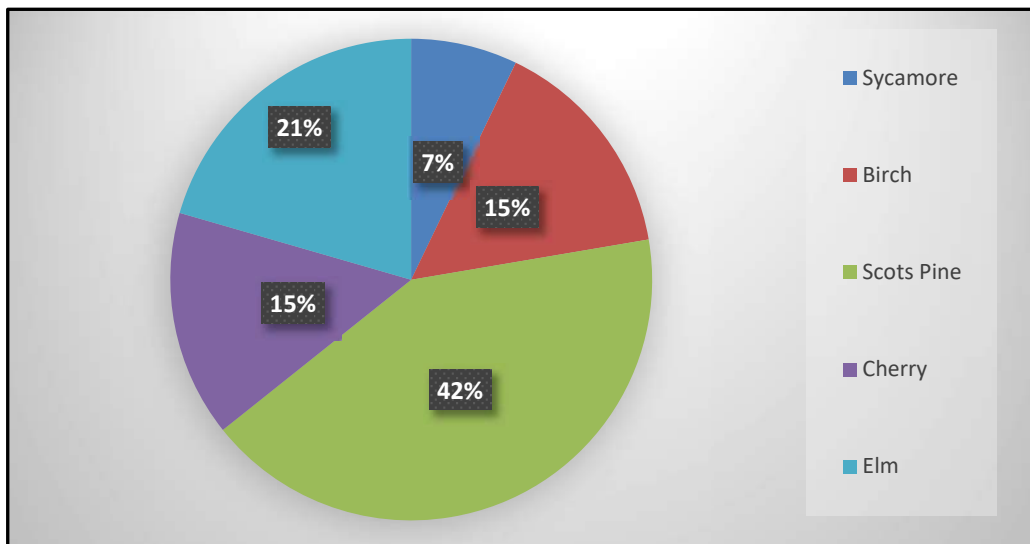
2.3 Summary of Tree Details and Categorization

151 individual trees were surveyed and attributed BS5837 Categories, based upon their condition, contribution (or value), suitability and life expectancy. In addition 5 x groups were recorded; these are G1 and G5 within the Tree Schedule and accompanying Tree Constraints Plan

	Cat A	Cat B	Cat C	Cat U
Total no. of ind. trees	7	79	53	12
G1 – G5	1	2	2	

2.4 Summary of Species Distribution

The chart below details the **main** species distribution. *Please note these are only statistics for trees that were individually surveyed; i.e. not Groups or Woodlands out with site boundary*



3.0 Comments and Recommendations

- All appropriate permissions are to be gained prior to any tree works taking place; this site is subject to Planning protection (*see Legal Considerations in appendix*)
- Works should only be carried out by appropriately qualified and insured contractors, and in accordance with British Standard 3998:2010 Tree Work Recommendations and HSE Work at Height Regulations 2005.
- No work on trees within OHP safety zones should be undertaken until the network operator has been consulted. For this site the network operator is Scottish and Southern Energy.

<https://www.ssen.co.uk/GeneralEnquiries/OutsideYourHome/TreeCutting/>

- Any tree removals adjacent to the A9 will need to be carefully considered and traffic management organised where appropriate.
- Land owners have a legal responsibility to ensure that risks from trees are managed, and ‘foreseeable’ harm does not occur. It is recommended that a tree inspection regime is put into place, with inspections to be carried out by an insured and qualified arboriculturist every 2 years, ideally alternating between spring and autumn. Interim inspections may be required following an extreme weather event.
- Whilst some trees have been recommended for removal due to obvious significant defects, the scope of this survey is to assess tree quality, not tree safety. It therefore should not be assumed that any trees that have not had works prescribed are ‘safe’, and if this information is required a detailed tree safety inspection should be carried out.
- The value of dead wood and trees containing cavities and decay, within woodland cannot be underestimated due to the food source and habitat it provides for invertebrates, which in turn support a wide range of birds and mammals, with standing deadwood being of particular importance. Where risk assessment allows it is preferable to try and retain existing standing dead wood and ‘habitat’ trees, and it is recommended that this approach is adopted, provided the trees are well out - with the developed area and access routes.
- Many of the trees have potential bat roost features (PRF’s) and there is a high likelihood of bat presence. Bats are a European protected species and it is an offence to disturb them or their roost, so if any trees are to be worked upon or removed a bat survey will be required. Any trees with obvious PRF’s that were observed have been highlighted within the schedule, but this is **not** exhaustive, and it should not be assumed that any trees do not have PRF’s. (*see Legal Considerations in Appendix*)

5.0 Explanatory Notes

Below is an explanation of the terms and categories used in this Tree Survey.

- Tree No** Sequential number identifying individual trees.
- Species** Common names are used in this document with a key provided to scientific names in the appendices.

BS 5837 Main Category

Using BS 5837:2012 Table 1 trees can be divided into one of the following simplified categories, and are differentiated by colour on the attached drawing:

- Category A** Those of high quality with an estimated remaining life expectancy of at least 40 years. (Light green)
- Category B** Those of moderate quality with an estimated remaining life expectancy of at least 20 years. (Mid blue)
- Category C** Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm. (Grey)
- Category U** Those trees in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. (Dark red)

BS 5837 Subcategory

Trees in categories A to C can qualify under one or more of the following subcategories:

- Subcategory 1** Mainly arboricultural qualities;
- Subcategory 2** Mainly landscape qualities;
- Subcategory 3** Mainly cultural values, including conservation.

- DBH (mm)** Diameter of main stem in millimetres at 1.5 metres from ground level. Where the tree is a multi-stem, the diameter is calculated in accordance with item 4.6.1 of BS 5837:2012.

Age	Recorded as one of seven categories:
Y	Young. Recently planted or establishing tree that could be transplanted without specialist equipment, i.e. less than 150 mm DBH.
S/M	Semi-mature. An established tree, but one which has not reached its prospective ultimate height and crown spread.
E/M	Early-mature. A tree that is reaching its ultimate potential height, whose growth rate is slowing down but if healthy, will still increase in stem diameter and crown spread.
M	Mature. A mature specimen with limited potential for any significant increase in size, even if healthy.
O/M	Over-mature. A senescent or moribund specimen with a limited safe useful life expectancy. Possibly also containing sufficient structural defects with attendant safety and/or duty of care implications.
V	Veteran. An over-mature specimen, usually of high value due to either its age, size and/or ecological significance.
D	Dead.
Height	Recorded in metres, measured from the base of the tree.
Crown Base	Recorded in metres, distance from ground and aspect of the lowest branch.
Lowest Branch	Recorded in metres, the distance from ground and aspect of the emergence point of the lowest significant branch.
Life Expectancy	Relates to the prospective life expectancy of the tree and is given as 4 categories: 1 = +40 years; 2 = +20 years; 3 = +10 years; 4 = <10 years.
Crown spread	Indicates the radius of the crown from the base of the tree in each of the northern, eastern, southern and western aspects.
RPA	This is the Root Protection Area, measured in square metres and defined in BS5837:2012 as “a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority”. The RPA is shown on the drawing. This is an area around the tree that must be kept clear of construction, level changes and storage of materials. Some methods of construction can be carried out within the RPA of a retained tree but only if approved by the Local Planning Authority’s tree officer.

Appendix 1

Images



Image 1: View west from the eastern picnic area. Planted shelter belt visible on the right.



Image 2: 'Off-site' elms, T11-T15, an important landscape feature positioned along the top of embankment.



Image 3: Western part of the site with existing picnic bays, and access track.



Image 4: View back east along access track, Elms T11 – T15

Appendix 3

LEGAL CONSTRAINTS

Tree Preservation Orders

Individual trees and woodland can be placed under protection by the Local Planning Authority (LPA) if they are deemed of significant amenity merit. In general, it is an offence to cut down, top, lop, uproot, wilfully damage or wilfully destroy a protected tree without the LPA's authority, and such action may invoke a heavy fine. An application will need to be made to the LPA for permission to carry out any work on protected trees.

Conservation Areas

Trees are automatically protected if they are within a conservation area and they exceed 75mm in stem diameter at 1.5m above ground level. The level of protection is less than that afforded to Tree Preservation Orders, however it is a requirement to notify the LPA of any planned works to trees within the conservation area, at least 6 weeks prior to work taking place. The LPA may then decide to place the trees under protection by imposing a Tree Preservation Order. If the LPA do not respond within the 6 weeks then the tree work can proceed.

Trees Protected By Planning Regulations

When granting planning permission, the LPA may impose conditions for the preservation of nearby trees. If work is being considered on trees close to new developments than the LPA should be consulted, as unauthorised work may result in prosecution or invalidation of planning consent.

Felling License's

The Forestry Act (1967), as amended, requires landowners to apply for a licence for the felling of growing trees, unless they qualify for an exemption such as 'for the prevention of danger'. Consult with the Forestry Commission to determine if permission is required prior to felling.

Environmental Regulations

Birds, bats and some mammals are protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010. This extends to cover all wild nesting birds, and their nests, so it is essential that work is conducted in a manner so as to not disturb or endanger any protected species. If protected species are suspected to be present then consultation with the relevant Statutory Nature Conservation Organisation will be required.