

APPENDIX 18A Arboricultural Survey Method

Appendix 18A: Arboricultural survey method

Introduction

This appendix formed part of the environmental information provided to engineers designing the overhead line (*700.157 Environmental restrictions within 80m route corridor, dated 30.01.08*). Arboricultural survey information was collected initially for the preferred route corridor, and subsequently updated with alternatives and route corridor refinements.

Method of Survey

Field survey extent

The exact positioning of the line and support poles has not yet been determined. These will be positioned within a corridor of 80m width (40m either side of a notional centre line). Stays to supports may extend outside this corridor by an estimated maximum of 5m. Additionally, any trees which could potentially fall over and land within this corridor (but are situated outside it) also needed to be considered. A further 20m on each side was therefore surveyed, giving a total survey corridor width of 130m.

Field survey method

Data was collected in the field using a tablet computer (Fujitsu Stylistic ST or Panasonic Toughbook) running ArcPad mapping software and OS landline information. Plotting of tree or group positions as shown by GPS (see below) opened an associated data table covering the parameters listed below.

Positional information was transferred to the tablet computer in real time from a backpack-mounted GPS with differential beacon (Trimble ProXR or CSI Wireless DGPS Max). These GPS units will deliver sub metre accuracy. Field accuracy was repeatedly monitored by comparing the positional fix shown on the OS landline map with the actual position over the ground of the GPS unit.

Tree heights were determined using a MDL LaserAce hypsometer. This handheld unit allows the heights of trees to be determined accurately even when access cannot be gained to the base of a tree due to reasons such as vegetation or other accessibility restrictions. Values obtained from the hypsometer were manually inputted into the relevant data table of the ArcPad software.

Surveying was carried out during October 2006, March, April and July 2007. Weather conditions varied between days of good sunshine to overcast days to rainy days. Surveying was not carried out in heavy rain due to impairment of equipment functioning.

Survey data collected was adapted from the British Standards defined in BS5837(2005), 'Trees in relation to construction – Recommendations'. The data was collected separately for trees and tree groups, as follows:

Species: The common name is given (for groups – the 5 main species);

Height: The height of the crown is given. (for groups, the maximum height of the crowns within the group). Heights were derived using a LaserAce Hypsometer (see below);

Maximum Crown: The maximum crown distance is twice the greatest radial distance between the trunk and the outer edge of the trees crown. For groups, the edge of the crown of the group was mapped.

Condition: This is an assessment of the trees vigour and vitality. It provides an indication of how well the tree may respond to nearby disturbance. It is not an assessment of the structural integrity of the tree;

Age: Young trees are below a quarter of their life expectancy, semi-mature between a quarter and a half, early-mature between a half and three quarters, and mature trees are above three quarters of their life expectancy. Veteran trees have features of biological, cultural, or aesthetic value that are characteristic of but not exclusive to individuals surviving past the typical age range of that species;

DBH (Diameter at breast height): For single stemmed trees the diameter is recorded 1.5 metres above the ground. For multi-stemmed trees the diameter is measured directly above the root flare;

BS Retention Category: Tree quality is given as Category A, B, C, or R. Further details of the categories is given below.

SULE (Safe Useful Life Expectancy): This is an estimate of the life expectancy of a tree which may have a significant target such as roads, pedestrians, or buildings. Short indicates less than 10 years, medium 10 to 40 years, and long as over 40 years.

Protected Species: This is an estimate of for the likelihood that bats or owls are using the tree as a roost. It is based on the numbers of features such as cracks and cavities that were observed.

The **BS Retention Category** is based on the recommendations of Table 1 within BS5837(2005). This categorises trees and groups as follows:

Category A – Trees and groups of high quality and value

These trees and groups will have a life expectancy of over 40 years and will fulfil one or more of the following criteria:

- Trees that are good examples of their species, especially if rare or unusual;
- Healthy young trees of good form and vitality;
- Visually dominant individual or component of a larger group or avenue;
- Trees that provide significant screening or softening of effect to the locality in relation to views;
- Comprise a particular visual feature such as an avenue;
- Have particular historical, cultural, or conservation values.

Category B – Trees and groups of moderate quality and value

These trees and groups will have a life expectancy of over 20 years and will fulfil one or more of the following criteria:

- Trees that are good examples of their species, especially if rare or unusual but are downgraded due to remedial defects or previous poor past management;
- Form significant landscape features;
- Have clearly identifiable historical, cultural, or conservation values.

Category C – Trees and groups of low quality and value

These trees and groups will have a life expectancy of over 10 years that do not qualify as A or B categories.

Category R – Trees and groups unsuitable for long term retention

These are trees and groups that would be unsuitable for retention if in the vicinity of a significant target such as roads, pedestrians, or buildings. They may be dead, dying, diseased, or have a serious structural defect. These trees may still provide potential bat and owl habitats so mitigation may be required following their removal.