

Tree Survey :

Bulby's Wood, Ingram Valley, Northumberland National Park

Proposed Works – Refurbishment of Toilet Block

Compliance to British Standard BS 5837 : 2012;

Trees in Relation to Construction

January 2014

Revised September 2014

**Design Group
Architecture and Construction Services
Communities Directorate**

G5043

Contents

1.0 Introduction

1.1 Background

1.2 Site Description

1.3 Tree Conservation and Preservation

2.0 Summary

3.0 Methodology

3.1 Site Survey

3.2 Tree Survey and Analysis

3.3 Standard Conditions relating to Tree Survey

Table 2.2 BS 5837 : 2012 Cascade chart for tree quality

Table 2.3 Tree Survey

Tree Survey for Bulby's Woods, Ingram Valley, Northumberland National Park

1.0 Introduction

1.1 Background

An arboriculture survey was commissioned for the site of the public toilet block at Bulby's Woods in the Ingram Valley. The survey was undertaken in January 2014 with a follow-up visit in September 2014. The information collated regarding trees at the site was undertaken in relation to the future refurbishment of the toilet block and associated external works. It should be noted that the proposed improvements to the building sit within the existing footprint, improvements to the external area have taken the existing trees into account. The scheme has been designed to have a minimal impact on the existing woodland block and while the opportunity has been taken to survey the existing block the amount affected the development is minimal. However the opportunity will be taken to undertake work in line with good practice woodland management to help ensure the sustainability of the trees for the longer term. There is scope to for some management in relation to thinning and possible additional planting on the outer edges of the car park in order to improve the screening of the car park from the adjacent hills.

The reason why trees have been identified for removal or pruning is due to the following factors:

- The opportunity to undertake tree management in line with good woodland practice. The existing trees appear to have received little or no management in recent years and most are of a spindly and drawn up appearance. A high percentage of the trees in the block are multi-stemmed. Management now will help to ensure the sustainability of the trees for the foreseeable future.
- Poor health – due largely to the factors outlined above many of the trees are thin and crown-heavy with very few lower branches. There are some dead trees.
- Potential disturbance to tree roots from disturbance during site works

The tree survey identifies the current position, defects and current health of the trees as members of a group although trees of note or that may be affected by the proposals (either construction works or woodland management) have also been identified. The woodland at Bulby's Wood Toilet Block will also be referred to as 'The Site'

The trees at the site were surveyed in accordance with BS 5837 : 2012 Trees in Relation to Construction, determining their overall size, condition, visual defects, aesthetic value, value for retention. The recommended root protection area to ensure the future health and stability of trees has not been included.

1.2 Site Description

The OS grid reference is NU 008 164

The site is immediately next to the River Breamish which is part of the Tweed Rivers SAC European site. The vegetation identified within the survey site is a mixture of semi-mature and young self-set trees located within the site boundary which is a timber post and rail fence. The site is flat other than an old defunct hedgerow bund, which is a likely remnant of a stone dyke enclosure. The planting here was most likely undertaken to provide a screen and shelter to the setting of the toilet block. It is likely that a large percentage of the original planting was either managed initially by coppicing or otherwise damaged when young as much of the vegetation evident here now is multi-stemmed from the base. In addition there are many self-set specimens, Prunus in particular. As a group the block of trees is of considerable value in the landscape but there are very few individual trees of high quality.

1.3 Tree Conservation and Preservation

The trees situated on the site are not subject to Tree Preservation Order but are within the boundary of the Ingram Valley Conservation Area. As such it will be necessary to properly notify, and obtain prior permission from the local authority before carrying out any works on the trees.

The site lies within the Northumberland National Park. As a tree group in itself it may not have diverse wildlife value but as part of a number of tree groups and shelter belts along the valley it will have some value and contributes to an interconnecting network of habitats, therefore allowing movement of species, maintaining habitat species, richness and variety.

2.0 Summary of Proposals

2.1 Existing situation –

approximately 9 individual trees (T1, T2, T3, T5, T10, T11, T12, T13) were assessed at the site where it is considered that they may be affected by the proposals. Trees assessed have stem diameter greater than 150mm at 1.5m high and generally single stem species but where they are not affected in any way trees of this size have been included in the Groups unless of particular significance. The majority of these trees are classified as semi mature to early mature indicating that a number of trees at the site are to yet reach full maturity. Again, close proximity of specimens may mean that the trees are older than their form and stature suggests. The trees are not all of a size that might be expected for the species identified and there is a wide variety given the size of the site. Some of this variation may be due to the past maintenance of the trees, coppicing or the close proximity of the initial planting. In addition, the impact of the number of self-sown specimens which exist now within the group also accounts for variety of age and size. The majority of the trees have been assessed as groups as the density of the boles is less than 2.5 metre spacing, many are of low stem diameter and many are multi-stemmed with little crown clearance. This has meant that individual canopy spread has been difficult to assess.

There is no significant excavation proposed and Root Protection will be agreed on site when the appointed contractor has issued a method of working. Overrun of root zones by construction traffic will be prevented wherever possible by temporary fencing but it is not anticipated that vehicles will not be accessing the site.

2.2 Proposals –

- Group 1 – comprises of five tree plus some additional saplings. Trees T1, T3 and T5 all overhang the existing building roof and for on-going good maintenance need to be crown reduced. In the case of T3, which is a poor specimen, removal is proposed. T1 will be removed to improve visibility to the building
- Group G2, and the individual trees within it will not be affected by the works but thinning at 15% is recommended in line with accepted good practice for woodland management. The single Beech (*Fagus sylvatica*), 2No. Ash (*Fraxinus excelsior*) T6 & T7 are considered to be in Fair condition and should be retained.
- Group G3 consists largely of Hawthorn (*Crataegus monogyna*), some Blackthorn (*Prunus spinosa*) with Gorse (*Ulex europaeus*) and Bramble (*Rubus* spp.) understorey. This is part of an unmaintained hedgerow. There are no proposals to thin the boundary vegetation however the trees and shrubs behind could be thinned by 15% as G2 above as prt of an ongoing management programme. Where G3 meets the access path to the toilet block there will need to be some widening of the entrance during the construction period and this will have the added benefit of opening up the site for visitors and making the new facility more visible at eye level from the car park. The proposal is to remove 2No Hawthorn bushes at the entrance and 1 No. poor quality Cherry (*Prunus padus*) on the west side of the access path.
- Group G4 consists of approximately 35 trees. Many of these are of poor quality. There is no understorey except at the western edge against the fence line. There are at least two dead specimens and the majority of the trees are multi-stemmed, a number of these are highlighted for removal as below, the remainder to be thinned by 15% . Of those retained there should be work to remove dead wood and crossing branches. All works to be discussed in detail with National Park Woodlands Officer.

T11, T12 and T13 also impact on the existing roof line or the space which will provide a setting for the front of the building.. Removal of the Tsuga, T12, a particularly poor specimen, is proposed. T10 and T13 are multi-stemmed specimens and in the space identified for potential external works improvements and will need to be removed to facilitate these proposals. Their removal will not impact on the overall quality and appearance of the woodland block.

The informal stone path linking the toilet block to the field on the west will require no more than 75mm excavation and no root damage is anticipated by this work. The path will be aligned on site to avoid trees as far as possible. The individual trees in the group G4 which sit adjacent this informal path leading to the stile should be crown lifted to 2.5m clearance.

Trees which are identified for removal will be subject to further inspection of the canopy to assess for nesting birds at the appropriate time of year. As directed under the Wildlife and Countryside Act (1981 as amended).

All information held within the tree survey table should be used in conjunction with the attached survey plan (G5043/13) which identifies approximate tree locations, canopy shape and size.

The footprint of the building is changing so little that it will not impact on the RPA of the trees identified at the site. Of greater concern will be the access for the works and the external works. Careful management of this, including clearly marked protection for those trees to be retained will be required as well as careful detailing of footpath edges and hand working in the vicinity of tree root protection areas once they are identified and marked on site.

3.0 Methodology

3.1 Site Survey

The site was visited on one occasion 10th January 2014, survey conditions were sub optimal. Visibility was fairly clear with 10% cloud cover; wind was slight through the duration of the survey with temperatures averaging 4°C. All trees were assessed to BS 5837: 2012.

An additional visit was made 12th September 2014 when the trees were in full leaf and the density of the canopy and screening quality of the block could be fully understood.

3.2 Tree Survey and Analysis

Due to the dense nature of the block and the fact the majority of the trees are not affected by the development proposals a detailed survey of individual trees has not been undertaken. However the location of significant individual trees has been plotted on the survey plan which is attached to this report .

The Root Protection Area has not been calculated for each tree. The condition, defects and remedial tree work is recorded in detail within the Tree Survey Schedule (in tabular format) below.

The schedule details in accordance with the recommendations contained in BS 5837 : 2012 Trees in Relation to Construction – Recommendations, this includes;

- *Individual Tree Reference* –
- *Tree Species*
- *Tree Height* – This is estimated in metres.
- *Stem Diameter at Breast Height* – This measure is generally recorded at a height of 1.5m.
- *Canopy Spread* – Due to the close proximity of the trees in the site it has not been possible to take accurate north, south, west, east dimensions to determine accurate individual canopy spreads. Canopy spread of the groups are indicated on plan

- *Crown Height / Clearance* – This is the clearance from the ground to the lowest branch of the canopy.
- *Age Class* – This refers to the average age of the tree. Young trees are within the first third of their life expectancy. Semi Mature trees are middle aged. Mature trees within the last third of their life expectancy.
- *Physiological Condition* – This is the overall condition of the tree's health.

G	Good
F	Fair
P	Poor
D	Dead

- *Preliminary Management* – This identifies remedial work which can be undertaken to the tree.
- *Category Grading* – Trees are subdivided into one of four categories which relates to the Cascade chart for tree quality assessment (Table 2.2).

3.3 Standard Conditions Relating to the Tree Survey

The findings and recommendations contained within this report should be valid for a period of 12 months. Trees are living organisms subject to change. Trees should be inspected at regular intervals for safety reasons.

Whilst every effort has been made to detect defects within the trees inspected, no guarantee can be given as to the absolute safety or otherwise of any individual tree. Extreme climatic weather conditions can cause damage to apparently healthy trees.

Table 2.2 - BS 5837 : 2012 Cascade chart for tree quality assessment

TREES UNSUITABLE FOR RETENTION				
	Criteria			Identification on plan
<p>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.</p>	<ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their loss is expected due to collapse, including those that will become unviable after removal of other U category trees (i.e. 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 (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality <p>NOTE : Category U trees can have existing or potential conservation value which it might be desirable to preserve.</p>			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
	Criteria - Subcategories			Identification on plan
	1. Mainly arboriculture qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation	
<p>CATEGORY A Trees of high quality with an estimated remaining life expectancy of at least 40 years.</p>	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 arboriculture features (e.g. the dominant and / or principle trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboriculture and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)	LIGHT GREEN
<p>CATEGORY B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	Trees that might be included in Category A, but are downgraded because of impaired condition (e.g. presence of significant through remedial 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.	Trees with material conservation or other cultural value	MID BLUE
<p>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 150mm.</p>	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary landscape benefit	Trees with very limited conservation or other cultural value	GREY

Table 2.3 Tree Survey – Bulby’s Wood, Ingram Valley OS Grid Reference NU 008 164

TREE REF	DATE	SPECIES	STEM DIA-METER (mm)	HEIGHT (M)	CANOPY SPREAD (M)				CROWN CLEARANCE (M)	MAIN STEM	STEM TYPE	AVERAGE AGE	CONDITION	STRUCTURAL CONDITION	PRELIMINARY MANAGEMENT RECOMMENDATIONS	ESTIMATED REMANING CONTRIBUTION	Category Grade	ROOT PROTECTI ON AREA (M ²)
					NORTH	EAST	SOUTH	WEST										
					Visual													
G1	10/01/2014	<i>Prunus spp</i> <i>Crataegus</i>	25 -150								Young / semi mature	Poor / fair	Comprising Prunus spp T1-T5, of fair to poor quality with one Good.		<40 yrs	B1		
T1	10/01/2014	<i>Prunus padus</i>	Multi-stem	5				2.0		Multi	Semi Mature	Fair	Good	Remove	<40 yrs	B1		
T2	10/01/2014	<i>Prunus avium</i>	300	6				1		Single	Semi Mature	Fair		Crown lift	<40 yrs	B1		
T3	10/01/2014	<i>Prunus</i>	200	8				1.5		Single	Semi Mature	poor	Poor specimen with lean and canopy in contact with building. A problem now and in the future.	Remove	<40 yrs	B1		
T4	10/01/2014	<i>Prunus avium</i>	800	8				1.5		Single	Semi Mature	Good	.	Remove distorted branch.	<40 yrs	B1		
T5	10/01/2014	<i>Prunus spp</i>	300	8				1.5		Single	Semi Mature	poor		Remove.	<40 yrs	B1		
G2	10/01/2014	<i>Prunus</i> , <i>Fraxinus</i> <i>Fagus</i>	50 - 200								Young / semi mature	Poor / fair	Comprising of 2 Ash, T6, T17; Beech of fair quality and 6 other Prunus and 1 Rowan of poor to fair quality	Thin block by 15% retaining individual trees.	<40 yrs	B1		
T6	10/01/2014	<i>Fraxinus excelsior</i>	900	9				2.5		Single	Early Mature	Good		No action	>40 yrs	B1		
T7	10/01/2014	<i>Fraxinus excelsior</i>	400	9				2		Single	Early Mature	Good		No action	>40 yrs	B1		
G3	10/1/2014	<i>Crataegus</i> , <i>Prunus spp</i>	50 -150										Originally a hedgerow. Approx .13 Hawthorn, some Blackthorn with Gorse and Bramble understorey	No action	<40 yrs	B1		
G4	10/1/2014	<i>Fraxinus</i> <i>Prunus</i> , <i>Quercus</i>											Comprising approximately 35 trees. Many are in poor, 2 dead. The majority are multi-stemmed however there are a small number of single stemmed trees which will benefit from increased growing space.	Remove dead trees. Thin remainder by 15% and as detailed below	<40 yrs	B1		
T8	10/1/2014	<i>Quercus</i>	250	9						Single	Early mature	Fair	Tall but thin single stem, drawn up by surrounding trees. Very close to T11	Retain	>40 yrs	B1		
T9	10/1/2014	<i>Prunus</i>	350	9						Single	Early mature	Fair	Tall but thin single stem, drawn up by surrounding trees. Very close to T10	Remove for the benefit of T10		B1		

T10	10/1/2014	Prunus	Multi - stem	8							Multi stem	Semi-mature	Poor	Drawn, multi stem tree	Remove for benefit of adjacent trees		B1	
T11	10/1/2014	Prunus	Multi - stem	8							Multi stem	Semi-mature	Fair		Lift crown to improve visibility into site		B1	
T12	10/1/2014	Tsuga heterophylla	200	6							Single	Semi-mature	Poor	Very poor tree, stunted and leaning	Remove		B1	
T13	10/1/2014	Prunus	Multi - stem	6							Multi stem	Semi-mature	Fair		Remove		B1	
T14	10/1/2014	Fagus	800	11							Single	Early mature	Good		No action but thin surrounding trees to improving growing conditions		B1	
T15	10/01/2014	Prunus avium	500	9m							Single + thin side stem	Mature	Fair	Leaning	No action		B1	
T16	10/01/2014	Prunus avium	500	7m							Single	Early mature	Fair	Some dead wood in crown	No action at present		B1	

