



Report on Review of Consultation Document BSI Standard BS8516

Recommendations for Tree Safety Inspections

Published July 2008

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Recommendations for Tree Safety Inspections

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The Purpose of this Report

The report is intended as a formal submission to BSI on behalf of Landscape Planning Group Ltd and for Landscape Planning Group management to consider appropriateness of the draft British Standard on Tree Safety Inspections in regard to the following areas:

- Perception of tree hazards at a national level
- Whether such a standard necessary
- A strategic approach to hazard surveys
- The detailed response to the British Standard document

The direct response to British Standard, via their consultations web site will be submitted before 31st July 08.

1.0 Introduction to Risk and the British Standard BS5816

- 1.1 Hazards are a normal part of everyone's life and we all adopt strategies to control or avoid risks from hazards and there are many organisations; such as the Police, Health & Safety Executive (HSE), Royal Society for Prevention Accidents (Rosa), Department for Transport (Daft), National Institute of Clinical Evidence (NICE), that provide guidance and enforcement (and rightly so) to make life safer. More recently the governments Better Regulations Committee (BRC) have issued a policy document, Public Risk—The Next Frontier for Better Regulation and a key statement reads *“Accordingly, this proposal to the Prime Minister champions the vision of a policy-making environment in which a sustained commitment to evidence-based, high quality, flexible process leads to public risk being tackled in a systemic, targeted, and proportionate manner with good intentions leading routinely to good outcomes.”*
- 1.2 Government provides legislation and regulations to provide a framework in which hazards are controlled and the courts provide a decision process for when damage, injury or deaths occur as a result of a hazard event. The case law evolves to produce 'landmark' cases which identify failures in risk management by individuals, groups, companies and even government.
- 1.3 However, the courts understand that private individuals are not all experts and even those that are will only have limited expertise in a small number of disciplines. Therefore, they do not expect the same level of knowledge of disciplines, such as in the assessment of trees, as someone whose profession it is to be a competent or expert in tree management.
- 1.4 In regard to the proposed British Standard on Tree Inspections, the number of media responses, newspaper articles and radio pieces, that have been generated by the BSI consultation document clearly reflect not only the general perceptions and stress that such a standard, in its current form, would place in the mind of the private land owner but also the likely impact on the tree cover of the country, i.e. unnecessary felling or heavy pruning of trees to indemnify all landowners. This does happen whenever there are fatalities or serious injuries from falling trees, whole parklands have been devastated. This is not just about visual impact; it also affects biodiversity in regard to the habitat loss for many insects and mammals and results in large amounts of resources being spent on unnecessary works.
- 1.5 The failures of the BSI committee responsible for this draft standard are;
- they have not considered the policy implications, legal, environmental and social issues, of the statements that have been included in the document.
 - they have not adopted the correct policy approach to constructing and evaluating the document, i.e. to undertaking a risk assessment of the purpose and content of a document that seeks to give authoritative recommendations and guidance to landowners on a subject about health and safety and risk management.

2.0 The Need for a BSI Standard on Tree Safety Inspections

- 2.1 The lack of a national standard for tree safety inspections has been a matter 'raised by the industry' and not by any national body, e.g. HSE.
- 2.2 The HSE have produced guidance as part of their internal system in regard to the framework of what a 'tree inspection system' should contain. While this is not a 'standard' in the same style as the BSI would produce it does provide a good policy/ management framework to which inspection systems and management of tree risks can be designed. It is however, not a replacement for professional decision making.
- 2.3 The HSE guidance allows for flexibility of the detail of any inspection system, i.e. it recognises that there is a great variability in the extent of tree cover and resources available to landowners.
- 2.4 The main industry representatives, such as the Arboricultural Association and International Society Arboriculture, plus Administrative Councils and individuals have produced various checklists and methodologies for tree inspections over many years. We question whether yet another version 'improves' the 'standard' of inspections. Inspection standards can improve by clear and concise guidance but more importantly by having trained and experienced people to undertake the surveys.
- 2.5 The BS draft standard is not clear or concise and it provides no strategy or policy framework context in which the hazard tree surveys / inspections stand. There is a national framework for risk management policy, strategies and implementation virtue of the Legislation, HSE guidance, Industry Bodies and the national training providers, e.g. LAN'TRA and the colleges. However, the detail of any individual organisations 'tree risk management policy' will need to be customised from this national framework to fit their individual circumstances.
- 2.6 The identification of when inspection should be undertaken needs to be taken at the local level, based on the local circumstances. Highway authorities undertake inspections based on the volume of traffic and type of use, so that some locations may be inspected every day and others every 5 years, i.e. the level of controls should be in proportion to the risk.
- 2.7 There may be a need for a national standard for a definition of terms used in tree surveys and inspections. However, there is no requirement to issue a standard that affects ordinary private land owners in a subject that is inevitably variable in terms of tree cover, risks and available resources, without clearly setting out; the need, levels of risk, the types of survey and inspections, levels of competence of those undertaking surveys and inspections, etc. The approach on such issues must be from a policy perspective and to evaluate what the real needs of the industry and community are, and not from a badly considered 'it would be a good idea to have a BS on Tree Safety Inspections'. Always ask the question WHY before progressing to creating any major guidance.

3.0. A Strategic Approach to Tree Hazard Surveys

3.1 Clause 3.10 is supposed to provide guidance but it lacks clarity, is technically incorrect in critical areas and gives no guidance regarding a strategic approach to hazard tree management, particularly in regard to types of survey and their objectives, or a logical set of Levels of Competence for surveyors / inspectors.

3.2 A Strategic Approach to tree population surveys - overview

The approach, irrespective of how many trees; is basically the same; a scoping study, a baseline survey and then follow up surveys (detailed inspections or walk over surveys to check for any changes following storms or as part of the normal cycle of risk management) and then under each you identify the level of competency required to meet the policy objectives of the type of survey.

1. Scoping / Preliminary Survey (where no existing survey data exists or is not in a form that can be used efficiently)

Objectives—To map the main areas of tree cover, identify broad zones of risk, tree species, logistics of surveying area and a specific site risk assessment for the actual survey.

Undertaken by experienced hazard tree surveyors with support from expert level, see 2.4 below.

2. Baseline Survey (follows on from scoping survey and where no existing survey data exists or is not in a form that can be used efficiently)

Objectives—To survey the tree cover and identify its condition, age structure, species, refine Risk Zones, identify any necessary works need to trees with defects that are easily assessed, identify trees that need detailed inspections, identify when the next follow up survey will be required. Usually this will be between 12 months and 3 years because of the initial need to build up sufficient data on the tree cover, i.e. this allows surveys to be undertaken in winter and late summer, plus monitoring reports from any routine estate maintenance surveys (see Item 3 below).

Undertaken by experienced hazard tree surveyors with support from expert level, see 2.4 below.

3. Follow Up Surveys

Objective— A survey that takes existing survey information and builds on to it to improve knowledge about individual trees and / or the total tree population. These surveys will build up a 'site history' which will improve accuracy of assessment of risk. These surveys will generally consist of four types:

Programmed Surveys: Surveys that are undertaken on a regular basis, usually by site based staff as part of their normal risk management programme.

Undertaken by Level 1 Surveyors, see Section 3.4 below for definition.

Event Surveys: Surveys undertaken after major storms, when there are short term increases in risk or if there has been a tree failure.

Undertaken by Level 1 Surveyors, for increases in risk or tree failures then a Level 2 surveyor is need, who may indicate a Level 3 or 4 Inspections is required. see Section 2.4 below for definition.

Detailed Surveys: Surveys identified usually for specific trees, because of possible defects or to try and define the extent of any defect and the hazard it may pose.

Undertaken by Level 3 Surveyors / Assessors, see Section 3.4 below for definition.

3.0. An Alternative Strategic Approach (continued)

Specialist Surveys: Surveys that require specific equipment and / or skills to make decisions regarding the safety of important landscape trees or following tree failures are required to ascertain the cause of failure.

Undertaken by Level 4 Surveyors / Assessors, see Section 3.4 below for definition.

3.4 Surveyor Competencies - Definitions

Level 1

A person who is a non-professional arboriculturist who has received awareness training for identification of gross defects and has access to higher levels of surveyor / assessor for verification of findings

Level 2

A person who is a trained arboriculturist, with a minimum 2 years experience of undertaking VTA assessments and is able to record tree data accurately and in accordance with the inspection standard being used, and has access to higher levels of surveyor / assessor for verification of findings

Level 3

A person, who in addition to Level 2 skills, has detailed species knowledge and undertakes VTA on a regular basis, is able to undertake basic mapping of decay and has access to higher levels of surveyor / assessor for verification of findings.

Level 4

A person whose main area of work is hazard tree survey and assessment and is capable of undertaking specialist surveys.

Note 1. Levels 3 and 4 and Expert Witness

It is possible that those directly undertaking hazard surveys at Levels 3 & 4, may not be undertaking the role of expert witness in court or public inquiry. In such cases they would provide evidence on which the expert witness makes a statement of case or proof of evidence. Thus while the expert witness does not necessarily undertake hazard tree surveys on a regular basis they should have the technical knowledge and experience to interpret the survey reports.

Note 2. Boundaries of Competency

In real life there will be an overlap between the above Levels, however, the key point is the acknowledgement of the probability of the need for a second opinion when a survey / inspector is at the 'boundary' of their knowledge / experience. In other professions second opinions and referral to 'specialists' in a particular field is common practice as is the reliance on expertise from technical staff at lower competency levels.

4.0 Comments on Draft BS Standard

General comments

The structure of the document lacks clarity and logic and this leads to inconsistency in the guidance. Clause 3.10 in particular mixes grades of competency with differing types of survey.

The language in places is such that lay people could not understand the guidance, even though they are identified as part of the target users, i.e. tree owners.

The title of the document is not consistent with guidance found in many of the Clauses. Example, the title is Tree Safety Inspections yet it states in Clause 1 that it only relates to structural safety, this in risk management policy terms is incorrect as Tree Risk Assessments have to consider highway issues, trip and slip, environmental changes, as well as structural stability. If a tree hazard inspection only looked at structural stability, and does not include other significant risks (which could result in damage, injury or death), it could not be considered to meet the Health and Safety Executive (HSE) guidance. See comments on individual Clauses for more examples.

The logic of the document is poor, example, “*integrity, may be, uncertain*” but of course structural integrity will always be uncertain because the extent that any tree will fail cannot be tested in the field, i.e. under normal inspection situations there will always be uncertainty. See comments on individual Clauses for more examples.

Title should relate to the comments on “scope” page 5 and is this BS supposed to be applicable to safety inspections for the parkland and/or woodland scenario? It does not provide any direct guidance to the approach in the parkland / woodland situations.

Foreword Section

Information about document

This is a new British Standard that has been prepared in order to provide authoritative recommendations and guidance on tree inspection for health and safety purposes. This states that the purpose of the document is for tree inspection relating to health and safety.

Comment

Surely all tree inspections have a The Health & Safety (H&S) aspect in the modern day era of risk management. The H&S Regulations of 1999 brought in Risk Management as a essential element of H&S controls to protect people and property.

Use of document

Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations. It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Comment:

What justification is required? What course of action does this relate too? Surely there should be some further clarification.

The standard is not directed solely at qualified and experienced people. It is also directed at all tree owners who will probably neither be qualified nor xperienced. If the standard is supposed to give guidance to both types of people, the areas in which it relates to each type should be clear, i.e. a section for tree owners and a section for professionals.

4.0 Comments on Draft BS Standard (continued)

Under “User of this document”. The terms ‘Compliance’ and ‘Recommendations’ are incongruous in this context. Omit sentence. The third sentence states assumption that the Standard will be ‘entrusted’ to appropriately qualified and experienced people. This is in conflict with target audience at clause 1, sentence 3. Omit sentence.

Introduction Section

2nd paragraph

Due to genetic characteristics and local micro environmental factors, this integrity may be innately uncertain.

Comment

The English is poor, too much jargon and technically incorrect, the integrity will always be uncertain and *macro environmental* factors, i.e. storms, are just as likely to have direct impacts as is management decision and operational works.

6th paragraph

The inherent risks associated with trees mean that it is a mistake to manage them in an overly risk-averse manner.

Comments

Again the English is poor and the logic as changed from the 2nd paragraph as the risks are now inherent rather than may be innately uncertain. Plain English should be used. Cut out the ‘innately’, ‘risk-averse’ terminology and use ‘naturally’ and ‘unnecessary’ and instead of micro environmental use ‘small local changes such as trenching and soil disturbance’, it is supposed to be guidance and not some kind of cryptic cross word puzzle.

General Comments

How will this guidance fit in with directly conflict with the *retention of dead wood* so as to satisfy organisations like Natural England or the Veteran Trees initiative?

Trees subject to private access can cause injury and damage too. Trees in inaccessible areas may still overhang accessible areas and regardless may cause damage to property.

Refer to duty of care (universal) but not standard of care (variable according to skills and resources of the tree owner).

It is not the inherent ‘risks’ that makes overly risk-averse management ‘a mistake’ – it is the potential loss of other benefits, which may be valued variously at both the public and private level.

Final paragraph. Relevance unclear. No need for objective “expert” which precludes other levels / competencies of inspection.
This whole section needs re-working.

Clause 1 Scope

Page 5

This standard does not apply to other risks associated with trees (such as obstruction of highway visibility, slip and trip hazards and tree root damage to buildings.

Comments

Risk control (remedial actions) is only briefly referred to – it is not addressed.

Scope should address other types of hazard, how can a hazard survey not include trip and slip or obstruction of highways etc. these are just as likely to be the cause of harm than a tree failing and subsidence can still be considered at a broad level.

4.0 Comments on Draft
BS Standard
(continued)

Page 5
BS3998:2008

Comment

How can you refer to a document that can not be accessed, do we have to guess what it contains?

Terms and Definitions

C 3.1

Competent person (e.g. an arboriculturist) who has training and experience relevant to the matter being addressed and can demonstrate competence to undertake systematic expert tree inspection, in order to identify and recommend remediation for hazards arising from impaired structural integrity in trees

Comment

Use of term 'expert' in text confuses competency and level of inspection. Omit term 'expert'. The above statement on skills required is perhaps the most relevant statement regarding tree hazard inspections in the standard, although limiting it to structural integrity again shows the confused and illogical construction of the document.

C 3.2

enzymatic alteration of wood by specialized fungi leading to a biodegradation of the load-bearing properties of affected trees and their constituent parts.

Comments

What about this being for lay people to read? Plain English, like 'decay causing loss of strength in branches and trunk'.

C3.3

We must have clarification on "non-invasive".

C 3.4

source or situation with a potential for harm in terms of death, ill health or injury, or a combination of these (BS 8800:2004, 2.5)

NOTE: Tree inspection is a process of hazard identification.

Comment

What about damage to property, see C3.5

The Notes in this document are there as clarification and in this case it identified that tree inspections are a process of hazard identification, but why is this BS proposing that this guidance is only for H&S aspects as stated at the Foreword?

C 3.5

tree in such a condition that structural failure is expected with the potential to result in harm to persons or property (see 3.9)

NOTE Trees can have wholly internalized structural weaknesses, including decay, which are not apparent on visual inspection, such that their failure, should this occur, is not reasonably foreseeable

Comments

So damage is included, see Clause 3.4 above. The Note is a very leading statement. What is reasonably foreseeable needs referencing to the case law in Appendix A and a more appropriate definition of reasonable foreseeability. You may be aware of a factor, e.g. trenching, that is not visible, but nonetheless makes failure foreseeable. Alternatively do not include this informative.

**4.0 Comments on Draft
BS Standard
(continued)**

C 3.10

The whole of this Clause is badly designed, it mixes competency with types of survey and even gets the survey aspects technically wrong and shows that the people involved in putting this standard together have never really considered the strategic aspects of hazard tree management. The approach, irrespective of how many trees, is basically the same; a scoping study, a baseline survey and then follow up surveys (detailed inspections or walk over surveys to check for any changes, following storms or as part of the normal cycle of risk management) and then under each you identify the level of competency required to meet the policy objectives of the type of survey. See Section 3 of this Report.

C 3.10.2

preliminary but systematic inspection undertaken (possibly using binoculars, mallet and probe) by a person trained to observe obvious potential hazards (e.g. tree warden, park ranger, or highway safety inspector) so as to inform, where appropriate, a risk control decision, including inspection by an expert

NOTE. Obvious potential hazards include altered exposure, large dead branches, crown decline, exudates on trunks, presence of fungal structures, cankerous lesions, cavities, compression forks, cracks/splits, dead/peeling bark, injury (including lightning strike), wilting, thinning of foliage and severed roots (including root damage resulting from adjacent excavation).

Comments

‘Mallet and Probe’ - These are not really for use by this basic level of competence. Even ‘experienced’ people who have not undertaken lots of surveys / inspections using mallet could misunderstand the sounds that are generated by this technique. Equally we must ask, what is a “probe” in this context?

Also preliminary surveys need to be undertaken by experienced people with a wide knowledge of tree defects and species profiles. The type of inspections by the people listed in the standard should only be used for follow-up surveys, see comments above on this section and Section 3 of this report.

The Note: You cannot give some ‘examples’. If this is a recommendation then there should be a checklist of the main areas of the tree and the most likely types of failure. If No, then ‘examples’ should not be included. Keep the ambiguities down. Plus what is the potential structural hazard of wilting foliage!

Factors to Consider

C 4.1

COMMENTARY ON 4.1

Due to the reliance of expert inspection on visually apparent symptoms as diagnostic aids, inspections undertaken at differing times of the year present a variety of benefits and obstacles. For example, inspecting a tree in full leaf assists in determining physiological condition from foliage quality, but is hindered by leaves obscuring the tree’s structure. Conversely, inspecting a deciduous tree in bare branch condition allows a good view of the structure but no assessment of foliage.

Comments

The use of the word ‘expert’ is unhelpful. Where seasonal inspection is required, this is appropriate at all levels of inspection.

There may be value in alternating surveys in winter / summer but this may impose a significant capacity constraint and therefore cost. This is only justified therefore for specific purposes, e.g. to see seasonal features.

Also technically incorrect, competent surveyors should be able to assess foliage by looking at bud density, bud size for species and at twig form and density to consider tree physiological age range.

**4.0 Comments on Draft
BS Standard
(continued)**

C 4.2

A prioritized inspection schedule should be undertaken based on levels of access (i.e. exposure of people to hazard) and arboricultural advice, taking account of relevant factors (where known) that affect safety such as the age class, condition, size and species of the trees. Where exposure increases, for example an outdoor concert held in a normally unoccupied park, the inspection regime should respond to the changed demands of the site usage, to ensure that appropriate and effective risk controls are provided (see Clause 6 and Clause 8). BS 8800:2004, 3.5.3, states (in part):

Comments

'Based on level of access'. Surely this should be 'Risk of Harm' and priority areas should be determined by adopted policy. 'Relevant factors (where known)'. Why would the tree aspects not be known?

Few people (and certainly not ordinary householders), have access to BSI publications unless they buy them from BSI, so the part of that standard being referred to, should be either in the text or in the appendices.

C 4.3.2

Comments:

Location of trees is not included, fairly fundamental; replace text with 'sufficient particulars to identify the tree(s) or areas subject to survey / inspection'.

C 4.3.3

Comments:

Latin names are rarely necessary unless there is some dispute about which tree is involved.

Why age, class and not size? Particularly as high risk is nearly always going to be associated with trees within falling distance of a public highway.

No recommendations for data to be collected in respect of detailed inspections or reason why this is specific to each survey, yet it is added as an informative note at 4.1.

C 4.4

Consideration should be given to implementing at least basic inspections in the aftermath of storm events, especially for trees previously identified as being particularly vulnerable, and/or for those standing adjacent to high-value targets (e.g. trunk roads). Trees known to have been struck by lightning should be inspected as soon as is practicable thereafter.

Comments

These types of Event surveys / inspections must be part of any risk management programme, not 'consideration should be given', see Section 3 of this report. Reactive inspections are an essential part of risk management and in respect of potential liability represent perhaps the most important starting point for many lay tree owners.

C4.5

Ivy and other climbing plants can provide a valuable wildlife habitat and may harbour protected species (attention is drawn to relevant legislation, summarized in Tree Damage Alert No. 123 [3]). Such plants should, therefore, only be removed where this is essential to allow thorough inspection (usually at expert level).

Comments

Ivy and other climbing plants **DO** rather than 'can' provide valuable wildlife habitat. Ivy is habitat for around 200 insects, let alone Bats and Birds. The need to remove Ivy and other climbing plants will, particularly for road side trees, always need to be undertaken on a regular cycle because of the need for monitoring but if undertaken with thought to ensuring some Ivy is always retained on a percentage of trees, the impact on wildlife will be minimum.

**4.0 Comments on Draft
BS Standard
(continued)**

C5. Legal and related considerations

Reference to 90/73 is inappropriate for many tree owners, especially those with limited skill or resources. The reference is scaremongering and ignores the variable standard of care applicable to tree owners depending on their individual circumstances.

6 Quantifying the Risk

Where consideration is being given to the retention of a hazardous tree in identifiably poor structural condition, a detailed assessment should be undertaken to quantify the associated risk and a written record retained.

Comments

First sentence: Does detailed assessment mean 'detailed inspection' as defined within the standard? Surely the level of investigation may vary according to the level of risk. It may be that suitable risk controls can be specified by a lay survey / inspection, e.g. fell.

Surely all assessments are 'quantified' otherwise they would not meet the purpose of a risk management policy and written records are also essential for all surveys. This is another example of the standard having 'thrown in statements' without any thought as to how they fit into the process or how they will be understood. In this case it appears that only when retaining hazardous trees it is necessary to record the decision.

7 Frequency of inspection

Generally this section makes no distinction between pro-active and reactive surveys.

7.1 Where is the reference for the requirement for regular or **annual** survey / inspection generally accepted?

7.3 So all trees in rear gardens of Registered Social Landlord properties require survey / inspection on a max 5 year cycle. This would be a very high cost to organisations which have major budget issues associated with maintaining low rents. The need for flexibility in policy, the building up of knowledge regarding the specific tree population condition and failures over a number of years and use of Level 1 Surveyors needs to be considered.

C8.1. Remedial Action

Comments

It is inappropriate to state that target management should be considered before arboricultural management. This may vary according to site issues. In most cases, arboricultural management is the most practical and effective response

8.2. Cannot comment on a standard that does not exist!!!!.

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