CONSTRUCTION ISSUE

A 21.10.10 CONTRACTORS COMPOUND AREA AND ACCESS ARRANGEMENTS NOTED. TENDER ISSUE

ROFFMARSHPARTNERSHIPLTD
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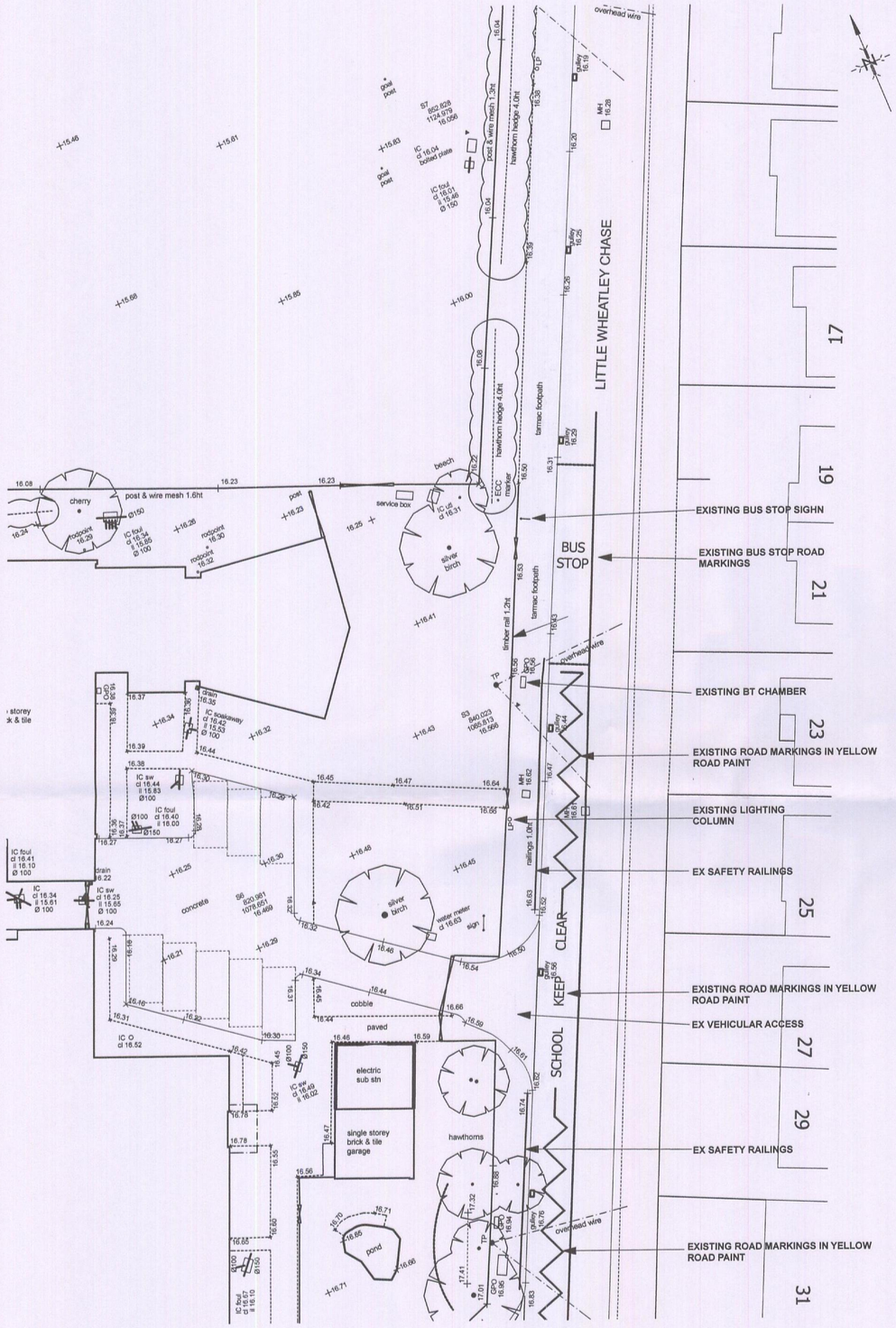
PROJECT TITLE

OUR LADY OF RANSOM CATHOLIC PRIMARY SCHOOL RAYLEIGH

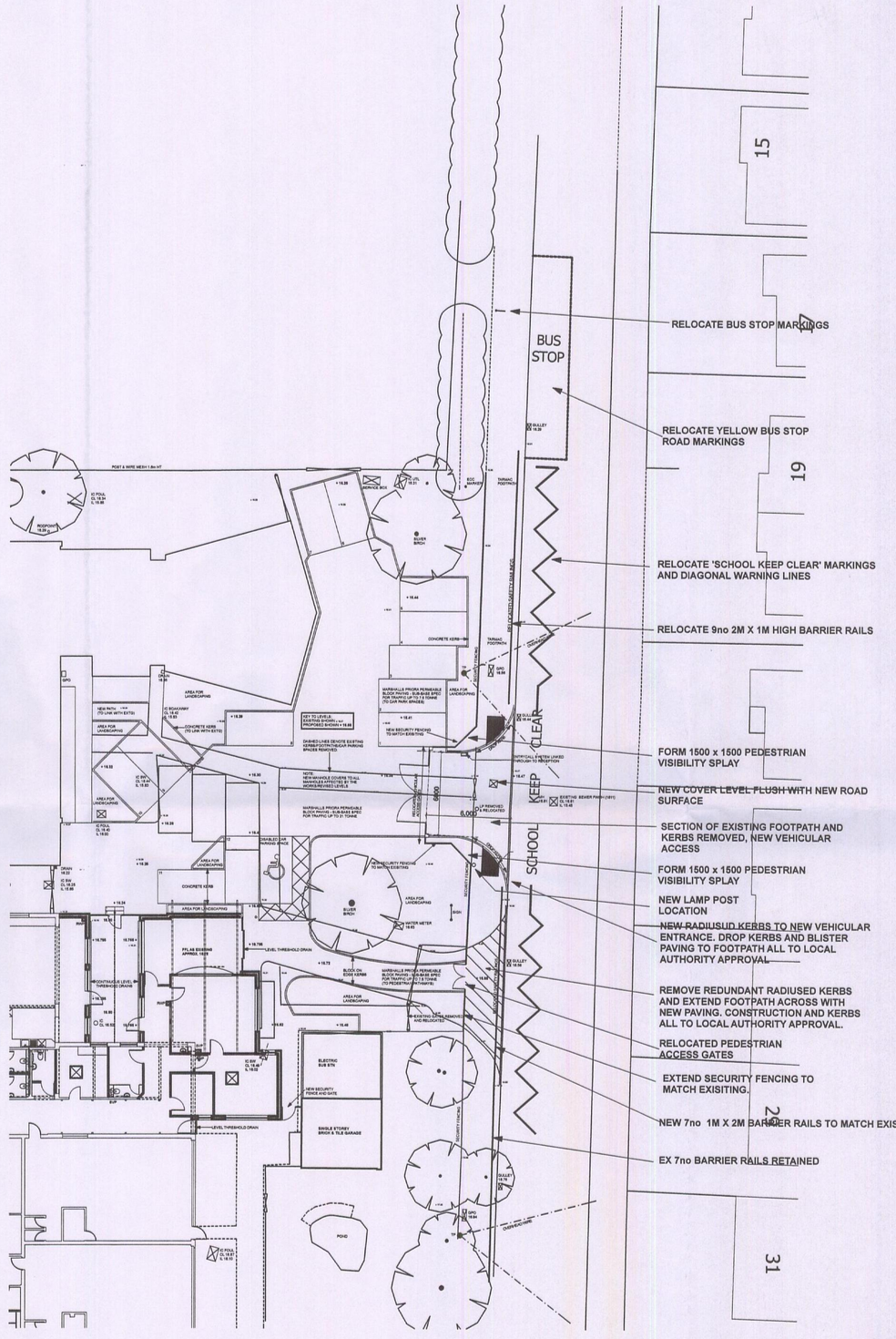
DRAWING TITLE

EXISTING SITE SURVEY PLAN & CONTRACTORS COMPOUND

SCALE	DATE	DRAWING NO.
1:250	AUG '10	K460/WD08A



PLAN AS EXISTING 1:200



PLAN AS PROPOSED 1:200

REV A 18.11.10 - STREET NUMBERS ADDED, NEW STREET LAMP LOCATION ALTERED

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PROJECT TITLE

OUR LADY OF RANSOM CATHOLIC PRIMARY SCHOOL RAYLEIGH

DRAWING TITLE

NEW VEHICULAR ACCESS

SCALE	DATE	DRAWING NO.
1:200	OCT 10	K460/H1A

Martin Wilesmith

From: Mark Holland [mark.holland@bakersofdanbury.co.uk]
Sent: 15 December 2010 06:58
To: Martin Wilesmith
Subject: RE: Our Lady of Ransom

Martin,

We will maintain the existing hard surfaces for as long as we can. A significant amount of the excavated material will be "clean" inert broken concrete that will be carted away for recycling.

There will be a relatively small quantity of sub soil "muck" to be carted off site. This will be stored in stock piles on site until the weather is dry and conditions allow for a relatively clean "cart away".

It is our responsibility to keep the public highway and footpaths clear of surplus material necessitated by our works. Clearance of any surplus material will be by means of a broom, or mechanical vacuum sweeper, if necessary. This will be monitored by our Site Supervisor.

We trust our proposals are adequate.

Regards

Mark Holland

Bakers of Danbury Ltd
Building Contractors - Established 1878
Registered in England at Eves Corner Danbury Essex CM3 4QB No. 05347466
Tel: 01245 225876 Fax: 01245 226821

From: Martin Wilesmith [mailto:martin@roffmarsh.co.uk]
Sent: 14 December 2010 11:27
To: Mark Holland
Subject: Our Lady of Ransom

Mark

Could you e mail me details of your proposed wheel washing facility, as I also have to submit this to the planners before you can start on site.

Many thanks

Martin Wilesmith
Director

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HAYDEN'S
Arboricultural Consultants

TREE SURVEY, ARBORICULTURAL IMPLICATION ASSESSMENT & METHOD STATEMENT

Project No: **2395**

Our Lady of Ransom
Rayleigh
Essex
SS6 9EH

20th December 2010
Revised 12th January 2011

For
Roff Marsh Partnership
99 London Road
Stanway
Colchester
Essex
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5 Moseley's Farm Business Centre
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Our Lady of Ransom
Rayleigh
Essex
SS6 9EH

Summary

The purpose of this report is to consider the arboricultural implications of proposed development. In accordance with BS5837:2005, trees deemed to be within the influencing distance of the projected construction have been evaluated for quality, longevity, and initial maintenance requirements. Where trees do not have to be removed for health and safety reasons, a detailed and objective assessment has been made of the consequences of the intended layout.

In this circumstance it is intended to undertake works to include a new access and additional parking bays at Our Lady of Ransom, Rayleigh, Essex. As a result five individual trees were inspected. The arboricultural related implications of the proposal are as follows:

1 **Implications on Construction** – There is no construction of foundations within the Root Protection Area (RPA) of any retained tree. It is proposed to create areas of hard surface within the RPA of one retained trees.

2 **Cultural Implications** – It will be necessary to undertake a light canopy raise to one retained tree T002) and root pruning to one tree (T003).

3 **Landscape Implications** – No tree requires removal for the sole purpose of facilitating the proposed development.

4 **Post Development Implications** – There are no notable post development implications.

Given the above, there are no overt or overwhelming arboricultural constraints that can be reasonably cited to preclude the proposed construction.

Contact Details

Client – Roff Marsh Partnership			
Address 99 London Road Stanway Colchester Essex CO3 0NY	**Contact** Mr Martin Wilesmith	**Tel:** **Fax:** **E-mail:**	01206 577780 01206 762670 martin@roffmarsh.co.uk

Local Planning Authority – Rochford District Council			
Address Council Offices South Street Rochford SS4 1BW	**Trees Officer** Mr James Choat	**Tel:** **Fax:** **E-mail:**	01702 546366 01702 545737 james.choat@rochford.gov.uk

Arboricultural Consultant – Hayden's Arboricultural Consultants Limited			
Address 5 Moseley's Farm Business Centre Fornham All Saints Bury St Edmunds Suffolk IP28 6JY	**Principal** Stephen Hayden	**Tel:** **E-mail:**	01284 765391 info@treesurveys.co.uk

TREE SURVEY, ARBORICULTURAL IMPLICATION ASSESSMENT & METHOD STATEMENT

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1.0 Introduction

1.1 Terms of Reference

1.1.1 Hayden's Arboricultural Consultants Limited has been commissioned by Roff Marsh Partnership to prepare a Tree Survey, Arboricultural Implication Study and Method Statement for the existing trees at Our Lady of Ransom, Rayleigh, Essex.

1.1.2 The site survey was carried out by Hugh Coggles on 20th December 2010. The relevant qualitative tree data was recorded in order to assess the condition of the existing trees, their constraints upon the prospective development and the necessary protection and construction specifications required to allow their retention as a sustainable and integral part of the completed development.

1.1.3 Information is given on condition, age, size and indicative positioning of all the trees both on and affecting the site, in line with British Standard 5837:2005 Trees in Relation to Construction.

1.2 Scope of Works

1.2.1 The survey of the trees, soils and any other factor is of a preliminary nature. The trees were inspected on the basis of the Visual Tree Assessment (VTA) method as developed by Mattheck and Breloer (1994). The trees were inspected from ground level with no climbing inspections undertaken. No samples have been removed from the site for analysis. The survey does not cover the arrangements that may be required in connection with the removal of existing underground services.

1.2.2 Whilst this is an arboricultural report, comments relating to non arboricultural matters are given, such as built structures and soil data. Any opinion thus expressed should be viewed as provisional and confirmation from an appropriately qualified professional sought. Such points are clearly identified within the body of the report.

1.2.3 An intrinsic part of tree inspection in relation to development is the assessment of risk associated with trees in close proximity to persons and property. Most human activities involve a degree of risk with such risks being commonly accepted, if the associated benefits are perceived to be commensurate. In general, risk relating to trees tends to increase with the age of the trees concerned, as do the benefits. It will be deemed to be accepted by the client that the formulation of the recommendations for all the management of the trees will be guided by the cost-benefit analysis (in terms of amenity), of the tree work that would remove all the risk of tree related damage.

1.3 Documentation

1.3.1 The following documentation was provided prior to the commencement of the on site survey

- Letter/Email of instruction (or purchase order) or verbal instruction.
- Definition of site boundary.
- Description of Requirements/deadlines.
- Topographical Survey/Map
- Proposed site layout (Roff Marsh Partnership drawing no K460/WD04C)

2.0 The Site

2.1 Site Description

2.1.1. The site is currently accessed through a hard surface driveway. The surveyed trees are located on grass areas with surrounding hard standing. Site is largely flat with only very minor undulations.

2.1.2 The site is bordered to the north, south and west by open space and to the east by Little Wheatley Chase.

2.2 Soils

2.2.1 The soils type commonly associated with this site are slowly permeable, seasonally wet, slightly acid but base rich loams and clays. They are of moderate fertility and are often associated with seasonally wet pasture and woodland. This soil type constitutes approximately 19.9% the total English land mass.

2.2.2 The data given was obtained from a desk top study which provides indications of likely soil types. By definition, this information is not comprehensive and therefore any decisions taken with regards the management, usage or construction on site should be based on a detailed soil analysis.

2.3 Statutory Tree Protection

2.3.1 Hayden's Arboricultural Consultants Limited have been unable to ascertain whether the trees identified within this report are covered by local planning authority administered statutory tree protection. In view of this, owners, managers or any persons wishing to undertake work to any trees should contact the local planning authority Rochford District Council, to ensure no such protection measures exist.

3.0 The Trees

3.1 As part of this survey a total of five trees have been identified and these have been numbered T001 – T005 respectively.

3.2 A topographical survey was provided which showed the position of the trees on site. It should be noted however that topographical surveys are not always comprehensive and sometimes it is considered appropriate to record details of trees and landscape features omitted from or beyond the scope of the plan. If this circumstance occurs, the location of the individual tree or landscape feature is estimated, with reference to the approximation being made in the *Schedule of Trees*.

3.3 In order to provide a systematic, consistent and transparent evaluation of the trees included within this survey, they have been assessed and categorised in accordance with the method detailed in item 4.3 of *BS 5837:2005 "Trees in Relation to Construction"*. For further information, please see item 17.2, below.

3.4 There are no BS 5837:2005 Category "A" (features where retention is most desirable) specimens or landscape features within the confines of the survey.

3.5 There are no BS 5837:2005 Category "B" (features where retention is desirable) trees and landscape features on or associated with the site.

3.6 One item (T003) has been classified as a BS 5837:2005 Category "B/C" specimen. The rationale of this designation is to take account of individual trees or landscape features that may contain attractive or unusual qualities or characteristics, but are of poor form, poorly sited, or have a predicted life span of less than 20 years due to inherent weaknesses or faults as detailed in the Schedule of Trees.

3.7 There are four BS 5837:2005 Category "C" (features which could be retained for short term benefit only) individual specimens and landscape features on site – T001, T002, T004 and T005. These items are generally evenly dispersed throughout the site. They may include young trees, trees or landscape features of poor form, or specimens with no significant individual long term landscape or amenity value, but which in certain circumstances visually coalesce to provide pleasing softening, screening and habitat benefits.

3.8 No tree or landscape features has been identified as a BS 5837:2005 Category "R" specimen (features for removal). These items require felling for health and safety, cultural, or structural reasons, irrespective of the future use of the site.

3.9 The items inspected and detailed within this report have been selected for inclusion due to the likely influence of any proposed development on the trees, rather than strictly adhering to the curtilage of the site. However, it must be understood that there may be trees beyond the site and not included in this survey which may exert an influence on the development. Where works for cultural, health and safety, quality of life, or development purposes have been recommended on trees outside the ownership of the site, these can only progress with the agreement of the owner, except where it involves portions of the trees overhanging the boundary.

3.10 Details of all proposed tree works together with priorities are given on the attached *Schedule of Trees* and *Schedules of Works*

4.0 Implications of Proposed Development

4.1 **Implications on Construction**

4.1.1 The proposal is to undertake works at Our Lady of Ransom, Rayleigh. This includes the construction of new access adjacent to trees.

4.1.2 Site access passes over the notional RPA's of the retained trees. This is already a surfaced access drive. Therefore no additional specialist ground protection is considered necessary.

4.1.3 A proposed parking bay/hard surface encroaches within a small portion of the Root Protection Area (RPA) of one tree to be retained – T003. Given the minor extent of the intrusion at this location and the changes in levels it is considered appropriate to undertake linear root pruning (see item 4.2.1, below). This operation will obviate the need for "no dig" construction methods in this situation.

4.1.4 The proposed pedestrian access to the south of T003 marginally infringes on the RPA of T003. This is currently an area covered with hard surface used for access. It is considered that tree roots from T003 will be present in this area and it is there not considered necessary to construct the path using no dig as described in item 12.0 of this report.

4.1.5 Prior to the commencement of construction and immediately after the completion of the necessary tree surgery and felling work, protective fencing must be erected on site. This must be in full accordance with item 5.0 below and positioned as shown on drawing no. 2395.D Rev A.

4.1.6 The site provides adequate internal space to locate a construction compound outside the RPA's of any trees and landscape features that are to be retained.

4.2 Cultural Implications

4.2.1 It is necessary to undertake linear root pruning to T003 as noted at item 4.1.3 above and as shown on drawing no. 2395.D Rev A. This must be carried out using an Air-spade and hand tools (secateurs and handsaw etc), and in accordance with item 12.2 below. This operation will not require repetition.

4.2.2 It is necessary to crown lift T002 to permit construction of adjacent parking bays. Given the amount of pruning necessary and the locations of the works, this is not considered likely to have a significant adverse effect on the tree concerned. It will be necessary to repeat this pruning on a cyclical basis maintain the appropriate clearances

4.3 Landscape Implications

4.3.1 No trees or landscape features have been identified for felling for the sole purpose of achieving the proposed layout.

4.4 Post Development Implications

4.4.1 From an arboricultural perspective, and other than the cyclical requirement to prune T002 as detailed at item 4.2.2 above, no post construction implications are envisaged

5.0 Tree Protection

5.1 The trees to be retained will be protected by the use of stout fencing erected in the positions indicated on the attached Arboricultural Implication Assessment drawing no. 2395.D Rev A. This fencing will be constructed with weld mesh panels on a framework of scaffolding, or similarly sturdy material, driven into the ground to a suitable depth to ensure its stability and in line with BS 5837:2005, figure 2 (Appendix No 1.3).

5.2 Where footpaths, access drives, or parking bays are constructed within the RPA of retained trees, careful attention will be paid to the type of surface treatment used in these areas, details of which are given in item 12.0, below. If possible, this should be constructed as a final phase of the development, thereby protecting the roots of the tree throughout the major construction phase of the proposed development.

5.3 Where the erection of proposed structures is located adjacent to or encroaches directly within the RPA's of retained trees, it is necessary to provide a protected area immediately around the building to safeguard the roots. This protected area will be constructed in line with Figure 3 of BS 5837:2005 (Appendix 2.1).

5.4 All fencing provided for the safeguarding of trees will be erected prior to any demolition or development commencing on the site, therefore ensuring the maximum protection. This fencing will be regarded as sacrosanct and, once erected, will not be removed or altered without the prior consent of the Local Planning Authority Arboricultural Officer.

6.0 Location of Site Office/Compound

6.1 The position of the office/compound will be agreed in writing with the Local Planning Authority prior to commencement of any permitted development works. Any re-siting of the office/compound through the various phases of development will be agreed prior to re-siting with the Arboricultural Officer.

7.0 On Site Storage of Spoil and Building Materials

7.1 Prior to and during all construction works on site, no spoil or construction materials will be stored within the RPA of any tree on, or adjacent to the site, even if the proposed development is to be within the RPA. This is to reduce to a minimum the compaction of the roots of the trees. Details of the RPA for each tree where no spoil or building materials will be stored are indicated on the attached drawing no. 2395.D Rev A. Any encroachment within this protected area will only be with the prior agreement of the Local Planning Authority Arboricultural Officer.

7.2 Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls. The volume of the bund compound shall be at least equivalent to the capacity of the tank plus 10%. If there is a multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges and sight glasses shall be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipe-work shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund.

8.0 Programme of Works

8.1 All tree surgery works, once approved by the Local Planning Authority, will be carried out prior to any other site works. Once completed, the proposed protective fencing will be erected along the lines indicated above. All of this will be carried out prior to commencement of any development works on the site. Outline details of the proposed programme are given in the Flow chart attached (Appendix 1.1). A detailed schedule of the proposed tree surgery works to be completed prior to construction work is in the attached Tree Survey.

8.2 During the construction works on site, the protective fencing will be maintained and every effort will be made to prevent unnecessary damage to the trees. The Arboricultural Officer will be notified immediately of any unforeseen damage. The necessary remedial tree surgery will be carried out at the earliest opportunity to the approval of Arboricultural Officer. The site will be inspected on a regular basis by a competent and qualified arboriculturalist.

8.3 On completion of the development works on site, it would be advisable to carry out a further tree survey to identify any remedial tree surgery necessary as a result of the development works, and to suggest details for the future management of the trees.

9.0 Tree Surgery

9.1 All necessary remedial tree work will be agreed with the Local Planning Authority and will be carried out in line with BS 3998:1989 (Recommendations for Tree Works). An arboricultural contractor approved by the Local Planning Authority will carry out the work. Any alterations to the proposed schedule of works will be agreed with the Arboricultural Officer prior to commencement of works.

10.0 Levels

10.1 To allow the proposed development to be constructed, there may have to be some alterations in the site levels. If these occur within the calculated RPA's of retained trees, appropriate measures must be taken to prevent or minimise any detrimental effects on the affected root systems.

10.2 If it is necessary to excavate so close to trees that roots greater than 50mm diameter are likely to be encountered, particular care will be taken to avoid damage. Excavation in these areas will be undertaken by hand or using an air spade, avoiding any damage to the bark. The roots will be surrounded with sharp sand prior to the replacing of any soil or other material in the vicinity.

10.3 If it is necessary to raise levels, it is essential that adequate supplies of water and oxygen through the soil to the trees' roots. Therefore, where necessary, a granular material will be used which will not inhibit gaseous diffusion. Possible options are; no-fines gravel or cobbles, Type 2 road-stone. All hard surfaces will be of suitable specification to allow such gaseous diffusion, such as brick pavers.

11.0 Services

11.1 It is proposed that all underground service runs will be placed outside the RPA of the trees on or adjacent to the site. Where it is not possible to do this, then the proposed length infringing the RPA will be hand dug 'broken trenches' (NJUG 4 paragraph 4) to ensure the maximum protection of the trees' roots. The trenches could also be excavated using an air spade, or trenchless technology could be employed if this methodology is considered appropriate by the relevant service company (thus allowing services to pass below and through the roots without the need for traditional excavation). If it is necessary to cut any small roots as part of any of these processes, they should to be severed in such a way as to ensure that the final wound is as small as possible and free from ragged, torn ends, (see BS 3998:1989 Para 14.3).

11.2 All routes for overhead services will aim to avoid the trees. Where this is unavoidable, any tree work will be agreed prior to commencement with the Arboricultural Officer.

11.3 All service providers (Statutory Authorities) will be consulted prior to commencement of works with the aim of minimising the number of service runs on the site.

11.4 All service runs/trenches will be agreed with the Local Planning Authority / Arboricultural Officer prior to commencement of works.

12.0 Hard Surface Types & Construction Within The Root Protection Area

12.1 It may be necessary to construct footpaths, driveways, non adoptable roads, and other hard surfaces within the RPA calculated in BS 5837:2005, Table 2. If these items are required, specific detail will be paid to the design and specification of the hard surfaces. In these areas, it is proposed that the construction of the footpaths, driveways, non adoptable roads, and other hard surfaces will be along the lines of the Arboricultural Advisory Information Services (AAIS) Practice Note 1 "Driveways Close to Trees", the only difference being that in conjunction with the 'geo-web, the road stone will be incorporated in and retained by 'Terram geo-web cellular confinement system' or similar. Given the individual requirements of each site, it is advised that a specialist engineer is consulted to specify the construction detail. Where it is necessary to remove the existing hard surface or lower the ground level exposing roots within the BS 5837:2005 RPA, this will be excavated by hand or air spade and the roots surrounded by sharp sand, with the greatest of care being taken to cause the minimum of damage to the root.

12.2 Where it is shown that the construction of a boundary wall or dwelling encroaches within the RPA of a retained tree, the foundations of the wall or dwelling will be designed in such a manner so as to minimise the detrimental affect of the construction on the tree's roots. In these situations any excavations within the RPA of an affected tree will only be undertaken following exploration of the existing root system with an air spade and the necessary root pruning undertaken to allow excavation without unnecessary pulling and tearing of the roots to be retained. This will ensure minimal damage to tree roots where pad and beam or cantilever foundations are considered appropriate. Obviously, should a piling rig be required to create piles, any tree work required to allow access must be undertaken prior to the commencement of works and only with prior consent of the Local Planning Authority.

12.3 If boundary fencing is to be erected within the RPA of retained trees, it is proposed that the fence posts will be secured by the use of "Met-Posts" in order to keep the disturbance and damage of the roots of the trees to a minimum.

13.0 Reporting Procedures

13.1 The site and associated development should be monitored/inspected regularly by a competent arboriculturalist to ensure that the arboricultural aspects of the planning permission are enforced and to deal with and advise on any problems that may arise during the development process. Should any problems arise during the development; the Arboriculturalist will contact the Local Planning Authority and appropriate action taken only with the prior permission of Roff Marsh Partnership and the Local Planning Authority.

14.0 Conclusions

14.1 The site is Our Lady of Ransom, Little Wheatley Chase, Rayleigh, Essex. Within what is considered to be the influencing area of the site; a total of five individual trees have been surveyed. These were found to be of mixed condition and age providing a variety of amenity benefits. It is proposed to construct a new access and additional parking within curtilage of this plot.

14.2 Under the current proposals it is not necessary to remove any trees in order to facilitate the proposed development.

14.3 Under the current proposals it will be necessary to undertake a light canopy raise to one tree to be retained to ensure adequate clearance over proposed parking.

14.4 The location of one of the new disabled parking bay nominally intrudes within the RPA of one tree to be retained. This has only minor influence on the RPA and as such it is considered appropriate to undertake linear root pruning, thus obviating the need for specialist "no dig" construction techniques at this location

14.5 All trees and landscape features that are to remain as part of the development should suffer no structural damage provided that protective fencing is erected as detailed at items 4.1.5 and 5.0 of this report, and that the work is scheduled as listed in items 4.2.1, 4.2.2 and in the attached Schedule of Trees.

15.0 Recommendations

15.1 Whilst this report details protection for T002 and T003 and shows how they can be retained it is recommended that consideration is given to the removal and replacement of these trees as part of the proposed development. This would remove the requirement for root pruning and tree protection; it would also ensure that sustainable tree cover is maintained. Replacement trees are recommended to be *Acer campestre* (Field Maple) although this can be subject to negotiation with the local planning authority. Trees should be planted as container grown specimens with a 14 – 16cm girth. For positioning and planting pit specifications, see drawing no. 2395.D Rev A. T001, T002 and T003 shall be felled prior to commencement of development works, replacement planting shall be undertaken during the first planting season upon completion of development. Any trees which fail with five years of planting shall be replaced like for like.

15.2 The tree surgery works proposed as part of this Survey are recommended to mitigate any identified problems that may be caused by trees in close proximity to the proposed development. To this end, should these recommendations be overruled, this Survey stands as the opinion of Hayden's Arboricultural Consultants Limited, and therefore any damage or injury caused by trees recommended by this practice for felling or tree surgery works, to which the proposed schedule of works has been altered or the tree has been requested to be retained by the Local Planning Authority, cannot be the responsibility of this practice.

16.0 References

British Standards Institute. (1989). *Recommendations for Tree Work BS 3998:1989* HMSO, London.

British Standards Institute. (1999). *Code of Practice for Site Investigations BS 5930:1999* HMSO, London.

British Standards Institute. (2005). *Trees in Relation to Construction BS5837:2005* HMSO, London.

Tree Preservation Orders, A Guide to the Law and Good Practice (2005). Department for Communities and Local Government

Lonsdale D. (1999). *Research for Amenity Trees No 7: Principles of Tree Hazard Assessment and Management*, HMSO, London.

Mattheck & Breloer H. (1994). *Research for Amenity Trees No.4: The Body Language of Trees*, HMSO, London.

NHBC Standards (2003) *Chapter 4.2 'Building Near Trees'.* National House-Building Council.

NJUG 4 Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Issued 16 November 2007.

Patch D. *Practice Note 1. Driveways Close to Trees (APN 1)* Arboricultural Advisory Information Services (AAIS).

Patch D. Holding B. (2006) *Arboricultural Practice Note 12 (APN12), Through the Trees to Development.* Arboricultural Advisory and Information Service (AAIS).

Roberts J., Jackson N. & Smith M. (2006). *Research for Amenity Trees No.8: Tree Roots in the Environment*: Department for Communities and Local Government, HMSO, London.

Schwaze F.W.M.R. Engels J. & Mattheck C. (2000) *Fungal Strategies of Wood Decay in Trees.* Springer

Strouts R.G. & Winter T.G. (1994).*Research for Amenity Trees No.2: Diagnosis of Ill-Health in Trees.* Department of the Environment, HMSO,

Weber K., Mattheck C. (2003). *Manual of Wood Decays.* The Arboricultural Association

17.0 Explanatory Notes

17.1 **Categories**

17.2 Below is an explanation of the categories used in the attached Tree Survey.

No Identifies the tree on the drawing.

Species Common names are given to aid understanding for the wider audience.

BS 5837 Category Using this assessment (BS5837:2005, Table 1), trees can be divided into one of the following simplified categories, and are differentiated by cross-hatching and by colour on the attached drawing:

Category A - Those of high quality and value: in such a condition as to be able to make a substantial contribution (40years +);

Category B - Those of moderate quality and value: in such a condition as to be able to make a substantial contribution (20 years)

Category C - Those of low quality and value: currently of adequate condition to remain until new planting could be established (up to 10 years) or trees with a stem diameter less than 150mm and:

Category R - Those trees in such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.

***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 given at the narrowest point immediately above the root flare.

Age Recorded as one of seven categories:

Y Young. Recently planted or establishing tree that could be transplanted without specialist equipment, ie up to 12-14 cms stem girth.

S/M Semi-mature. An established tree but one which has not reached its potential ultimate height and has significant growth potential.

E/M Early-mature. A tree reaching its ultimate potential height, whose growth rate is slowing down but will still increase in stem diameter and crown spread and has a safe useful life expectancy.

M Mature. A mature specimen with limited potential for any significant increase in size but with a reasonable safe useful life expectancy.

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 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.

Life Expectancy Relates to the prospective life expectancy of the tree and is given as 4 categories:

1 = 40 years+;

2 = 20-40 years;

3 = 10-20 years;

4 = less than 10 years.

Crown spread Indicates the spread of the crown from the base of the tree.

Minimum distance This is a distance equal to 12 times the diameter of the tree at 1.5 metres for single stemmed trees and 10 times the diameter of the base of the tree for multi stemmed specimens. (BS 5837:2005).

RPA Root Protection Area, defined in BS5837:2005 as 'a layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in drawing form in square metres. Ideally this is an area around the tree that must be kept clear of construction, level changes of construction operations. 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.

Water Demand This gives the water demand of the species of tree when mature, as given in the NHBC Standards Chapter 4.2 'Building Near Trees'.

Visual Concerns the planning and landscape contribution to the development site made by the tree, hedge or tree group, in terms of its amenity value and prominence on the skyline along with functional criteria such as the screening value, shelter provision and wildlife significance.

Problems/comments May include general comments about growth characteristic, how it is affected by other trees and any previous surgery work; also, specific problems such as deadwood, pests, diseases, broken limbs, etc.

Work required Identifies the necessary tree work to mitigate anticipated problems and deal with existing problems identified in the previous category.

Priority This gives a priority rating to each tree allowing the client to prioritise necessary tree works identified within the Tree Survey.

1 Urgent – works required immediately;

2 Works required within 6 months;

3 Works required within 1 year;

4 Re-inspect in 12 months,

0 Remedial works as part of implementation of planning consent.

18.0 Tree Problems

18.1 This gives a brief description of the problems identified in the attached Tree Survey.

18.2 **Deadwood**
This relates to dead branches in the crown of the tree. In the majority of cases this is just caused by the natural ageing of the tree or its close proximity to neighbouring trees. However in some cases it may be related to fungal, bacterial or viral infection and for that reason a close eye should be kept on those trees showing signs of excessive deadwood.

18.3 **Ivy (*Hedera helix*):**
This is generally only harmful on already unhealthy trees which may be constricted by large ivy stems around the trunk or may have their top growth suppressed by a mass of flowering shoots in the crown. Ivy should only be removed if absolutely necessary because of the abundant cover it gives to wildlife and then by severing twice close to the ground and removing a length of stem.

19.0 Limitations & Qualifications

Tree inspection reports are subject to the following limitations and qualifications.

General exclusions

Unless specifically mentioned, the report will only be concerned with above ground inspections. No below ground inspections will be carried out without the prior confirmation from the client that such works should be undertaken.

The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available prior to and during the inspection process. No checking of independent third party data will be undertaken. Hayden's Arboricultural Consultants Limited will not be responsible for the recommendations within this report where essential data are not made available, or are inaccurate.

This report will remain valid for one year from the date of inspection, but will become invalid if any building works are carried out upon the property, soil levels altered in any way close to the property, or tree work undertaken.

If alterations to the property or soil levels are carried out, or tree work undertaken, it is strongly recommended that a new tree inspection be carried out.

It will be appreciated, and deemed to be accepted by the client and their insurers, that the formulation of the recommendations for the management of trees will be guided by the following:-

1. The need to avoid reasonable foreseeable damage.
2. The arboricultural considerations - Tree safety, Good Arboricultural practice (tree work) and Aesthetics.

The client and their insurers are deemed to have accepted the limitation placed on the recommendations by the sources quoted in the attached report. Where sources are limited by time constraints, or the client, this may lead to an incomplete quantification of the risk.

Hugh Coggles
Arboricultural Consultant
Hayden's Arboricultural Consultants Limited

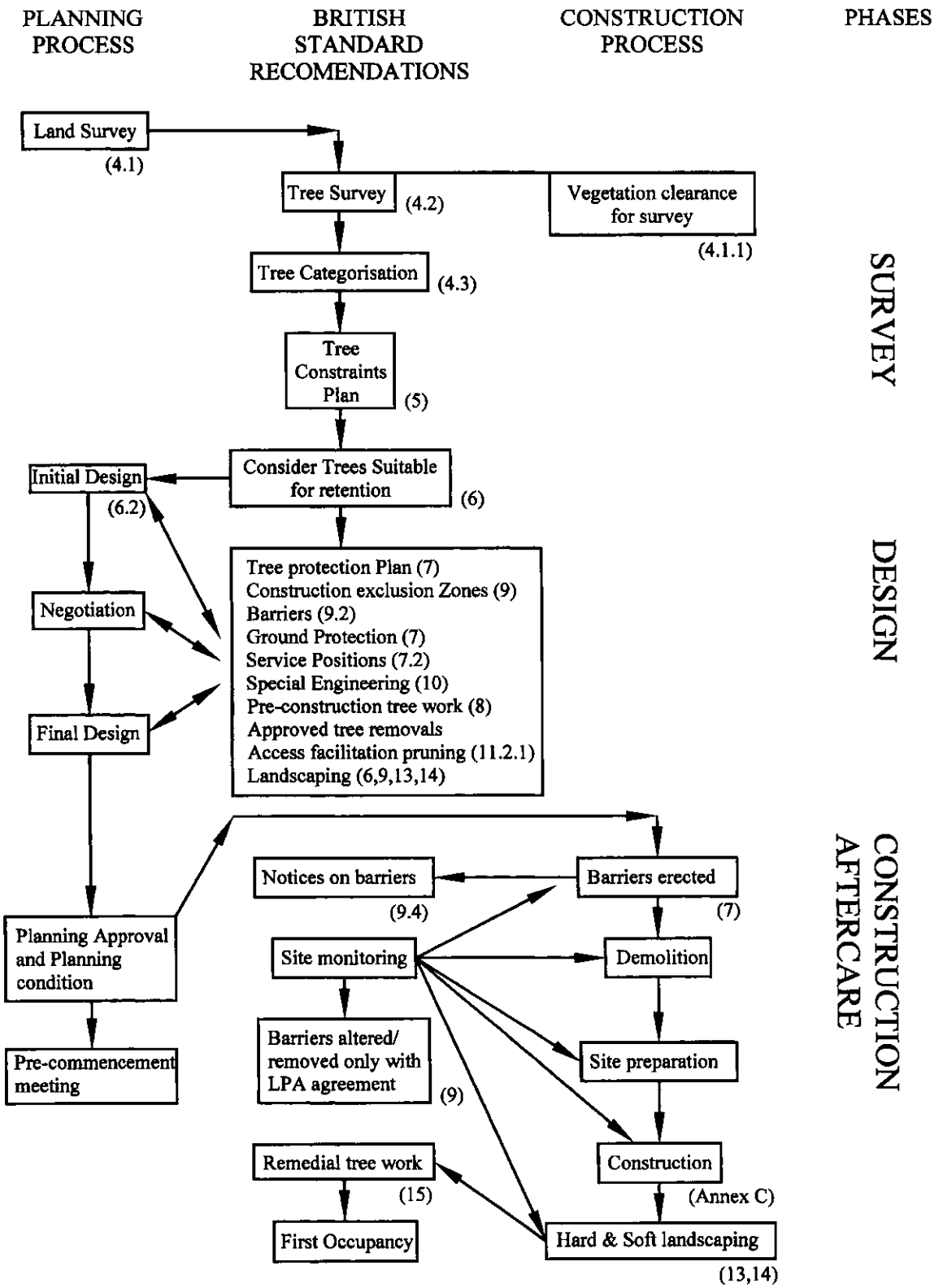
January 2011.....

20.0 Appendices

Appendix No.	**1.1**	BS 5837:2005 Figure 1 Flow Chart – Summarising Planning for Trees on Development Sites
Appendix No.	**1.2**	European Protected Species and woodland operations Decision tree to aid planning of woodland operations and protecting EPS (v.1)
Appendix No.	**1.3**	BS 5837:2005 Figure 2 Protective Barrier
Appendix No.	**2.1**	BS 5837:2005 Figure 3 Detail of protective barrier where construction encroaches within BS5837:2005 Root Protection Area
Appendix	**A**	Species List
Appendix	**B**	Schedule of Trees
Appendix	**C**	Schedule of Works - Irrespective of Development
Appendix	**D**	Schedule of Works to Allow Development
Appendix	**E**	Drawing No 2395.D Rev A and Planting Specification.

Appendix No 1.1

BS 5837:2005 Figure 1
Flow Chart – Summarising Planning for Trees on Development Sites



Figures in brackets refer to Clause numbers

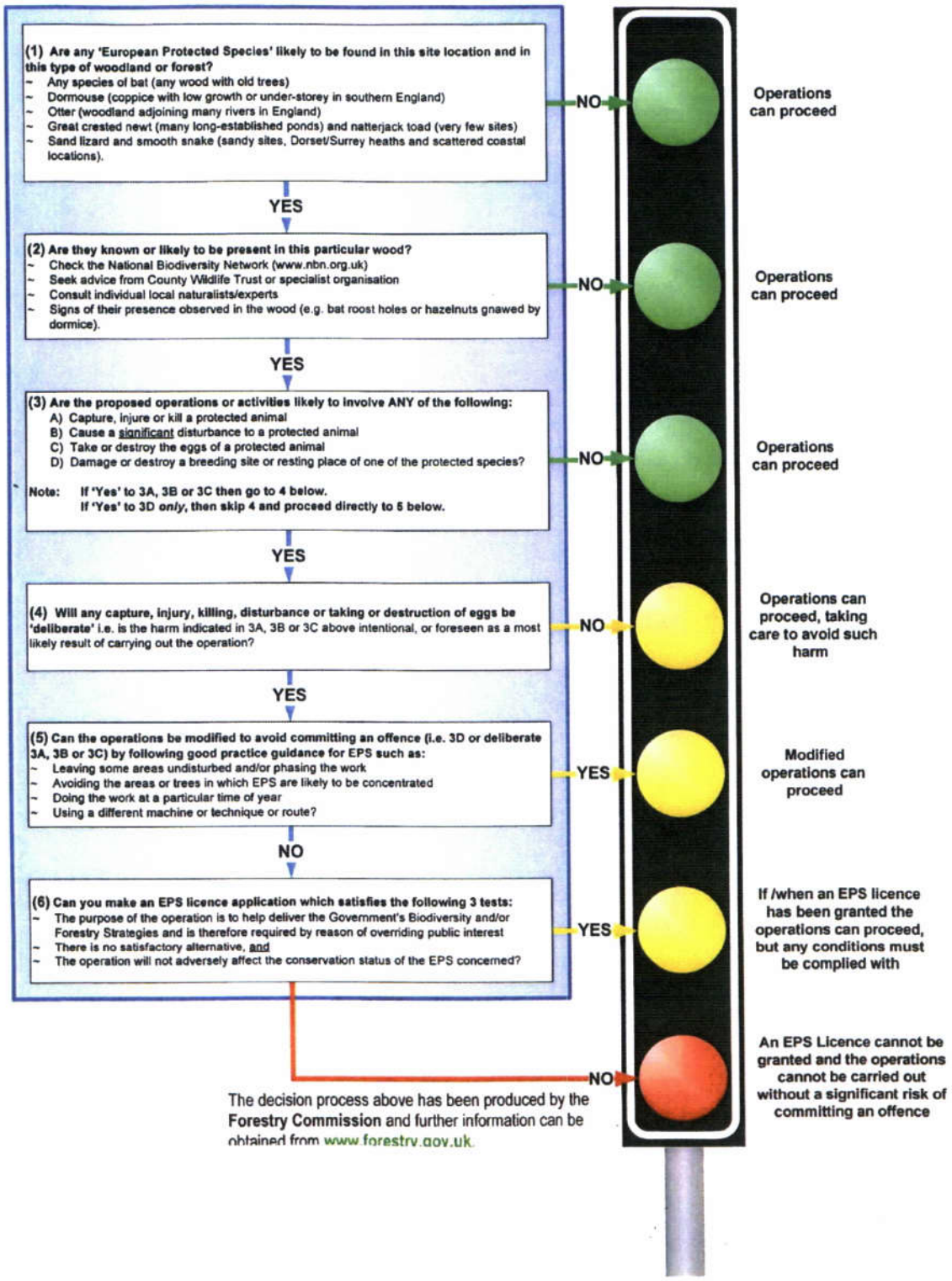
Appendix No 1.1 - BS 5837:2005, Figure 1 - Flow diagram, summarising planning for trees on development sites

Appendix No 1.2

European Protected Species and woodland operations
Decision tree to aid planning of woodland operations and protecting EPS (v.1)

European Protected Species and woodland operations
Decision tree to aid planning of woodland operations and protecting EPS (v.1)

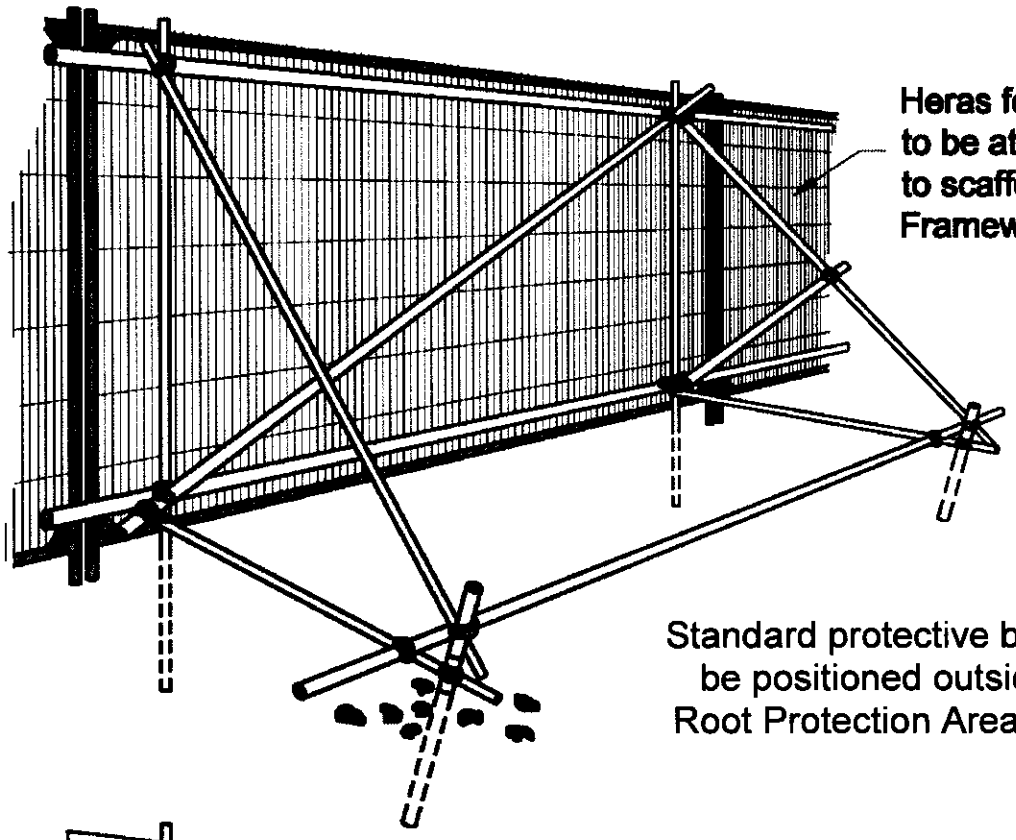
The diagram below illustrates the questions that woodland managers and operators should consider when deciding whether they need to apply for an EPS licence. It should be noted that the diagram presents a simplified overview of the decision-making process.



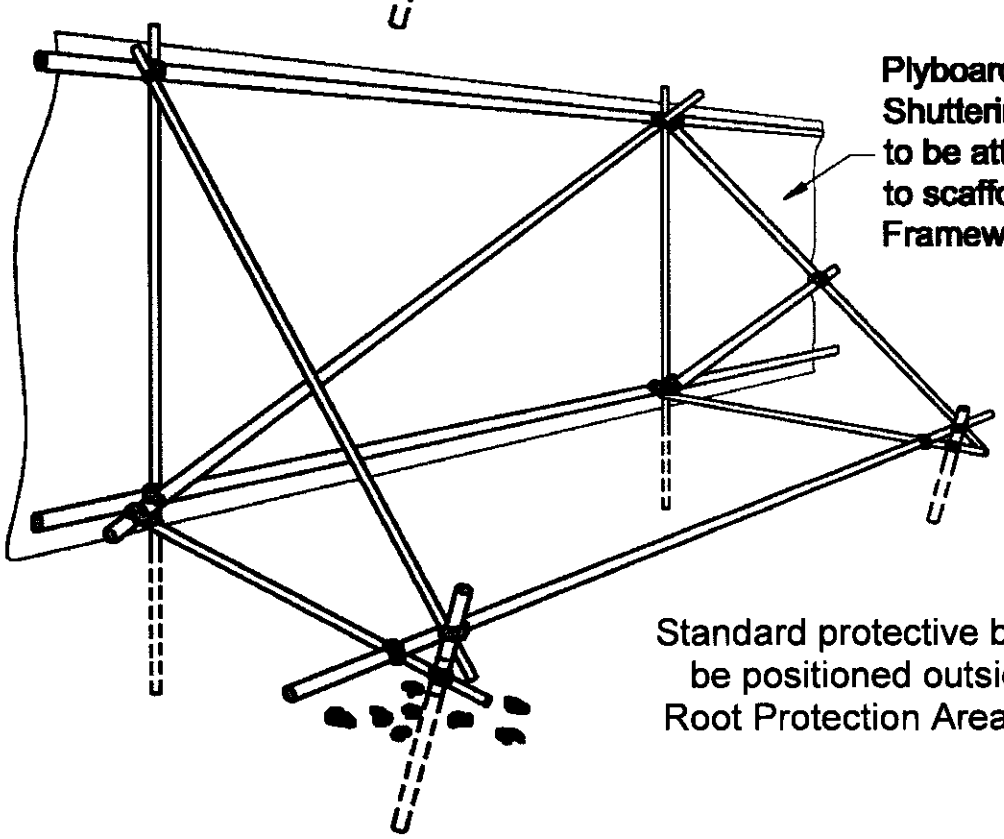
The decision process above has been produced by the **Forestry Commission** and further information can be obtained from www.forestry.gov.uk

Appendix No 1.3

BS 5837:2005 Figure 2 Protective Barrier



Standard protective barrier to be positioned outside the Root Protection Area (RPA).

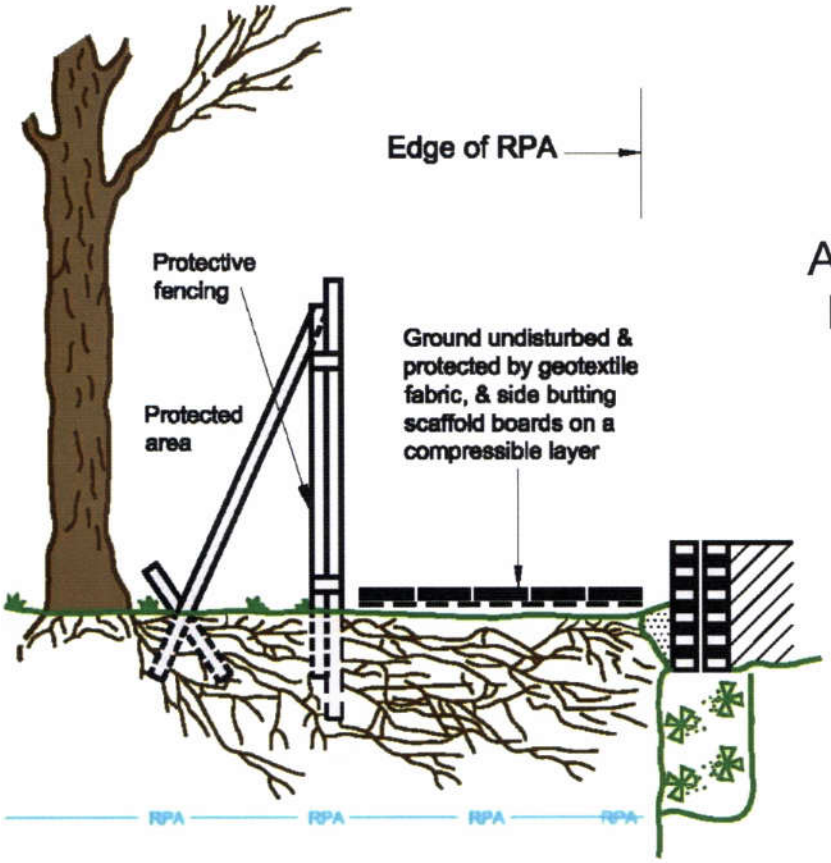


Standard protective barrier to be positioned outside the Root Protection Area (RPA).

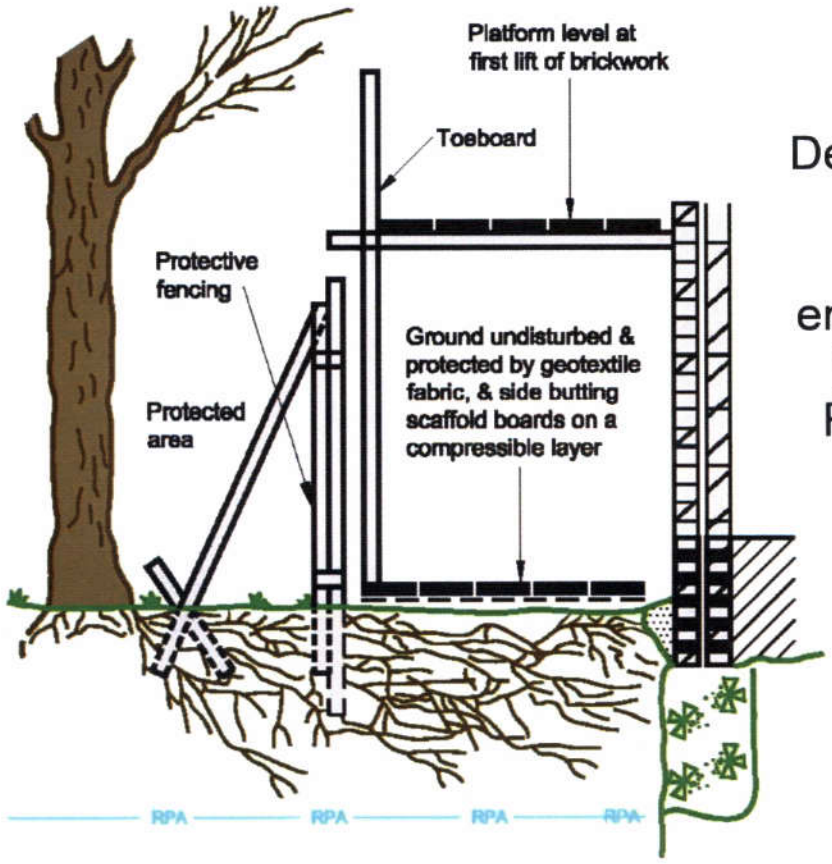
Appendix No 1.3 - BS 5837:2005,
Figure 2 - Protective barrier

Appendix No 2.1

BS 5837:2005 Figure 3
Detail of protective barrier where construction encroaches within
BS5837:2005 Root Protection Area



Appendix No 2.1
BS 5837:2005,
Figure 3 –



Detail of protective barrier where construction encroaches within BS 5837:2005 Root Protection Area (RPA)

Appendix A

Species List

Beech	*Fagus sylvatica*
Blackthorn	*Prunus spinosa*
Silver Birch	*Betula pendula*

Appendix B

Schedule of Trees

SCHEDULE OF TREES (AIA) Our Lady of Ransom, Our Lady of Ransom, Rayleigh, Essex

Surveyed By: Hugh Coggles
Survey Date: 20/12/2010

Tree No.	Species	DBH / Min Dist / RPA (m²)	Height / Base of Crown / Visual	Age / Life Expect.	Crown Spread / Water Demand / Ground Cover	Problems / Comments	BS Cat	Work Required (TS)	Priority (TS)	Work Required (AIA)	Priority (AIA)
T001	Beech	200 2 12.6	4 0.5 Moderate	SM 1	N2.5, E2.5, S2.5, W2.5 Moderate Bare Earth	Tree is in sound condition. Slightly suppressed beneath the canopy of adjacent Silver Birch, but no signs of disease or decay requiring no works at present.	C2	No works required	4	No works required although preferred option is to fell and replace	0
T002	Silver Birch	220 2.64 21.9	8 1 Moderate	EM 2	N4, E4, S4, W4 Low Bare Earth	Tree is not particularly well formed with a number of contorted stems within the centre of the canopy. However there are no signs of disease or decay.	C2	No works required	4	Raise canopy over proposed parking bay. Prefered option is to fell and replace	0
T003	Silver Birch	375 4.5 63.6	12 1 Moderate	M 2/3	N4, E4, S4, W4 Low Bare Earth	Tree has no notable defects although it is appearing to show a slight lack of vigour with some moderate deadwood within the centre of the canopy. Main stem is sound with no signs of significant decay or disease.	B/C2	Remove deadwood and monitor	3	Root pruning as shown on drawing 2395.D Rev A. Prefered option is to fell and replace.	0
T004	Blackthorn	200 2.4 18.1	5 2 Moderate	M 2/3	N3, E3, S3, W3 Moderate Bare Earth	Two separate stems of Blackthorn forming one homogenous canopy. Both trees are of poor quality. Ivy covered stems and canopies making it difficult to fully assess. However I suspect there are no significant defects or major faults that are being masked.	C2	No works required	4		
T005	Blackthorn	200 2.4 18.1	5 2 Moderate	M 2/3	N3, E3, S3, W3 Moderate Bare Earth	Two separate stems of Blackthorn forming one homogenous canopy. Both trees are of poor quality. Ivy covered stems and canopies making it difficult to fully assess. However I suspect there are no significant defects or major faults that are being masked.	C2	No works required	4		

Appendix C

Schedule of Works - Irrespective of Development

SCHEDULE OF WORK

Our Lady of Ransom, Our Lady of Ransom, Rayleigh, Essex

Surveyed By: Hugh Coggles
Surveyed: 20/12/2010

Tree No.	Species	Work required	Priority
T003	Silver Birch	Remove deadwood and monitor	**3**

Appendix D

Schedule of Works to Allow Development

SCHEDULE OF WORKS TO ALLOW DEVELOPMENT (AIA)

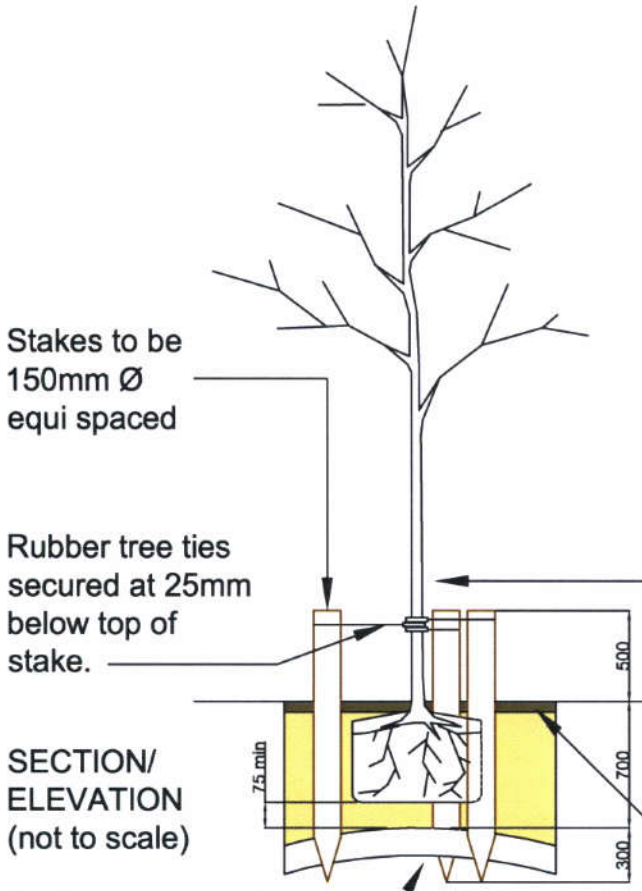
Our Lady of Ransom, Our Lady of Ransom, Rayleigh, Essex

Surveyed By: Hugh Coggles
Surveyed: 20/12/2010

Tree No.	Species	Work required	Priority
T001	Beech	No works required although preferred option is to fell and replace	**0**
T002	Silver Birch	Raise canopy over proposed parking bay. Prefered option is to fell and replace	**0**
T003	Silver Birch	Root pruning as shown on drawing 2395.D Rev A. Prefered option is to fell and replace.	**0**

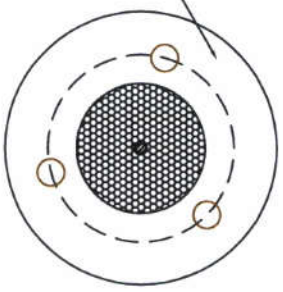
Appendix E

Drawing No 2395.D Rev A and Planting Specification



PLAN

300mm minimum gap between edge of pit and rootball



The tree is to be secured to the stakes using 3 no. approved tree ties. Ties are to be secured so as to allow for movement but prevent damage to the trunk

Area of mulch

NOTES:

1. The tree pit should be excavated to allow adequate clearance between the perimeter of the ball and the side of the pit.

2. The depth of the pit should be a minimum of 700mm and at least 75mm greater than the depth of the root-ball.

3. Fork the bottom and sides of the pit to break up the subsoil.

4. Mix the dug soil with
   a) a slow release fertiliser,
   b) a specified soil ameliorant.

5. Drive in the stakes so that they are a minimum of 300mm below the bottom of the pit and 500mm above ground level. The stakes are to be sweet chestnut or peeled larch poles, pointed at one end, preserved to resist rot for their intended lifespan.

6. Plant the tree, ensuring that the original depth is maintained and the soil is carefully firmed back up to the existing ground level.

7. Spread 75-100mm depth of mulch over an area of 1000mm diameter around the tree.

Do Not Scale

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Email: info@treesurveys.co.uk
Web Page: www.treesurveys.co.uk

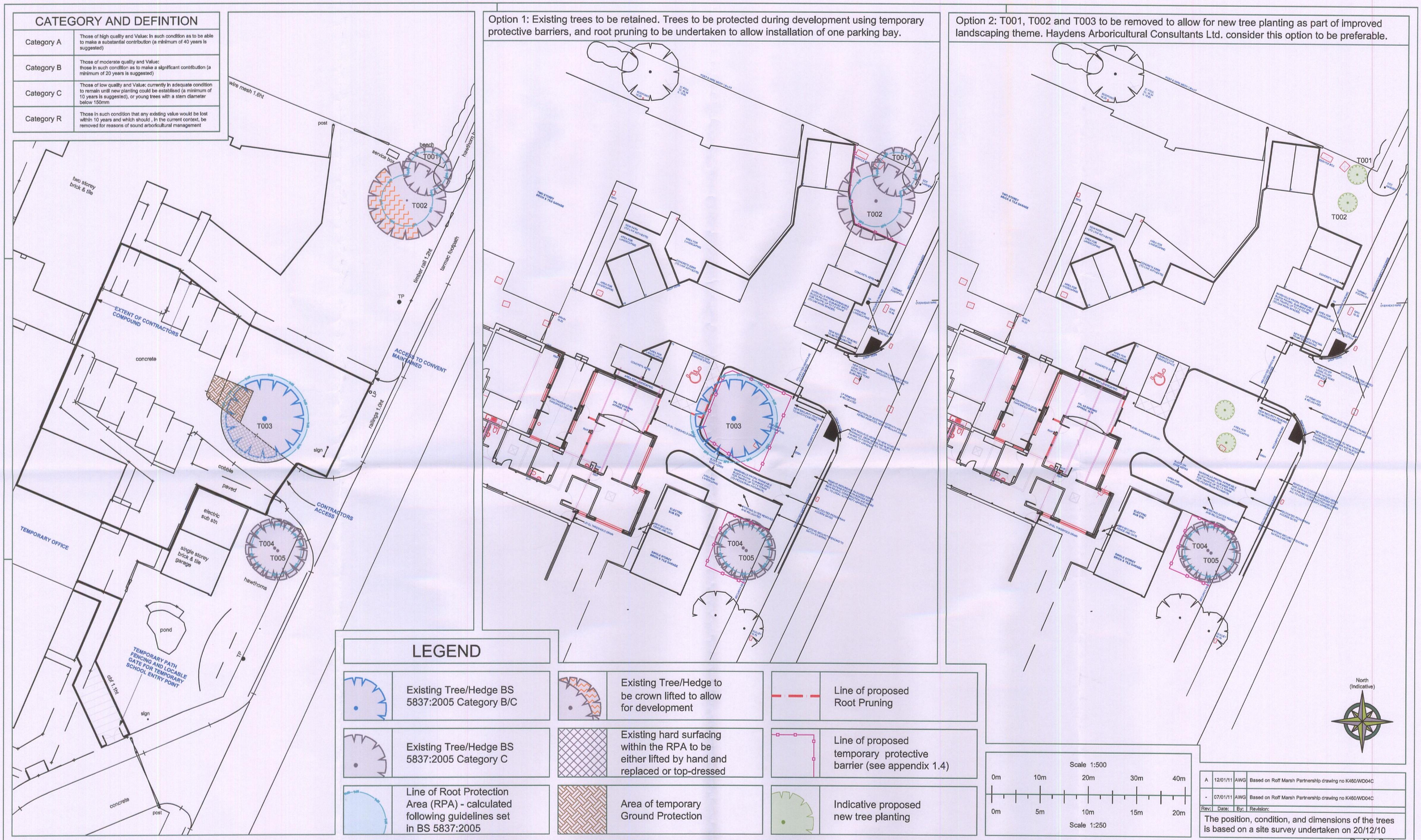
Client: Roff Marsh Partnership	Drawing Title: TS & AIA		Drawn By: AWG
Site: Our Lady of Ransom, Rayleigh, Essex		Drawing No: 2395.D	Checked By: HC
CAD File Ref: C:\Pro\2395 - Planting Spec.dwg	Date: 12/01/11	Scale: @ A4 N/A	REV: A

CATEGORY AND DEFINTION

Category A	Those of high quality and Value: In such condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)
Category B	Those of moderate quality and Value: those in such condition as to make a significant contribution (a minimum of 20 years is suggested)
Category C	Those of low quality and Value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm
Category R	Those in such condition that any existing value would be lost within 10 years and which should , in the current context, be removed for reasons of sound arboricultural management

Option 1: Existing trees to be retained. Trees to be protected during development using temporary protective barriers, and root pruning to be undertaken to allow installation of one parking bay.

Option 2: T001, T002 and T003 to be removed to allow for new tree planting as part of improved landscaping theme. Haydens Arboricultural Consultants Ltd. consider this option to be preferable.



LEGEND

Existing Tree/Hedge BS 5837:2005 Category B/C	Existing Tree/Hedge to be crown lifted to allow for development	Line of proposed Root Pruning
Existing Tree/Hedge BS 5837:2005 Category C	Existing hard surfacing within the RPA to be either lifted by hand and replaced or top-dressed	Line of proposed temporary protective barrier (see appendix 1.4)
Line of Root Protection Area (RPA) - calculated following guidelines set in BS 5837:2005	Area of temporary Ground Protection	Indicative proposed new tree planting

Scale 1:500

0m 10m 20m 30m 40m

0m 5m 10m 15m 20m

Scale 1:250

Rev:	Date:	By:	Revision:
A	12/01/11	AWG	Based on Roff Marsh Partnership drawing no K460/WD04C
-	07/01/11	AWG	Based on Roff Marsh Partnership drawing no K460/WD04C

The position, condition, and dimensions of the trees is based on a site survey undertaken on 20/12/10

Do Not Scale

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Client: Roff Marsh Partnership	Drawing No: 2395.D	Drawing Title: TS & AIA	Date: 12/01/10	Scale: 1:250 @ A2
Site: Our Lady of Ransom, Rayleigh, Essex	CAD File Ref: Cli\Pro\2395.D.TS.AIA.OurLadyofRansom.dwg	Drawn By: AWG	Checked By: HC	REV: A