



Broad Oak Tree Consultants Limited
Laurel House, Burwash Road, Broad Oak, Heathfield, East Sussex
TN21 8SS Tel: 01435 862444 office@broadoaktrees.co.uk



**ARBORICULTURAL IMPLICATIONS ASSESSMENT
FOR
30 UNIT RESIDENTIAL DEVELOPMENT**

AT

**LAND SOUTH OF ST. STEPHENS CHURCH
HAMSLAND
HORSTED KEYNES
EAST SUSSEX**

BY

**Tim Laddiman
BSc.(Hons) M.I.C.For. M.Arbor.A.
Chartered Arboriculturist**

**Our ref: J55.79
14th December 2020**

CONTENTS

Page No.

1.	INTRODUCTION	1
2.	GENERAL SITE DESCRIPTION	1
3.	SCOPE OF TREE SURVEY	1
4.	DATA COLLECTION	1
5.	RISK ASSESSMENT – INFORMATIVES	2
6.	RESULTS OF TREE INSPECTIONS	3
7.	BS CALCULATED ROOT PROTECTION AREAS (RPAs)	4
ARBORICULTURAL IMPLICATIONS ASSESSMENT		
8.	DEVELOPMENT PROPOSALS	5
9.	TREES FOR REMOVAL – SAFETY/SHORT LIFESPAN	5
10.	TREES FOR REMOVAL – DEVELOPMENT	5
11.	TREE SURGERY REQUIREMENTS	6
12.	POTENTIAL IMPACT OF PROPOSALS ON RETAINED TREES	6
13.	TREE PROTECTION MEASURES – FENCING	7
14.	GROUND PROTECTION MEASURES	8
15.	SITE OPERATIONS AND MATERIALS STORAGE	8
16.	SERVICES/DRAINAGE/SOAKAWAYS	8
17.	ARBORICULTURAL METHOD STATEMENT	9
18.	SUMMARY	9

APPENDICES:

1. EXPLANATORY SHEETS, TREE INSPECTION SHEETS
2. TREE CONSTRAINTS PLAN, DRAWING NO. J55.79/02
3. TABLE OF BS CALCULATED ROOT PROTECTION AREAS (RPAs)
4. TREE PROTECTION PLAN, DRAWING NO. J55.79/03 REV. A
5. COPY OF RPS – ACCESS CONSTRUCTION OPTIONS
6. EXAMPLES OF FENCING SPECIFICATION AND SIGNAGE

1. INTRODUCTION

- 1.1 Broad Oak Tree Consultants Ltd. received instructions from Rydon Homes Ltd. to undertake an inspection of trees located on and immediately adjacent to the site referred to as Land South of St. Stephens Church, Hamsland, Horsted Keynes, East Sussex. The purpose of the inspection was to produce a base inventory of the tree stock and an Arboricultural Implications Assessment of development proposals.
- 1.2 The proposals are for the development of 30 residential units radiating out from a central access road linking through an existing field entrance onto Hamsland. The development will comprise a mix of flats, short terrace, semi-detached and detached houses with associated garaging, parking, private gardens and a pumping station. Details of the proposals will have been submitted by Rydon Homes.
- 1.3 The trees were inspected on 26th February 2020 by Tim Laddiman, BSc.(Hons) M.I.C.For. M.Arbor.A., Chartered Arboriculturist and Principal Consultant of Broad Oak Tree Consultants Ltd.

2. GENERAL SITE DESCRIPTION

- 2.1 The site comprises a grass field located on the south-east side of Hamsland set behind a Church and row of residential properties accessed via a grassed track. Ground levels fall gradually from north-west to south-east with fields adjoining to the south and south-east and residential gardens adjoining to the north, north-east and west.
- 2.2 The surroundings of the field comprise overgrown hedgerows with various emergent trees representing overgrown hedge components and individual mature trees, mainly Oak and elements of Ash. Towards the north-east is a section of residential garden area developed into the original field outline with numerous planted trees, comprising mainly Birch and Cypress. Hedges to the north and west boundaries and to the east are regularly maintained at different levels.

3. SCOPE OF TREE SURVEY

- 3.1 All trees and shrubs of 75mm diameter or more at 1.5m above ground level were included in the survey. This included trees immediately adjacent to the site.
- 3.2 For the offsite trees estimates of location, dimensions and condition had to be made.

4. DATA COLLECTION

- 4.1 All trees were inspected from the ground and no climbing or specialist investigations were undertaken. Only those trees within the site boundary could be basally inspected, with the structural integrity of the trees located outside the site unconfirmed. Each tree was inspected to the requirements of Section 4.4 "Tree Survey" of BS 5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations".

- 4.2 The tree survey followed the numbered sequence from T1 to G39 inclusive. Tree numbers, together with BS recommended colour coding of condition, have been added to the Tree Constraints Plan, our drawing no. J55.79/02 in Appendix 2. This drawing also includes crown spreads based on four compass points and BS calculated root protection areas.
- 4.3 The following categories of information were obtained for each tree. Separate detailed tree survey sheets are attached in Appendix 1, together with comprehensive explanatory sheets which cover the details of the categories listed below.

- (1) Tree reference number
- (2) Species
- (3) Height in metres
- (4) Stem count
- (5) Stem diameter or equivalent in millimetres
- (6) Branch spread in metres
- (7) Age class
- (8) Height of crown clearance in metres
- (9) Physiological condition
- (10) Estimated remaining contribution in years
- (11) Category grading
- (12) Structural condition
- (13) Preliminary management recommendations

- 4.4 Within the assessment of physiological condition and remaining contribution, a visual inspection of each tree was undertaken to assess the crown and stem for any weak structures, deadwood, hollows, forks or other defects that might affect its stability and safety. The base of each tree was also visually inspected, together with tapping and probing, to search for signs of root lifting, bark death or decay. Where stems were heavily ivy clad, no full assessment of structural integrity could be undertaken. Clearance of the ivy would be necessary for confirmation of tree condition.

5. RISK ASSESSMENT - INFORMATIVES

- 5.1 Although the potential risk to someone passing beneath a tree when the tree or part of it fails is relatively remote, the risk is present. This increases significantly in areas of consistent and regular usage on a year round basis, such as footpaths, gardens and roadways. Where static structures exist, the risks become constant and an assessment is made as to whether complete or partial failure of a tree could potentially cause physical damage to such structures.
- 5.2 Within the scope of any tree survey it is a fact that not all risks of stem or crown failure can be covered, particularly in relation to freak occurrences of weather when even healthy trees can suffer stem snap or windblow. There is also a well known propensity for mature trees to occasionally shed limbs for no discernible reason, even on calm days. Although relatively rare, limbs may occasionally be shed and this should be acknowledged as a risk that cannot entirely be mitigated.

6. RESULTS OF TREE INSPECTIONS

- 6.1 A total of 39 individual trees, small groups and hedges were inspected ranging from young hedges and offsite planted trees of less than 25 years of age through to mature Oaks of upto 200 years of age with hedge components of undetermined age, though likely to be commensurate with the older Oak trees within the hedge lines.
- 6.2 The south-eastern boundary includes an open grown mature Ash and Oak whilst on the southern and western boundaries most of the Oak and Ash are growing in crowded conditions with inter locking crowns and sections of heavily overgrown former Hornbeam hedge. Many of the Ash elements are showing signs of decline at various stages of development and the symptoms are commensurate with Ash Dieback. It is unclear as to the extent to which the trees are infected and those not showing symptoms at present will decline but ultimately anticipated survival rates for Ash within the general population are relatively low. The trees have been graded on their current appearance and condition though the Ash Dieback can spread rapidly and result in rapid decline of currently healthy appearing trees.
- 6.3 As indicated, to the north-east a section of the former field has been fenced off and included in a domestic garden type setting with extensive planting of trees within the last 40 years, primarily Birch and Cypress. These are out of keeping with the setting of the site and it is unclear why so many Cypress would have been planted in various groups.
- 6.4 Of the trees inspected, the following is a breakdown of the various numbers of trees and groups in each BS category.

BS Category	Tree No.	Sub Total
A	2, 19, 27	3
B	4, G7, 9, 10, 15, 22	6
C	G3, 5, 6, G8, 11, 12, 13, 14, 16, 18, 20, G23, 25, 26, G28, 29, 30, G31, 32, G33, G34, G35, G36, G37, G38, G39	26
C/U	G1, G21	2
U	17, 24	2
	TOTAL	39

6.5 *Interpretation of table*

- Category A** Retention most desirable. Of high quality and value and in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).
- Category B** Retention desirable. Of moderate quality and value and in such a condition as to make a significant contribution (a minimum of 20 years is suggested).
- Category C** Could be retained – of low quality and value. Poor crown form, heavily asymmetric, large numbers of similar species/size. 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 C/U

Trees that would be included in category C but have structural faults, areas of decay, etc. that require more detailed investigations or climbing inspections to ascertain whether or not they can be safely retained. Groups that include dead/dying/dangerous individuals.

Category U

Trees for removal. Dead/dying/dangerous trees due to structural defects, fungal decay or root plate uplift. Those in such a 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.

7. BS CALCULATED ROOT PROTECTION AREAS (RPAs)

- 7.1 To provide an indication of the critical areas of root plate necessary for tree survival and longevity, BS 5837:2012 requires the calculation of RPAs for trees in the BS Categories A, B and C. Calculations are not made for Category U trees which will require removal on safety grounds within 10 years.
- 7.2 The table in Appendix 3 has been calculated using the measured stem diameters and the formula as described in Section 4.6 in BS 5837:2012. These are represented as basic circles on the Tree Constraints Plan. Where buildings, walls, services and hard surfacing exist within the indicated RPAs it is likely that the architecture of root systems will have been affected. Foundations to walls and buildings can completely obstruct root development, depending on their depth and the nature of the underlying soils. In the absence of detailed site investigations the indicated RPA circles should be used for guidance only within any development proposals.

ARBORICULTURAL IMPLICATIONS ASSESSMENT

8. DEVELOPMENT PROPOSALS

- 8.1 The proposals are for the development of 30 residential units radiating out from a central access road linking through an existing field entrance onto Hamsland. The development will comprise a mix of flats, short terrace, semi-detached and detached houses with associated garaging, parking, private gardens and a pumping station. Details of the proposals will have been submitted by Rydon Homes.
- 8.2 The supplied "Site Layout", drawing no. 1044-FA-02 produced by Rydon Homes, has been used as the base for the Broad Oak Tree Consultants Ltd. Tree Protection Plan, drawing no. J55.79/03 Rev. A in Appendix 4. This indicates trees for removal and measures to protect retained trees in accordance with BS5837:2012 requirements.

9. TREES FOR REMOVAL – SAFETY/SHORT LIFESPAN

- 9.1 Based on the tree inspections the following trees require removal on safety grounds. These are all Ash suffering from Ash Dieback which causes rapid canopy decline and unpredictable brittle failure to branches and stems. As these are located in adjoining land holdings their removal should be requested of the landowners if planning permission is received.

Table: Trees for removal - safety/short lifespan

Tree No.	Species	Comments
T17	Ash	Dieback and deadwood in canopy. Asymmetric.
G21	Ash	Variable levels of dieback – remove dying stems.
T24	Ash	Dieback and deadwood.

- 9.2 As BS category U trees the above are of no planning consequence. Their removal on safety grounds is recommended, subject to landowner agreement, on the Tree Protection Plan.

10. TREES FOR REMOVAL – DEVELOPMENT

- 10.1 Based on the proposed site layout the only trees requiring removal would be the small group, G1, comprising a Hawthorn and a dying Holly. These are small in size and BS category C/U and as such should not represent a constraint to the proposals, according to BS5837:2012.
- 10.2 No other trees will require removal for the development.
- 10.3 G1 is indicated for removal for development with a blue dashed crown outline on the Tree Protection Plan.

11. TREE SURGERY REQUIREMENTS

- 11.1 To provide appropriate separation space from buildings, Highway clearance heights and usable garden space, the following tree surgery works would be recommended.

Table: Trees requiring tree surgery works

Tree No.	Species	Works recommended
T2	Common Oak	Raise crown base to E. to 5m.
G3	Hornbeam	Cut back crowns to E. by 5.5m.
T4	Hornbeam	Cut back crown to E. by 6.5m.
T5	Hornbeam	Cut back crown to E. by 5m.
G7	Hornbeam	Raise crown bases to E. to 5m.
T10	Common Oak	Raise crown base to E. to 5m.
T12	Common Oak	Reduce back crown to N. by 3m and to E. by 4m and shape to balance.
T13	Common Oak	Reduce back crown to N. by 8m and shape to balance.
T19	Common Oak	Raise crown base to 5m to N.
T27	Common Oak	Raise crown base within site to 3m.
G33	2no. Birch, 2no. Cypress	Cut back overhanging crowns to W. by 2m and raise crown bases to 3m.
G34	4no. Cypress	Raise crown bases to W. within site to 3m.

- 11.2 All of the proposed works would represent typical maintenance of field boundaries if the site remained as an agricultural holding. As such they should not represent a significant constraint to development. The works proposed will not adversely affect the visual amenity of the trees and for most of the works rebalance heavily asymmetric crowns.
- 11.3 All tree work will need to be carried out by a competent tree surgeon to comply with BS3998:2010 "Tree Work - Recommendations".
- 11.4 All trees recommended for felling or tree surgery works will need to be checked for the presence of bats or nesting birds prior to works commencing. Disturbance to bats or nesting birds could contravene the Wildlife and Countryside Act 1981 and result in prosecution.

12. POTENTIAL IMPACT OF PROPOSALS ON RETAINED TREES

- 12.1 The proposed layout has been developed with the aid of the tree constraint information. This has allowed all buildings to be positioned outside of retained tree RPAs to avoid any root related issues and allow for the retention of virtually all of the trees. This ensures the mature setting and character of the site is preserved and that the external views and landscape setting are unchanged.
- 12.2 The only area of potential conflict with tree root systems would be the entrance road passing through the RPAs of T2-G7. This has been acknowledged as a constraint from the outset and various options for the construction of the access road have been considered.

- 12.3 The options that have been detailed range from normal carriageway construction, if there is minimal root presence, through to a full no dig design. Details of the options that have been designed by RPS are included in Appendix 5.
- 12.4 To identify the correct access road design for the site circumstances it is proposed that a number of site investigation trenches are excavated at key locations along the length of the proposed carriageway. These will be hand tool/airspade excavated and supervised by an Arboricultural Consultant. The extent of root presence will be recorded and on the basis of the findings the most appropriate road construction design will be adopted.
- 12.5 As retaining these trees in a healthy condition is a vital part of this scheme it is proposed that the investigation works and submission of a detailed construction design for the access road could be made the subject of a precommencement condition. This will ensure that the correct solution is applied to avoid root damage to trees.
- 12.6 This approach will accord with Arboricultural Practice Note 12 “Through the Trees to Development” and Section 7.4 “Permanent hard surfacing within the RPA” of BS5837:2012.

13. TREE PROTECTION MEASURES – FENCING

13.1 *Location of fencing*

- 13.1.1 The Tree Protection Plan indicates the proposed location of protective fencing based on the calculated tree protection areas and space available.

13.2 *Design of fencing*

- 13.2.1 The protective fencing is to be constructed of scaffold uprights driven into the ground to a minimum depth of 0.6m and at no greater than 3m spacing. Uprights to be braced with angled scaffold poles and anchors. On to the uprights weldmesh panels such as “Heras” or a similar product will be securely mounted with all weather notices attached to every 5th panel reading “Keep Out – Protected Area”. The fencing will form enclosed areas to which no access will be allowed. This design of fencing is considered appropriate to the site and scale of development proposed.

- 13.2.2 Examples of the fencing specification and signage required are included in Appendix 6.

13.3 *Timing of fencing*

- 13.3.1 Protective fencing is to be erected prior to commencement of site works and remain in place until completion of construction. The location and suitability of the fencing can be confirmed to the local authority by an arboricultural consultant prior to commencement of construction. Any tree felling or surgery works will need to be undertaken prior to fence installation to minimise risks to operatives.

13.4 ***Additional precautions***

- 13.4.1 Potentially injurious materials such as fuels, oils, chemicals and cement will be stored at least 20m from any stem, or in a bunded storage vessel. No fires will be lit within 5m of the drip line of any retained tree. No level changes will occur, either raising or lowering within the protected areas. A list of these additional precautions are included on the Tree Protection Plan.

14. GROUND PROTECTION MEASURES

- 14.1 In areas within root protection zones where access around the new building footprints will be required during construction, specific ground protection measures will be required. For machinery access these should comprise interlocking, specifically designed load bearing temporary roadway plates, commonly made of steel or specialised plastics. They will minimise any risk of compaction whilst providing a running platform for machinery. The areas requiring ground protection measures are indicated on the Tree Protection Plan.
- 14.2 Where foot access only is required, ground protection measures should comprise a base layer of geotextile, over which 100mm of woodchip will be laid, topped by side butting scaffold boards or non-slip surfaced minimum 12mm thick plywood or other boards.
- 14.3 Installation of the ground protection measures should take place at the same time as the protective fencing, prior to demolition, and remain in place until completion of construction.

15. SITE OPERATIONS AND MATERIALS STORAGE

- 15.1 Details of site zoning cannot be specified by an Arboriculturalist as these are commonly determined by contractors on the basis of Health & Safety Assessments. However, the robust protective fencing will define the remaining site space available for storage and operations.
- 15.2 It is anticipated that construction will be phased and that a compound will be established for temporary site offices and parking in the area of Units 1-4 with a materials storage compound established around a delivery vehicle turning area. All of the potential compound locations will be defined by the tree protection measures, as indicated on the Tree Protection Plan.

16. SERVICES/DRAINAGE/SOAKAWAYS

- 16.1 Based on the supplied layout, any new services, drainage or soakaway alignments should be outside root protection areas within the body of the development. If incursion into the protective areas of retained trees is unavoidable, and for routing along the east side of the access road, the routing should be obtained either by hand tool excavation or air spade, supervised by an arboricultural consultant. Any works within the protective areas will need to be undertaken to the requirements of NJUG Volume 4 "Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees".

17. ARBORICULTURAL METHOD STATEMENT

17.1 A separate Arboricultural Method Statement is not considered necessary for this site. Details of the protective fencing and ground protection specification, timing and location are indicated on the Tree Protection Plan, which can be referred to in a specifically worded condition.

18. SUMMARY

18.1 The proposed 30 residential unit development will only require the removal of a small group of Hazel/Holly, with the Holly dying. All other trees can be retained within the scheme, maintaining the well treed boundaries and landscape setting.

18.2 None of the proposed houses, garages or parking spaces overlap with any retained tree RPAs, with the layout having incorporated tree constraints considerations.

18.3 Detailed consideration of appropriate access road design through retained tree RPAs has been undertaken and site investigations supervised by an Arboricultural Consultant are proposed to define the most appropriate construction technique. A specific pre-commencement condition can address this.

18.4 Robust tree protection measures are proposed in accordance with BS5837:2012 recommendations to ensure that retained trees are not adversely affected by the construction works.

18.5 The Tree Protection Plan can be referred to as an approved drawing or in a specifically worded condition to ensure that the retained trees are appropriately protected during the demolition and construction works.

Tim Laddiman
Chartered Arboriculturist
Broad Oak Tree Consultants Ltd.

APPENDIX 1

TREE SURVEY EXPLANATORY SHEET

Height	in metres (estimated where ground uneven or access restricted).
Stem count	number of stems
Stem diameter	in mm. at 1.5m. above ground level.
Branch spread	radial spread in metres at four main compass points (estimated where no access).
Age class	Young - Y Middle aged - MA Mature - M Over mature - OM Veteran - V
Height of crown clearance	in metres. Normally range of heights of outer branches above ground level, e.g. 2-4m.
Physiological condition	Good, Fair, Poor, Dead, Variable
Estimated remaining contribution	in years e.g. less than 10, 10-20, 20-40, 40+
Category grading	see attached sheet
Structural condition	comment on presence of defects, decay, crown form, past management, deadwood, other features worthy of note. N.B. If trees are ivy clad, no full structural assessment will have been possible.
Preliminary management recommendations	requirements of further investigations, works necessary to alleviate potential hazards based on current setting and levels of access. NB: Works that may be necessary in relation to development are not included here

CASCADE CHART FOR TREE QUALITY ASSESSMENT

TREES FOR REMOVAL				Identification on plan
Criteria				
<p>Category U</p> <p>Those in such a 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</p>	<ul style="list-style-type: none"> • Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R 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>DARK RED</p>
<p>NOTE: Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost; installation of bat box in nearby tree.)</p>				
TREES TO BE CONSIDERED FOR RETENTION				
Criteria - Subcategories				
Category and definition	1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation	Identification on plan
<p>Category A</p> <p>Those of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)</p>	<p>Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</p>	<p>Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	<p>LIGHT GREEN</p>
<p>Category B</p> <p>Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)</p>	<p>Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)</p>	<p>Trees present in numbers, usually as groups or woodland, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality</p>	<p>Trees with clearly identifiable conservation or other cultural benefits</p>	<p>MID BLUE</p>
<p>Category C</p> <p>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.</p>	<p>Trees not qualifying in higher categories</p>	<p>Trees present in groups or woodland, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit.</p>	<p>Trees with very limited conservation or other cultural benefits</p>	<p>GREY</p>
<p>NOTE: Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation</p>				

Tree ref. no.	Species	Height (m.)	Stem Count	Stem diameter or equivalent (mm.)	Branch spread (m.)				Age class	Ht. of crown clearance (m.)	Physiological condition	Estimated remaining contribution (years)	Category grading	Structural condition and Notes	Preliminary management recommendations
					N	E	S	W							
G1	Hawthorn, Holly	<6	Multi	<180	<3	<1.5	<3	<3	MA	0+	Variable	<10-40	C/U1	Multi stemmed near ground level; Holly dying. Clipped back to field.	
2	Common Oak	16	1	740	8	8.5	6	c9	MA	1.8+	Good	40+	A2	Minor deadwood. Open crown.	
G3	Hornbeam	<16	1/Multi	<500	<3	<8	<4	<2	M	2.3+	Variable	20-40	C2	Ivy clad therefore no basal inspection. Overgrown hedge elements. Could be recut. Holly lower elements.	
4	Hornbeam	17	Multi	c800	4	9	4	2	M	2.6+	Unconfirmed	20-40	B2	Overgrown hedge element. Multi stemmed near ground level. Part ivy clad therefore no basal inspection. Heavily cut back to W. in last couple of years.	
5	Hornbeam	14	Multi	c800	1.5	8	9	2	M	2.6+	Unconfirmed	20-40	C2	Crowded to N. Overgrown hedge element. Multi stemmed near ground level. Part ivy clad therefore no basal inspection. Several stems leaning heavily SE. heavily cut back to W. in last couple years.	
6	Hawthorn	8	Multi	c200	1.5	4	1.5	1	M	2+	Unconfirmed	20-40	C2	Multi stemmed from near ground level. Ivy clad. Overtopped. Heavily cut back to W. Overgrown hedge element.	

Tree ref. no.	Species	Height (m.)	Stem Count	Stem diameter or equivalent (mm.)	Branch spread (m.)				Age class	Ht. of crown clearance (m.)	Physiological condition	Estimated remaining contribution (years)	Category grading	Structural condition and Notes	Preliminary management recommendations
					N	E	S	W							
G7	Hornbeam	<15	Multi	<800	<6	<8.5	<6	<6	M	3+	Variable	20-40	B2	Densely multi stemmed at under 1.8m where previously maintained as a hedge. Past browsing damage to stems to E. Crown raised in past.	
G8	Holly/Thorn	<6	Multi	<200	<2	<1.5	<2	<4	M	0+	Variable	20-40	C2	Overgrown hedge. Components variable height.	
9	Common Oak	16	2	c1000	6	7.5	5	c10	M	4+	Unconfirmed	20-40	B2	Twin stemmed from under 1m. No access therefore no basal inspection.	
10	Common Oak	17	1	c1000	5	9.5	6	c9	M	3.5+	Unconfirmed	20-40	B2	Deadwood. Twin stemmed at circa 2.5m. Crown raised in past. No access therefore no basal inspection.	
11	Common Oak	6	1	c250	1	3	4.5	c1.5	Y	3.5+	Unconfirmed	20-40	C2	Ivy clad. Suppressed. Cut back from utility post in past.	
12	Common Oak	15	1	c750	7.5	8.5	1	5	M	3+	Unconfirmed	20-40	C1	Heavily cut back to W. in past to clear utility lines. Slight lean to E. Twin stemmed at 3.5m. No access therefore no basal inspection.	

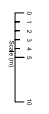
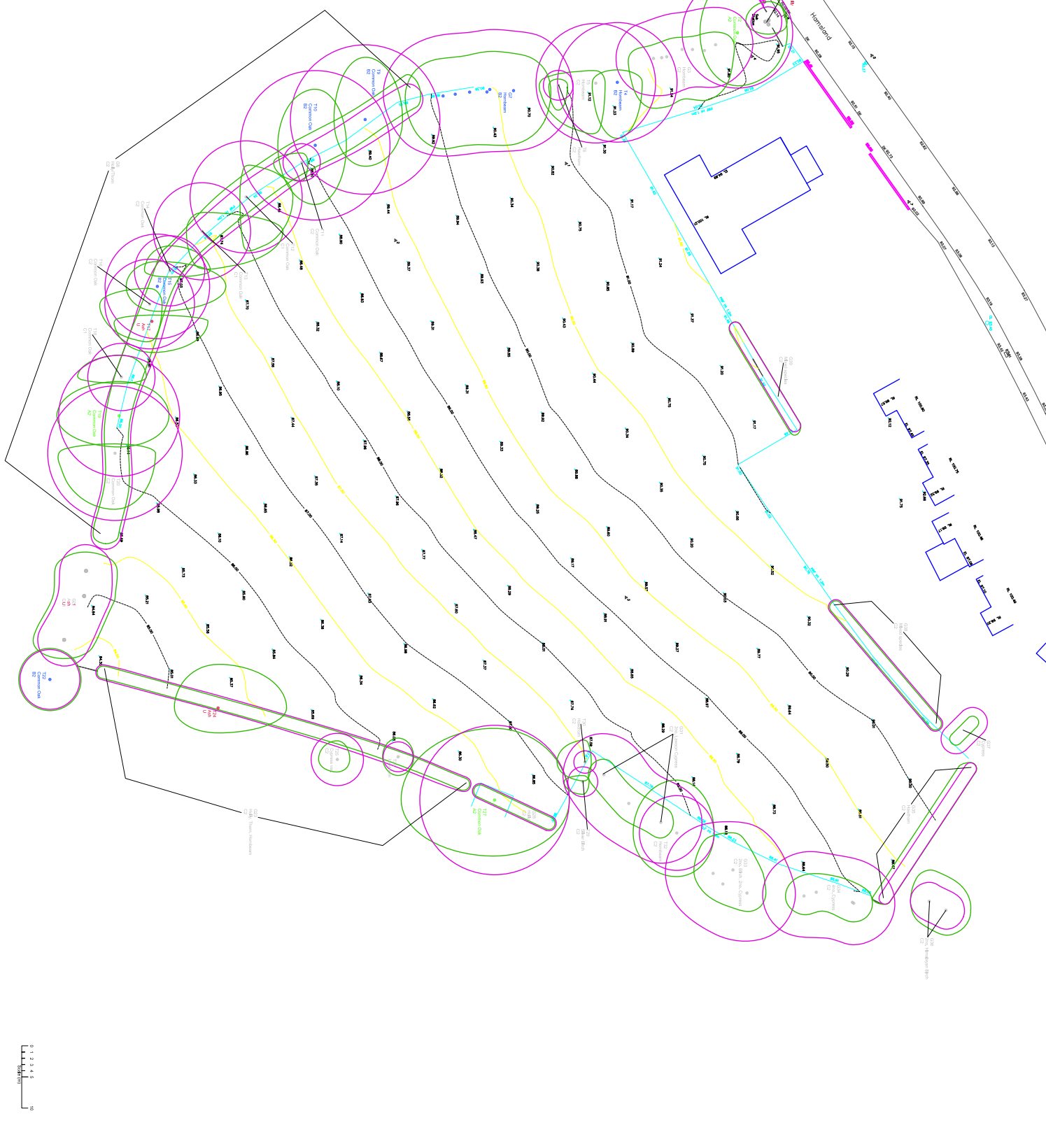
Tree ref. no.	Species	Height (m.)	Stem diameter or equivalent (mm.)	Stem Count	Branch spread (m.)				Age class	Ht. of crown (m.)	Physiological condition	Estimated remaining contribution (years)	Category grading	Structural condition and Notes	Preliminary management recommendations
					N	E	S	W							
13	Common Oak	15	c650	1	13	6	2.5	3	M	3+	Poor	10-20	C1	Twin stemmed at 3.5m with decayed tear in join. Larger stem leaning NW. Smaller to SE. No access therefore no basal inspection. Heavily cut back to S. in past to clear utility lines.	
14	Common Oak	13	470	1	6.5	1	c4	4	MA	5+	Fair	20-40	C2	Heavily crowded. Cut back to S. in past.	
15	Common Oak	16	c700	1	11	4	c5	4	M	3+	Good	20-40	B2	Several long limbs to N. Minor deadwood. High main crown.	
16	Common Oak	12	c600	1	2	6	c8	2.5	M	2+	Fair	20-40	C2	Heavily crowded. Slight lean to S. Crown to S.	
17	Ash	18	c550	1	9	5	c6	1	M	3.5+	Unconfirmed	<10	U	Crowded. Part ivy clad. Several long limbs to N. Dieback and deadwood. Probably Ash Dieback.	
18	Common Oak	8	c450	1	4	1	c7	3.5	MA	3+	Poor	10-20	C1	Ivy clad. Suppressed. Dieback in crown.	
19	Common Oak	21	810	1	8	5	c10	5.5	M	3.5+	Good	40+	A2	Part ivy clad.	
20	Common Oak	17	c900	1	6.5	9	c9	1.5	M	4+	Unconfirmed	20-40	C2	Crowded. Stem curved to E. Part ivy clad.	
G21	Ash	<16	<350	1/2	<5	<3	<5	<3	MA	4+	Variable	<10-20	C/U1	Dieback in several. Most likely Ash Dieback. Part ivy clad.	
22	Common Oak	11	c400	1	5	c5	c5	5	MA	2+	Unconfirmed	20-40	B2	No access therefore no basal inspection.	

Tree ref. no.	Species	Height (m.)	Stem Count	Stem diameter or equivalent (mm.)	Branch spread (m.)				Age class	Ht. of crown clearance (m.)	Physiological condition	Estimated remaining contribution (years)	Category grading	Structural condition and Notes	Preliminary management recommendations
					N	E	S	W							
G23	Holly, Thorn, Hornbeam	<2	Multi	<100	1	1	1	1	M	0+	Good	40+	C2	Maintained mixed hedge.	
24	Ash	18	1	c900	11	c4	7	7	M	5+	Poor	<10	U	Dieback and deadwood. Secondary shoot development. Ash Dieback.	
25	Cypress var.	7	2	c350	2	2	3	3	MA	1+	Unconfirmed	20-40	C2	Twin stemmed from ground level. Located in adjoining garden therefore no basal inspection.	
26	Hawthorn	7	1	c200	2.5	c3	2.5	3	MA	2+	Unconfirmed	20-40	C2	Ivy clad.	
27	Common Oak	20	1	c1000	c12	c9	15	11.5	M	1+	Unconfirmed	40+	A2	Treedek round lower stem. Zipline in crown to S.	
G28	Holly	<1.6	Multi	<100	<1	<1	<1	<1	M	0+	Good	40+	C2	Maintained hedge.	
29	Silver Birch	13	1	c200	1	2	3	1	MA	2+	Unconfirmed	20-40	C2	Located in adjoining garden therefore no basal inspection. Crowded.	
30	Hawthorn	4	Multi	150	1	3	4.5	3.5	MA	1+	Good	20-40	C2	Multi stemmed near ground level. Crowded.	
G31	3no. Lawson Cypress	<15	1	<550	<2	<2.5	<2.5	<2.5	MA	0.5+	Unconfirmed	20-40	C2	Located in adjoining garden therefore no basal inspection.	
32	Hornbeam	10	Multi	c500	6	c7	7	8.5	MA	1+	Unconfirmed	20-40	C2	Multi stemmed near ground level. Located in adjoining garden therefore no basal inspection.	

Tree ref. no.	Species	Height (m.)	Stem Count	Stem diameter or equivalent (mm.)	Branch spread (m.)				Age class	Ht. of crown clearance (m.)	Physiological condition	Estimated remaining contribution (years)	Category grading	Structural condition and Notes	Preliminary management recommendations
					N	E	S	W							
G33	2no. Birch, 2no. Cypress	<17	1	<650	<3	<3	<3	<6	MA	0.5+	Unconfirmed	20-40	C2	Located in adjoining garden therefore no basal inspection.	
G34	4no. Cypress	<7	1	<550	<3	<3	<3	<3	MA	1+	Unconfirmed	20-40	C2	Located in adjoining garden therefore no basal inspection.	
G35	Hawthorn	<2.5	Multi	<80	<1	<1	<2	<1	Y	0+	Good	40+	C2	Maintained at circa 1m in past.	
G36	2no. Himalayan Birch	<10	1	<250	<4	<4	<3	<5	MA	2+	Unconfirmed	20-40	C2	Maintained at circa 1m in past.	
G37	Cypress	<3	Multi	<200	1	1	1	1	Y	0+	Good	40+	C2	End of boundary hedge. Clipped.	
G38	Mixed species	<1.5	Multi	<100	1	1	1	1	Y/MA	0+	Good	40+	C2	Clipped hedges. Cherry Laurel to S. end.	
G39	Mixed species	<2.5	Multi	<80	1	1.5	1	1	Y	0+	Good	40+	C2	Previously maintained hedge.	

APPENDIX 2

The root projection circles have been determined in accordance with the BS5839:2012 standard. The circles are based on the crown spread and the height of the tree. The circles are drawn at a 1:1 ratio of crown spread to height. The circles are drawn at a 1:1 ratio of crown spread to height. The circles are drawn at a 1:1 ratio of crown spread to height.

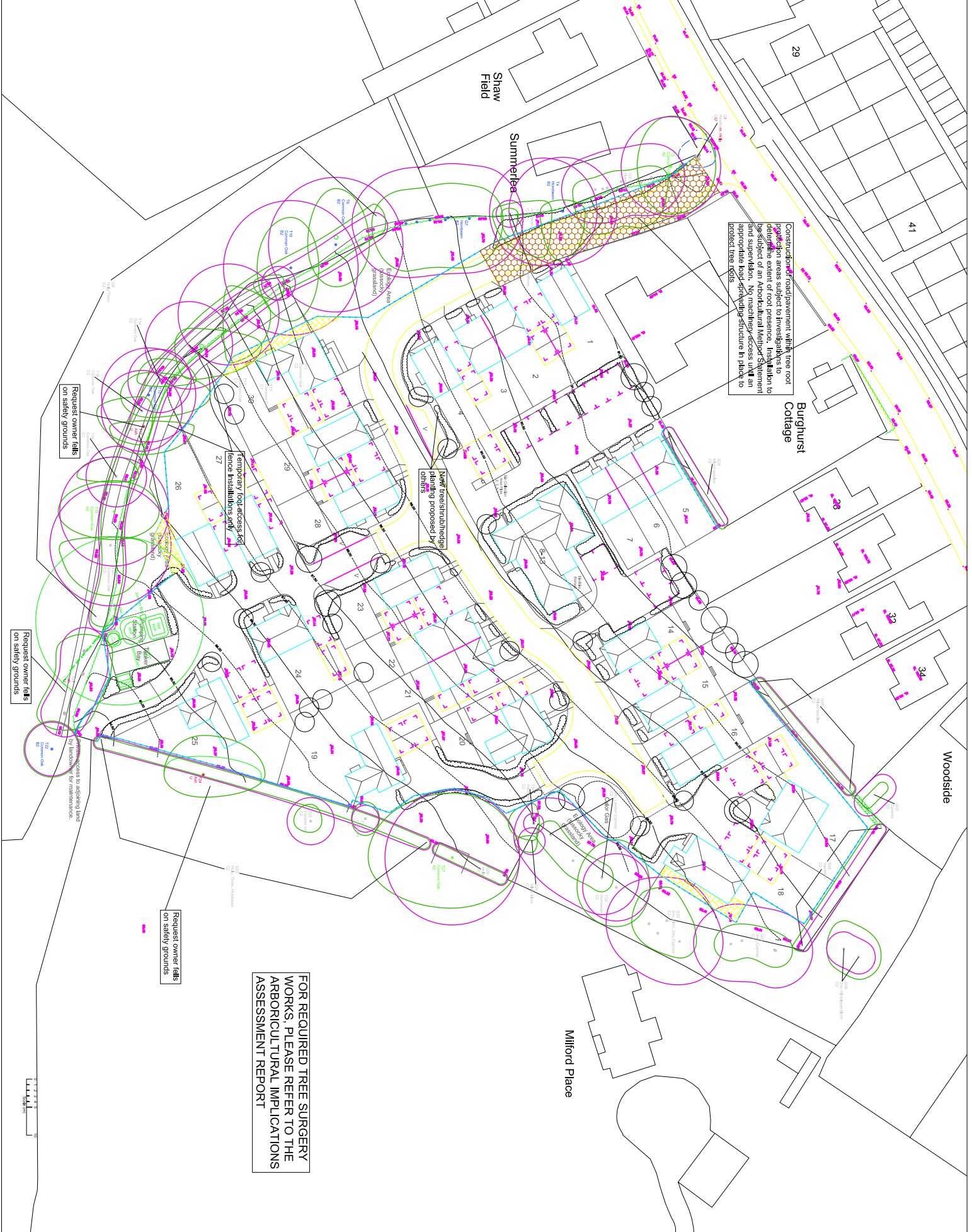


APPENDIX 3

TABLE OF BS CALCULATED ROOT PROTECTION AREAS (RPAs)
AT
LAND SOUTH OF ST. PETERS CHURCH, HAMSLAND, HORSTED KEYNES, EAST SUSSEX

Tree no.	Species	BS Category	Stem diameter or calculated equivalent (mm.)	BS calc. radial equiv. root protection area (m.)	BS calc. total RPA (m ²)
G1	Hawthorn, Holly	C/U1	<180	<2.2	<15
2	Common Oak	A2	740	8.9	249
G3	Hornbeam	C2	<500	<5	<113
4	Hornbeam	B2	c.800	c.9.6	c.290
5	Hornbeam	C2	c.800	c.9.6	c.290
6	Hawthorn	C2	c.200	c.2.4	c.18
G7	Hornbeam	B2	<800	<9.6	<290
G8	Holly/Thorn	C2	<200	<2.4	<18
9	Common Oak	B2	c.1000	c.12	c.452
10	Common Oak	B2	c.1000	c.12	c.452
11	Common Oak	C2	c.250	c.3	c.28
12	Common Oak	C1	c.750	c.9	c.255
13	Common Oak	C1	c.650	c.7.8	c.191
14	Common Oak	C2	470	5.6	99
15	Common Oak	B2	c.700	c.8.4	c.222
16	Common Oak	C2	c.600	c.7.2	c.163
17	Ash	U	-	-	-
18	Common Oak	C1	c.450	c.5.4	c.92
19	Common Oak	A2	810	9.7	296
20	Common Oak	C2	c.900	c.10.8	c.366
G21	Ash	C/U1	<350	<4.2	<55
22	Common Oak	B2	c.400	c.4.8	c.72
G23	Holly, Thorn, Hornbeam	C2	<100	<1.2	<5
24	Ash	U	-	-	-
25	Cypress var.	C2	c.300	c.3.6	c.41
26	Hawthorn	C2	c.200	c.2.4	c.18
27	Common Oak	A2	c.1000	c.12	c.452
G28	Holly	C2	<100	<1.2	<5
29	Silver Birch	C2	c.200	c.2.4	c.18
30	Hawthorn	C2	150	1.8	10
G31	3no. Lawson Cypress	C2	<550	<6.6	<137
32	Hornbeam	C2	c.500	c.6.6	c.113
G33	2no. Birch, 2no. Cypress	C2	<650	<7.8	<191
G34	4no. Cypress	C2	<550	<6.6	<137
G35	Hawthorn	C2	<80	<1	<3
G36	2no. Himalayan Birch	C2	<250	<3	<28
G37	Cypress	C2	<200	<2.4	<18
G38	Mixed species	C2	<100	<1.2	<5
G39	Mixed species	C2	<80	<1	<3

APPENDIX 4



Construction of road pavement within tree root protection areas subject to investigations to determine extent of root presence. Installation to be subject of an Arboricultural Method Statement and supervision. No machinery access with an appropriate load spreading structure in place to protect tree roots

New trees in hedge/edge planting proposed by others

Temporary foot access for fence installations only

Request owner falls on safety grounds

Request owner falls on safety grounds

Request owner falls on safety grounds

FOR REQUIRED TREE SURGERY WORKS, PLEASE REFER TO THE ARBORICULTURAL IMPLICATIONS ASSESSMENT REPORT

Scale: 1:300 at A1
 Added to bpr: NL
 09/12/2020

DRAWINGS NO. J55/1903 Rev A

Scale: 1:300 at A1

Added to bpr: NL

09/12/2020

LAND SOUTH OF STIFFERS CHURCH HAMPSHIRE HORSTED RENNES EAST SUSSEX

TREE PROTECTION PLAN

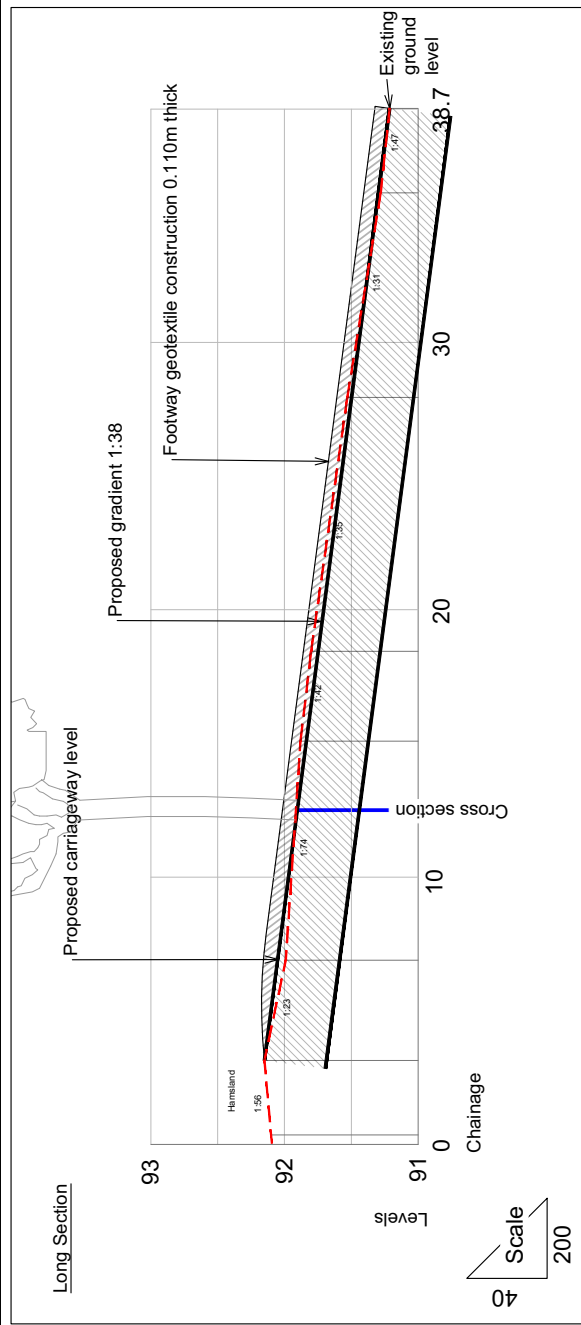
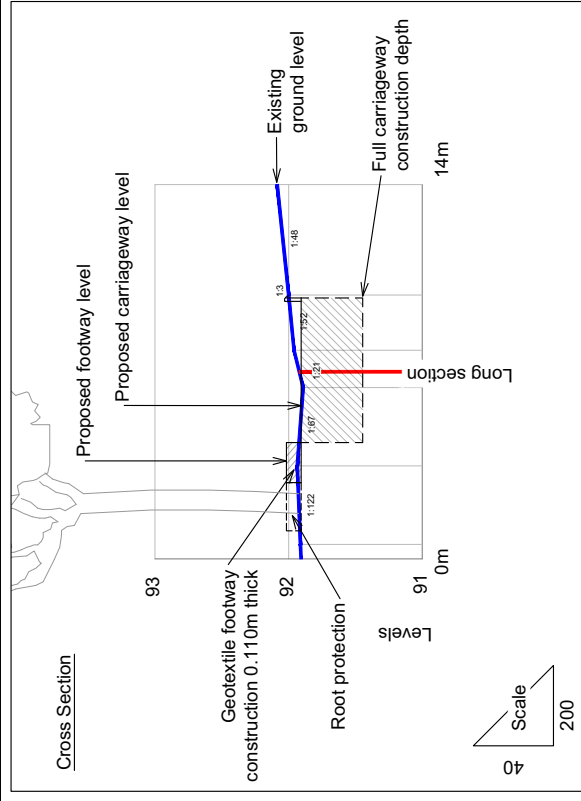
- G1 - G39 Tree numbers
- BS Campaign of Campton
- T2 BS Condition A
- T4 BS Condition B
- BS Condition C
- BS Condition U
- Open spread
- SS Calculated root protection zone
- Tree to be removed
- Tree to be removed for development
- Proposed fencing
- Isolation
- Ground protection

TREE PROTECTION INFORMATION
 Protection measures to be installed at commencement of any the works.
 Provide details to complete suitable drawings for the project to include: Tree to be removed for development; Tree to be removed; Proposed fencing; Isolation; Ground protection.

The above information is provided for information only and does not constitute a contract. The client is advised to seek professional advice from a qualified arboriculturist. The client is advised to seek professional advice from a qualified arboriculturist. The client is advised to seek professional advice from a qualified arboriculturist.

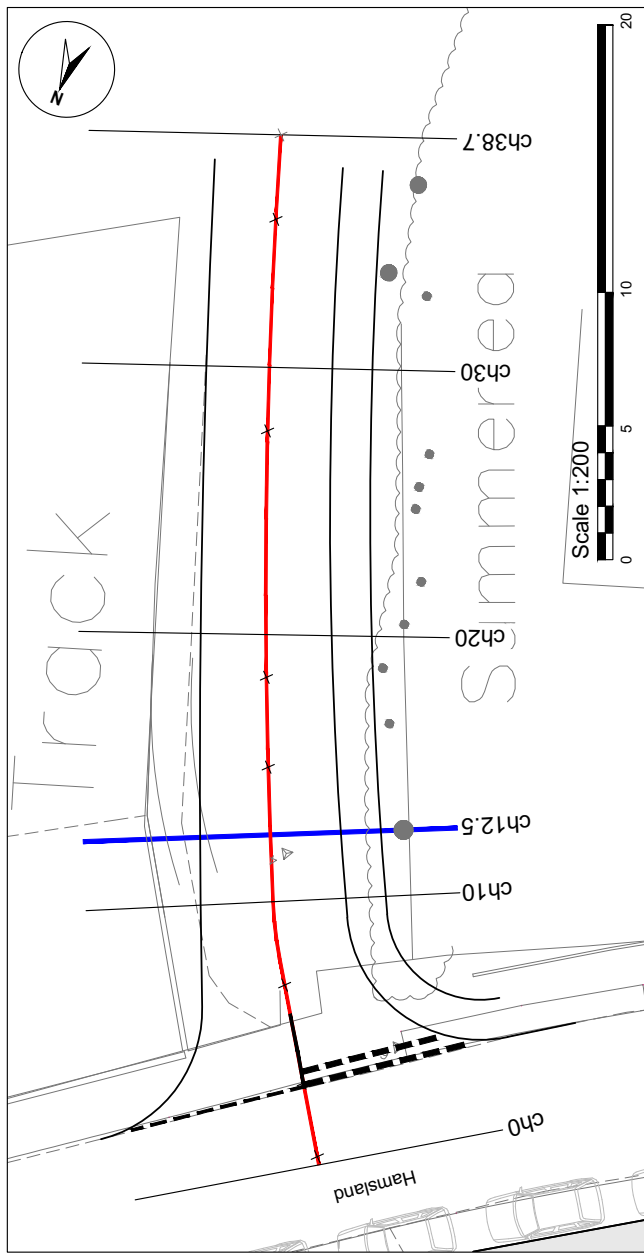
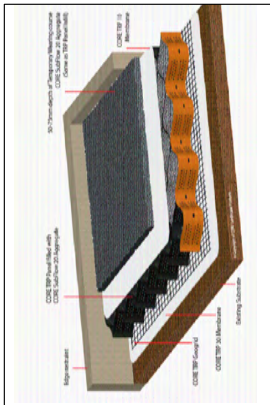
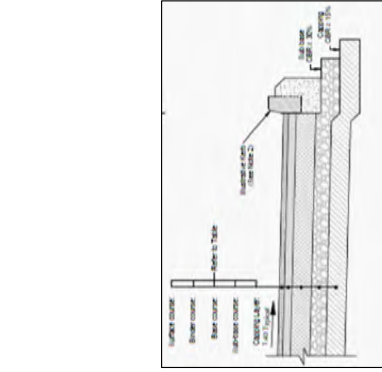
APPENDIX 5

Appendix I – Access Construction Options



Carriageway Construction Detail

Geotextile Construction Detail



140 London Wall, London, EC2Y 5DN
T: +44(0)20 7280 3300 E: transport@rpsgroup.com

Client Rydon Homes Ltd

Project St Stephens Fields, Horsted Keynes

Title Proposed Site Access - Option 1
Long and Cross Sections - Standard
Carriageway Construction & Geotextile Footway

NOTES

- This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
- If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.
- This drawing is to be read in conjunction with all relevant scheme drawings.

Rev	Description	By	CB	Date

Status PRELIMINARY

Drawn By AJ

Project Number JNY10084

Scale @ A3 As shown

PM/Checked by MA

Date Created March 2020

Rev A

RPS Drawing/Figure Number JNY10084-11

rpsgroup.com

APPENDIX 6

BS5837:2012: FENCING SPECIFICATIONS

Figure 2 Default specification for protective barrier

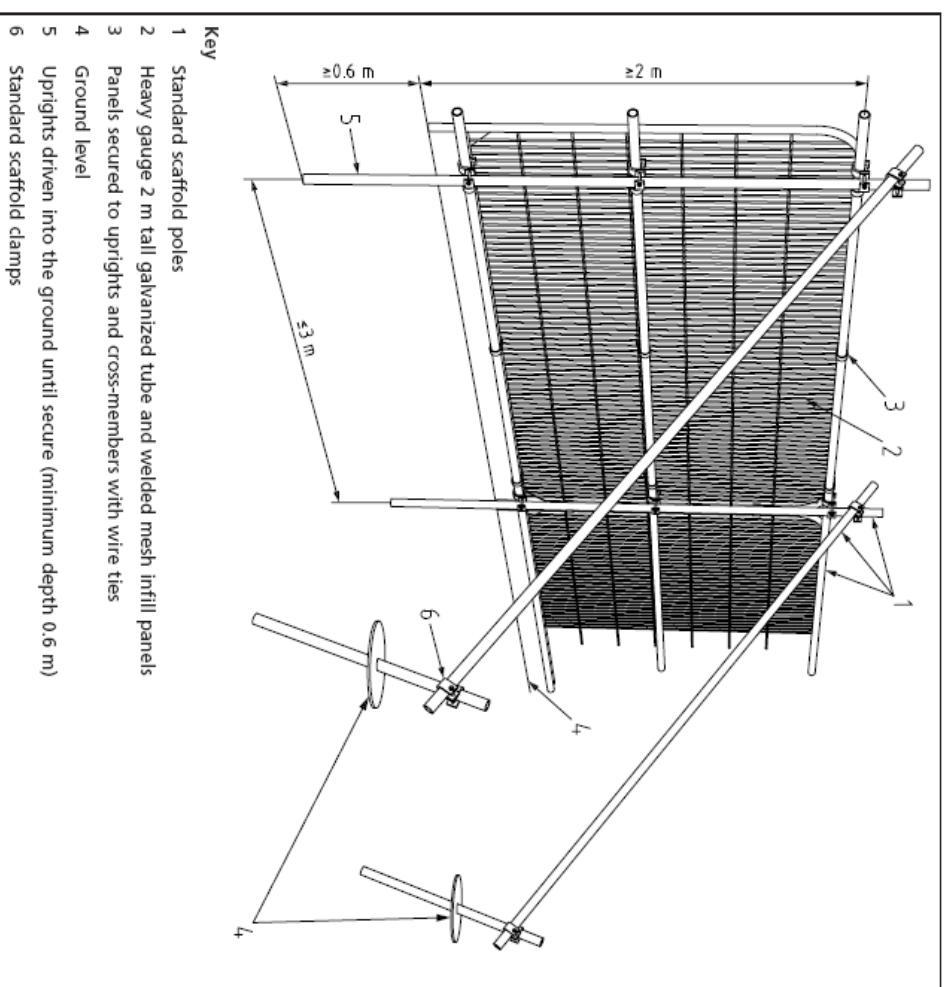
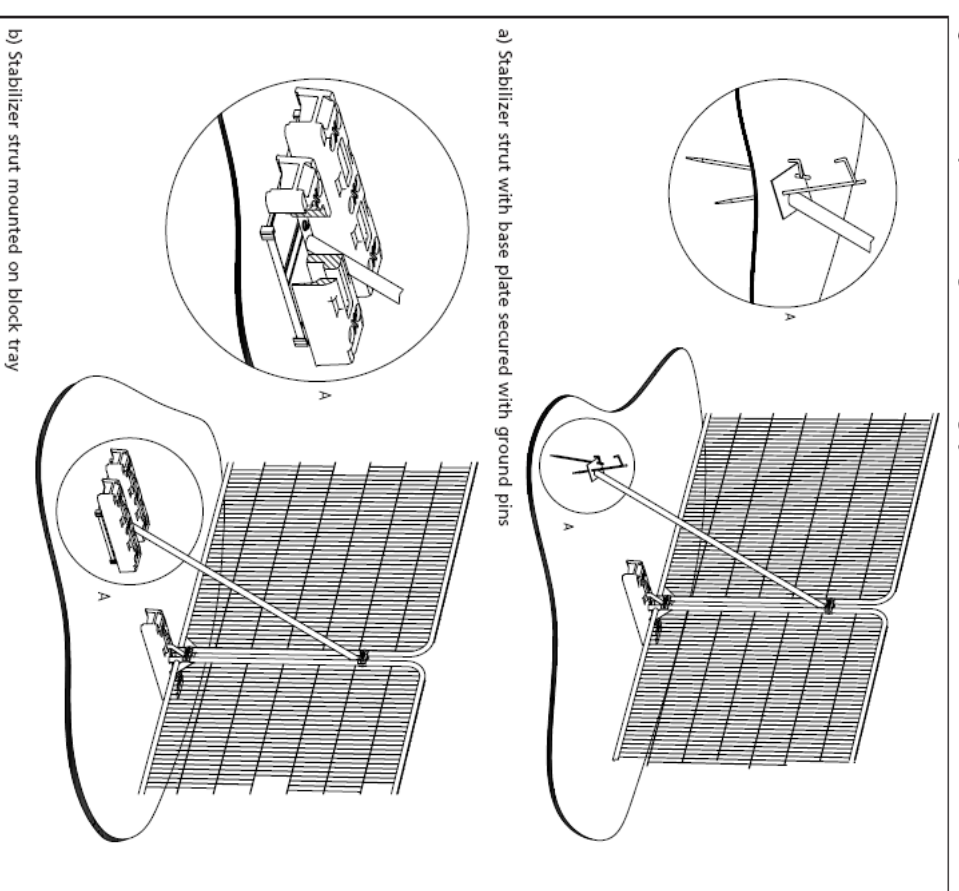


Figure 3 Examples of above-ground stabilizing systems



EXAMPLE OF FENCING SIGNAGE

