Tree Constraints Report

IN ACCORDANCE WITH BS 5837: 2012
"TREES IN RELATION TO DESIGN, DEMOLITION AND CONSTRUCTION" - RECOMMENDATIONS

Ref: 603/15/d

Location: Land off James Road, Crowland

Clients: Crowland Parish Council

Architectural & Planning Advisers: The Robert Doughty Consultancy

Date(s) of Inspection: 8th January 2015

Prepared by:

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Our reference: 603/15d

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SURVEY AND REPORT ON TREES GROWING ON:
LAND ADJACENT TO JAMES ROAD, CROWLAND

1 Instructions and scope of report

As requested by Julie Robinson of The Robert Doughty Consultancy in an e-mail dated 10/12/2014, on behalf of their clients Crowland Parish Council, we have now inspected trees at the above site in relation to proposed development; this report includes the following:

(i) **A schedule of the inspected trees**
(ii) **Two plans showing tree constraints**
(iii) **An assessment of Arboricultural Implications based on proposals received**

Our service is in accordance with our terms and conditions, which were sent to Julie Robinson in a letter sent by email dated 07/11/2014.

1.1 Qualifications and Experience

I confirm that I am a Professional Member of the following organisations:

- Arboricultural Association
- The Institute of Chartered Foresters
- Consulting Arborists Society (A professional affiliation of the International Society of Arboriculture)

I also hold the LANTRA Professional Tree Inspectors award, and have been working with trees in a professional capacity since 1980.

2 Report limitations

My inspection of the trees was carried out from ground level; where appropriate I also use a sounding hammer and monocular. Should further investigation be required it will be highlighted in my recommendations.

I am only able to comment on areas of the tree visible to me; no obstructions, including growth of Ivy, shrubs or other objects (builders rubble, spoil, stored objects etc) have been removed to facilitate our inspection.

Trees and shrubs are living organisms whose health and condition can change rapidly. The health, condition and safety of trees should be checked by a competent person on a regular basis, preferably at least once a year; information provided by the National Tree Safety Group provides further guidance on this, see www.forestry.gov.uk/publications (for householders it is also available to download from our web site www.treelincs.co.uk).

My conclusions and recommendations are valid for a period of one year. This period of validity may be reduced in the case of any change in conditions above or below ground close to the trees.

The report is based on recommendations given in British Standard 5837 (2012) "Trees in relation to design, demolition and construction - Recommendations" which was published on 30th April 2012.

It is not the intention of this report to comment/advise on any underground services that may be affected.

3 Information supplied

I was supplied with the following document:

Title	Format	Sender
Proposed site plan	.pdf	The Robert Doughty Consultancy
Mastermap_100m	.dxf	The Robert Doughty Consultancy

Our plans are based on the file *Mastermap_100m* which was imported to our mapping software for revision.

Tree locations identified by traverse survey using land wheel and Trupulse laser tm .

4 Introduction & site description

The site in question represents land situated to the east of Crowland and to either side of James road; land to the west of this road is currently down to allotments whilst to the east arable fields are present with areas of woodland planted adjacent to James road.

The proposal is to relocate the allotments to arable land to the east allowing development of existing areas for residential use (adjacent to existing residential areas).

As well as new allotments to the east, it is proposed to designate some of the exisitng arable land as a cemetery, and to allow woodland burials in the areas of woodland.

The inspected trees are not individually marked on site but may be identified by reference to the attached plans and tree schedule.

A total of 27 trees and 9 groups are reported on, and these are indicated on our site plans as T for tree, and G for group.

5 Soils

Viewing soil survey for England and Wales information for the area suggests the presence of alternatives of reddish river alluvium or marine alluvium with fen peats; samples taken on site by soil cane to a depth of 40-60 cms revealed silty clay soils although those within the allotment areas were very humic suggesting a peat content.

6 Tree Preservation Orders and other regulatory protection

The planning authority's consent is not required for cutting down or carrying out work on **protected trees** if required to implement a FULL PLANNING PERMISSION; e.g. if a tree has to be removed to make way for a new building for which planning consent has been granted.

NB: When granting full planning permission the LPA should consider informing the applicant, by reference to approved drawings (and the Tree Constraints Plan) which trees they consider may be cut down or have work carried out on them without further consent; (consent WILL still be required for works to any other protected trees; where they are within a building conservation area then the LA should be given 6 weeks advance notice of intent).

If only **outline planning consent** has been granted, the LPA's consent is still required before cutting down or carrying out works to trees.

All trees within a **building conservation area** are afforded protection; in this instance the law states that Local Authorities shall be given 6 weeks notice of proposed works; if no response is received from the local authority in this time then works may be commenced (but it is advisable to confirm the L.A. actually received the notification).

The consent of the LPA is also required before cutting down or carrying out works to protected trees to implement work under **permitted development rights**.

Finally, under **felling licence regulations** a licence from the Forestry Commission is required to fell trees totalling more than 5 cubic metres in volume during any calendar quarter (of which only 2 cubic metres of that may be sold); certain exemptions apply including trees in gardens but it is worth checking if in doubt.

7 Data Presented (glossary)

A schedule of information recorded for the inspected trees and groups is attached. Notes below are intended to guide the reader regarding the information provided.

Key to information contained in the tree schedule (nb detailed description and recommendations for remedial work are only given for trees within ownership):

a **No/ref** – Tree number or reference as shown on our plans, and referred to in the schedule of inspected trees.

b **Species** – common english name (scientific names shown for less common species).

c **Height** – approximate total height to the nearest half metre for trees up to 10m and to the nearest whole metre for those over 10m.

d **Stem diameter** – measured in millimetres (rounded to the nearest 10mm and accounting for Ivy if present), multiple stems are shown individually up to 5 stems, and as an average for greater numbers.

e **Crown radius** – at the four cardinal compass points where relevant to development, measured to the nearest 0.1 metres up to 10 metres, rounded to the nearest metre beyond that size.

f **Existing height above ground level of:**

1) Canopy: to inform ground clearance, crown/stem ratio and shading
2) First significant branch and direction of growth (e.g. 2.4 – N) – shown as N/A if no significant branch is present (eg in finely branched conifers. Direction of growth may not be indicated if multiple branches are present (eg at the crown junction)

g **Life stage** – shown as:

1: Young (<1/3 expected safe useful lifespan)
2: Early mature (1/3 – 2/3)
3: Mature (>2/3)
4: Overmature
5: Dead

h **General observations:** A description of significant and relevant physiological and structural factors.

i **Preliminary management recommendations** (including a recommended timescale for works where appropriate).

j **Estimated remaining useful contribution** in years (<10, up to 20 years, up to 40 years, more than 40 years).

k **Recommended quality category** as:

U – Less than 10 years useful life expectancy, including after removal of neighbouring trees, with serious irremediable defects, overall decline or poor general health – **crown shown red on the TCP**

A – Those of high quality & value, in such a condition as to make a useful contribution of at least 40 years – **crown shown light green on the TCP**

B – Those of moderate quality and value and with a minimum of 20 useful years remaining – **crown shown mid blue on the TCP**

C – Those of low quality and value and with a minimum of 10 useful years remaining, or young trees with a stem dia <150mm – **crown shown grey on the TCP**

U/C – Uncategorised: usually those outside of ownership – **crown shown black on the TCP**

Each of the trees in categories A, B anc C will also qualify under at least one of sub categories 1 (mainly arboricultural values), 2 (mainly landscape values), or 3 (mainly cultural values including conservation).

I **Minimum Root Protection Area (RPA)** – in square metres (to a maximum 707 m2) representing an area equal to 12 x stem (or equivalent for multiple stems) diameter. This is suggested as the minimum protected root area that the trees need to thrive, although the final shape of this area may vary according to site contraints and individual tree characteristics.

The default position is that structures will be located outside of tree RPA's; where there is an overriding justification for construction within the RPA there will be a need to demonstrate that the trees can remain viable.

The RPA will be indicated on the **Tree Constraints** and **Arboricultural Impact Plan(s)**, and represents an area of total exclusion (unless ground protection or specialist building techniques are proposed) to be demarcated on site by robust fencing (see app I for further detail).

M **Shade** – Indicated by a an arc extending from c. north west to east representing approximate areas shade that may be expected from sunrise to sunset with the tree at a mature height. Mature tree heights are based on the following in metres:

Willow – 15
Oak – 23
Cypress – 25
Cherry – 10m
Eucalyptus – 25
Horse chestnut – 20
Sycamore 24
Ash – 23

Shade arcs are not shown where it is unlikely to be significant, either due to location, orientation or likely mature size of tree (eg many of the smaller tree internal to site have been heavily pruned)

8 Outline arboricultural implications of proposals

The attached tree constraints plans should also be viewed:

- Ref: 603/15d/TCP(1) – Tree Constraints Plan (map 1) scale 1:700 at A3: showing areas to the west of James road, intended for residential development
- Ref: 603/15dTCP(2) – Tree Constraints Plan (map 2) scale 1:1800 at A4: showing areas to the east of James road, intended as sites for the new allotments, cemetery and woodland burials

8.1 Land to the west of James road:

8.1.1 With the exception of the two Oak, T24 and 25, trees within site (as opposed to the margins) have been planted by allotment holders and are generally small/fruit trees many of which have been pruned and have been placed in BS quality cat: C (i.e. should not be viewed as a constraint to development. A large shade arc has been shown for group G3 as they are Leyland cypress which could attain a substantial height if not maintained (currently they are planted as a screen)

8.1.2 Trees to the site margins include those outside of ownership (to the west), a belt of larger trees to the north (T13 – T18), several of which are Ash (vulnerable to dieback), Silver birch T20-23 and G2 which is predominantly Cat C Cherry; though the Root Protection Areas (RPA's) of T3 and 4 (outside of ownership) will have to be protected, those of the other trees to the margins are unlikely to pose a significant constraint on development.

8.1.3 **SUMMARY**: With the exception of Oak T24 and 25, which should be incorporated into any development, the loss of trees internal to this area is unlikely to have any great impact on local amenity; those to the margins could all be retained and protected with relative ease

8.2 Land to the east of James Road

8.2.1 It is understood that initial thoughts regarding the woodland burial area are that it should be informal, without a requirement for extensive infrastructure; currently, in view of tree spacings, tree RPA's are likely to extend throughout the woodland areas. However, following the next thinning/respacing operation trees will be much more widely spaced, and this, combined with natural losses will offer opportunities to select burial locations without causing significant damage to retained trees

8.2.2 The orientation of burial sites on a radial pattern from the tree (i.e. with caskets aligned as if spokes on a wheel) will also tend to cause less damage than cutting a chord across the RPA, if close to retained trees

8.2.3 Where paths or tracks are required the use of no dig construction techniques e.g. a porous wearing course such as gravel or even bark mulch over a cellular confinement system will again minimise the potential for tree root damage

8.2.4 A small building to store materials, use as a meeting place etc is also being considered; it is likely that this could be accommodated without conflict with trees by siting within the area of denser shrubs to the south east of Millennium Oaks (G8)

8.2.5 Areas proposed for use as new allotments and cemetery contain no trees within other than the small, possibly naturally regenerated Willow in group G9

8.2.6 **SUMMARY**: the fact that groups G7 and 8 are woodland will be the very reason why interment within these areas may be desirable; there is potential to do much harm by an unplanned operation of this sort, however, with careful advance preparation including appropriate individual site selection (which is unlikely to be on a rigid geometric pattern), casket selection orientation (or even dispensing with a casket) , the avoidance of fixed memorials, and the use of no dig techniques for limited infrastructure and placement of any structure outside of tree RPA's then it is possible that the vision for this area could be realised.

At the same time it will be important to remember that the areas are developing woodlands, and many of the trees within may have a potential lifespan of 200-300 years or more; sound and sustainable woodland management techniques will be necessary to ensure the area continues to provide, and increase, the benefit it provides to local amenity and to wildlife, and this will include periodic and appropriate thinning/respacing operations; liaison with local Forestry Commission woodland officers is recommended in this respect, and particularly as it is understood that funding support was given to create the woodland.

The development of other areas as cemetery and allotments respectively is unlikely to conflict with trees on site, although protection measures for the woodlands will be necessary during the creation of these areas.

9 Guidance on tree management post construction phase

Paragraph two of our report offers information on this

10 General Information

If appointing a Tree Surgeon, please use only properly qualified and experienced companies and always check that they carry Public and Products Liability Insurance and the relevant Employers Liability Insurance.

All tree works should be carried out to British Standard 3998: 2010 "Recommendations For Tree Works".

Please do not hesitate to contact me if I can be of further assistance.

Yours sincerely

MARK HUDSON NDF, MIC For, M Arbor A
CHARTERED FORESTER & ARBORIST

Report completed: 28/01/2015

REFERENCES:

British Standard 5837 (2012) - Trees in relation to Design, Demolition and Construction
BS 3998 (2010) Tree work. Recommendations
Principles of Tree Hazard Assessment and Management – Research for Amenity Trees No.7
Visual Amenity Valuation of Trees and Woodlands – Arboricultural Association Guidance Note 4
NHBC: Building near trees - Chapter 4.2
Forest Management Tables – Forestry Commission Booklet No. 34

SITE: Land off James Road, Crowland
INSPECTION DATE: 08/01/2015
CLIENT: Crowland Parish Council

Ref: 603/15d

SCHEDULE of INSPECTED TREES, GROUPS & HEDGELINES

Ref	Common name	Ht	Stem Dia/s	Crown Radius	Crown clrnce & 1st branch	Life stage	Description of: Physiological and Structural condition and general comment	Preliminary recommendations and work priority	Est. remaining contribution	Qual Cat.	RPA in M2
1	Whitebeam	6	165 125	N 2.1 S 3.1 E 2.2 W 2.2	1.8 1.6S	3	A small tree, adds character. Multiple pruning wounds present.	NIL	10-20	C	20
2	Whitebeam	5	N/A	N/A	1.2 1.2	4	A declining tree showing a fungal bracket c.1m agl suggesting internal decay.	NIL	<10	U	Nil
3	Willow	8	600#	N 2.7 S 2.7 E 2.7 W 2.7	1.8 N/A	N/A	Outside of ownership. Reduced to a point c.1.5m agl. and has since regrown; has the potential to reach a height >15 metres with free growth	N/A	N/A	U/C	163
4	Cherry	3.5	175	N 2.4 S 2.4 E 2.4 W 2.4	1.0 N/A	2	An attractive small tree, has been reduced vertically in the past.	NIL	20-40	B1	14
5	Whitebeam	2-3	105	N/A	c.1.8 avg	3-4	A linear feature, with trees likely to be of a similar age. Many are heavily pruned with multiple scars and deadwood; not of a size to pose a significant risk but with limited long term potential. T5 shows extensive dieback/deadwood	NIL	10-20 – except T5 = <10	U (T5) Remainder C1	Variable to a max radius of 3.3m (see plan)
6	Whitebeam		140	N 1.6 S 1.8 E 1.7 W 0.7							
7	Whitebeam		200	N 1.8 S 1.8 E 1.4 W 1.4							

= Estimated N/A = not assessed

Information based on B.S. 5837 (2012)

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8	Whitebeam		105	N 1.7 S 1.3 E 1.4 W 1.3							
9	Whitebeam		275	N 2.6 S 2.5 E 2.3 W 2.9							
10	Whitebeam		190	N 2.4 S 2.4 E 2.5 W 1.9							
11	Whitebeam		80 120	N 1.6 S 2.2 E 3.0 W 0.3							
12	Cider gum *Eucalyptus gunnii*	8	600#	N 2.1 S 2.2 E 2.8 W N/A	2 NIL	N/A	Outside of ownership. Showing upper crown dieback.	N/A	N/A	U/C	163
13	Sycamore	12	520	N 6.5 S 6.7 E 6.2 W 6.2	2 3.5S	2	A semi mature tree of good form.	NIL	>40	A1,2	123

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14	Common Ash	14	455	N 3.4 S 6.5 E 4.5 W7.5	2 3	2	Stem scarring with internal decay visible to 1.8m though sounding suggests not yet critically weakened. Overhangs outbuilding. Vertical deadwood in crown to S to c.12cms diameter. Vulnerable to *Chalara fraxinea* dieback	Remove deadwood >25mm diameter. Within 3 months	10-20	C1,2	94
15	Common Ash	16	485	N 1.8 S 6.7 E 6.0 W 4.7	2 2.5NE	2	Stem scarring. Deadwood to c.12 cms diameter to NW Vulnerable to *Chalara fraxinea* dieback	Remove deadwood >25mm diameter. Within 3 months	10-20	C1,2	107
16	Common Ash	14	520	N 8.1 S 8.7 E 8.6 W 1.6	1.8 3NE	2	Suppression has caused crown development to NE. Deadwood to c.100mm diameter to N. Vulnerable to *Chalara fraxinea* dieback	Remove deadwood >25mm diameter. Within 3 months	10-20	C1,2	123
17	Common Horse Chestnut	14	550	N 6.7 S 5.9 E 4.4 W 5.2	2 3NW	2	Significant stem scarring to E. A potential weak fork c.1.6m agl.	Remove scarred dead branch to E c.12 cms diameter 5m agl. Reduce crown height by c.3m and remove deadwood. Within 3 months	20-40	B1,2	137
18	Norway Maple	14	510	N 8.1 S 6.1 E 8.5 W 5.4	c.3.5S 2.3N	2	Significant scarring to stem and W side of crown (possibly fire). Otherwise a tree of reasonable form.	NIL	10-20	C1,2	118
19	Common Ash	11	350	N 4.6 S 4.5 E 5.4# W 3.6	1.8 4	1.8 4	A tree of good from but vulnerable to *Chalara fraxinea* dieback	NIL	10-20	C1	56

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20	Silver Birch	11	330	N 4.7 S 5.1 E 4.4 W 4.6	1.3avg VAR	2	The western most trees of an attractive group of Birch.	NIL	20-40	B1,2	50
21	Silver Birch	11	260 250	N 4.7 S 3.9 E 5.3 W 4.5	1.3avg VAR	2	The westernmost trees of an attractive group of Birch.	NIL	20-40	B1,2	124
22	Silver Birch	11	355	N 3.9 S 4.8 E 3.7 W 4.2	1.3avg VAR	2	The westernmost trees of an attractive group of Birch.	NIL	20-40	B1,2	111
23	Silver Birch	11	175	N 2.4 S 3.2 E 3.2 W 2.6	1.3avg VAR	2	The westernmost trees of an attractive group of Birch.	NIL	20-40	B1,2	39
24	English Oak	12	275	N 2.6 S 5.4 E 4.2 W 3.8	1.2 3.5S	1	One of a pair of trees of good form and with long term potential	NIL	A1,2	A1,2	35
25	English Oak	11	275	N 2.7 S3.0 E2.8# W 4.3	1.0 3.5SW	1	One of a pair of trees of good form and with long term potential	NIL	A1,2	A1,2	35

= Estimated N/A = not assessed

Information based on B.S. 5837 (2012)

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26	Apple	3	120	N 1.6# S 1.6# E 1.6# W 1.0#	0.5	1	A developing young tree with spreading crown.	NIL	20-40	C1	7
27	Ornamental Cherry	5	100#	N 150# S 150# E 150# W 120#	1.8 1.7	1	An attractive developing young tree. A small Holly is also present immediately to the North	NIL	20-40	C1	5
TREE GROUPS											
G1	Broadleaves	3.5	Var <75mm	As plan	0 N/A	1	A small untidy group including Whitebeam, Ash and 1 dead tree.	NIL	20-40	C1	To crown spread
G2	Mixed Broadleaves	10	VAR to 400#	As Plan	0	1-2	A screening group, predominantly Wild cherry with one Common Ash to E end and occasional Sycamore and Whitebeam to W end, as the group extends beyond the site in question; the Cherry have multiple defects including bacterial canker but perform a useful role for the short to medium term. The Ash is vulnerable to *Chalara fraxinea* dieback	NIL	Cherry 10-20 Whitebeam 20-40 Sycamore >40	C B A	To crown spread
G3	Lawsons Cypress	3	130# 130#	As plan	0	1	A group of 2 trees.	NIL	>40	C1,2	To crown spread
G4	Broadleaves	4.5	110 max	As plan.	0	1	A group of young fruit trees including Plum, Apple and Pear.	NIL	20-40	C1	1.4m radius min

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G5	Broadleaves	3 max	130 max	As plan.	c.1	1	A group of pruned fruit trees.	NIL	20-40	C1	1.6m radius min
G6	Mixed Broadleaves	3 max	75 max	As plan.	1.0 min	1	A group of 3 fruit trees, including Apple and Pear.	NIL	20-40	C1	0.9m radius min
G7	English oak "Centenary Spinney"	To 12m	c.180mm max	Var	Var	1 Planted in 1995	A developing woodland of almost pure Oak with occasional Field maple, Lime and Whitebeam to the western margin, plus small natural regeneration of Ash within (vulnerable to dieback); a single line of native shrubs is present to the margins. Many of the tree stems have been pruned to c. 2 metres height Average spacings are c. 2.0 metres between rows and trees in rows, though overall stocking is c. 70% suggesting some removal/"thinning" may have already taken place	General comments here relate to both G7 and G8: Both areas appear to have been established with funding support from the Forestry Commission "Traditional" woodland management would suggest that the areas would be first thinned (respaced) on reaching a total height of some 10 metres at which time some 30 - 40% of stems will be removed to allow remaining trees to develop larger crowns and thereby also increase stem diameters; this also increases light to the forest floor encouraging the development of flora and shrubby growth. By age 100, following further thinning operations, there may be only 100 – 130 stems remaining per	>40 (as a woodland)	A1,2,3 (though some dead and suppressed trees are present within)	2.1m radius currently for individual trees (will increase with time)

SCHEDULE of INSPECTED TREES, GROUPS & HEDGELINES

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G8	English oak "Millennium Oaks"	To c 7m	c.180mm max	Var	Var	1 Planted in 1999	A developing woodland of almost pure Oak, with a group of native shrubs (Hazel, Privet, Blackthorn) present to the eastern margin as shown, and extending further north as a single line. Average spacings between and within rows are 2.1 – 2.2 metres. The area is all but fully stocked, to the north, reducing to c. 70% further south where stem diameters also reduce to nearer 130mm max. A small number of suppressed trees have died within.	ha, with an average spacing of 8-9 metres; average stem diameters may then have increased to nearer 50 cms, requiring a root protection area of 6 metres radius. Being to all intents a monoculture leaves both woodland areas vulnerable to Oak specific pests/diseases; routine respacing will maintain vigour and increase resistance to these. It will also encourage the natural seeding in of new species (Field maple, Hawthorn and Elder may be expected as a minimum)			
G9	Willow (Possibly Crack and hybrid Crack/White)	6 max	50mm max	Var from 1-1.5m	Var	1	A number of trees growing in the field drain; it is likely they are self seeded; if allowed to remain they have potential to impede the drainage of the area.	Remove the majority, perhaps retaining an occasional one where present to the drain margin. (others could be relocated to the field margin to create screening from the A16.	10-20 years in current location	C1	0.6m radius

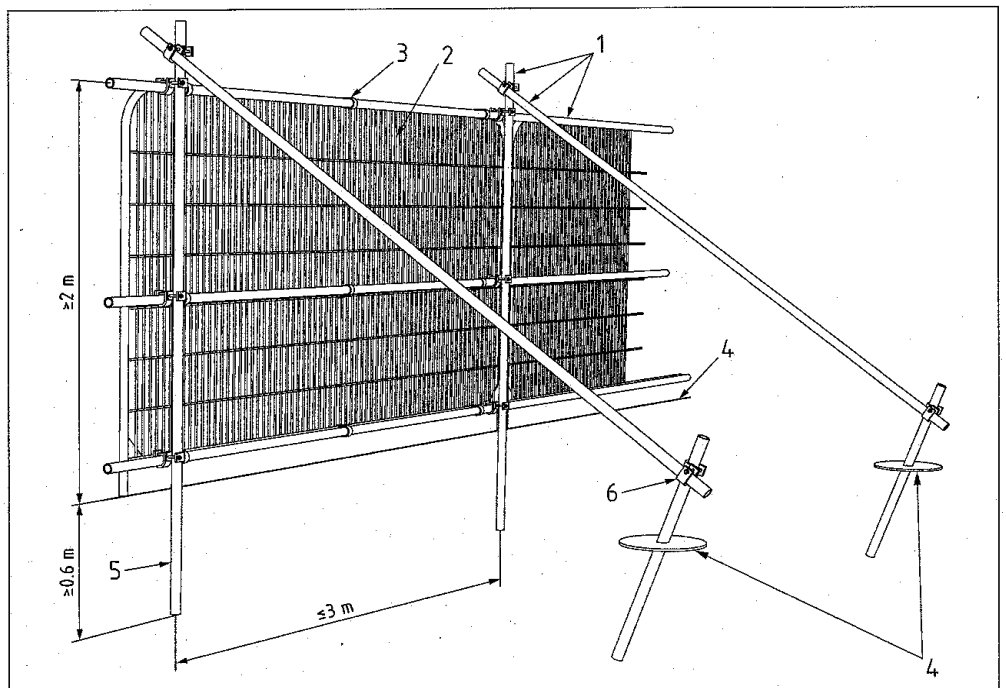
SITE: Land off James Road, Crowland
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GENERAL INFORMATION • Occasional other trees are present within the allotment area, though with diameters <75mm and heights <3metres (BS cat C) • Ash dieback (*Chalara fraxinea*) is now established in this country, and likely to affect the majority of Ash throughout the UK within 10-20 years; for this reason all Ash have been placed in BS category C, indicating an expected remaining contribution of 10-20 years											
HEDGELINES											
H 1	Leylandii	An untidy outgrowing hedge/screen. 8.5 ht x 1.4 width. (Maximum c.150 mm diameter).									
H2	Privet	A low screen 0.8m H x 0.6m W									

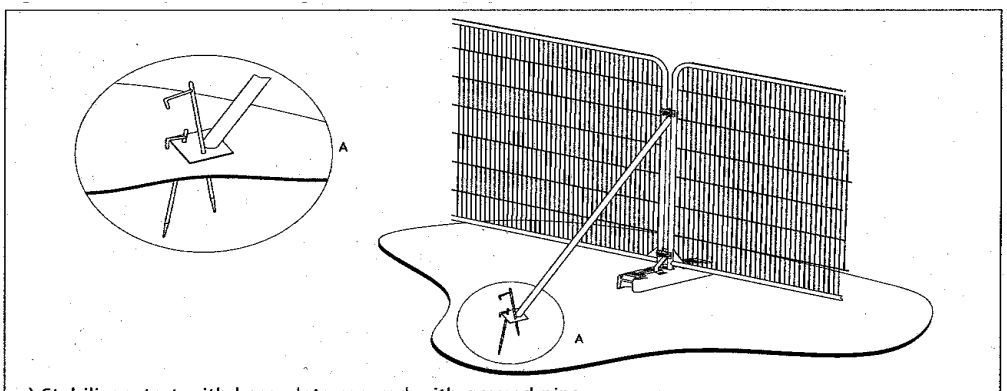
DEFAULT SPECIFICATION FOR PROTECTIVE BARRIERS



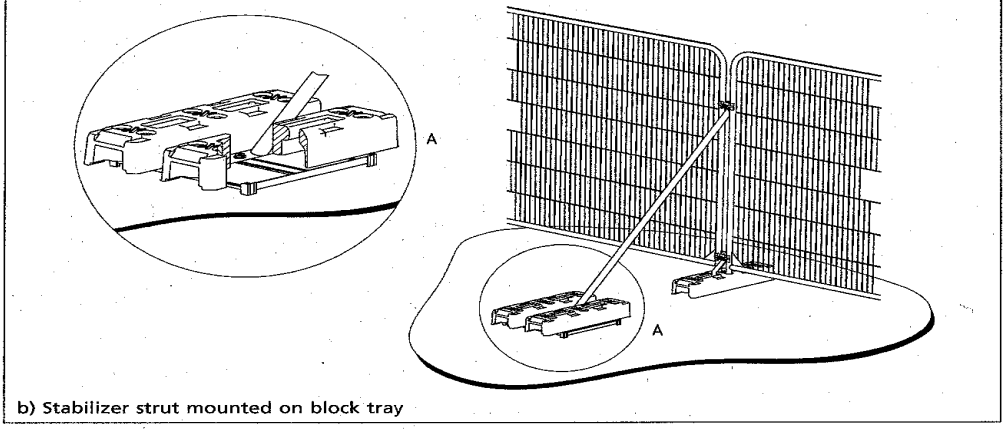
Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

EXAMPLES OF ABOVE GROUND STABILIZING SYSTEMS



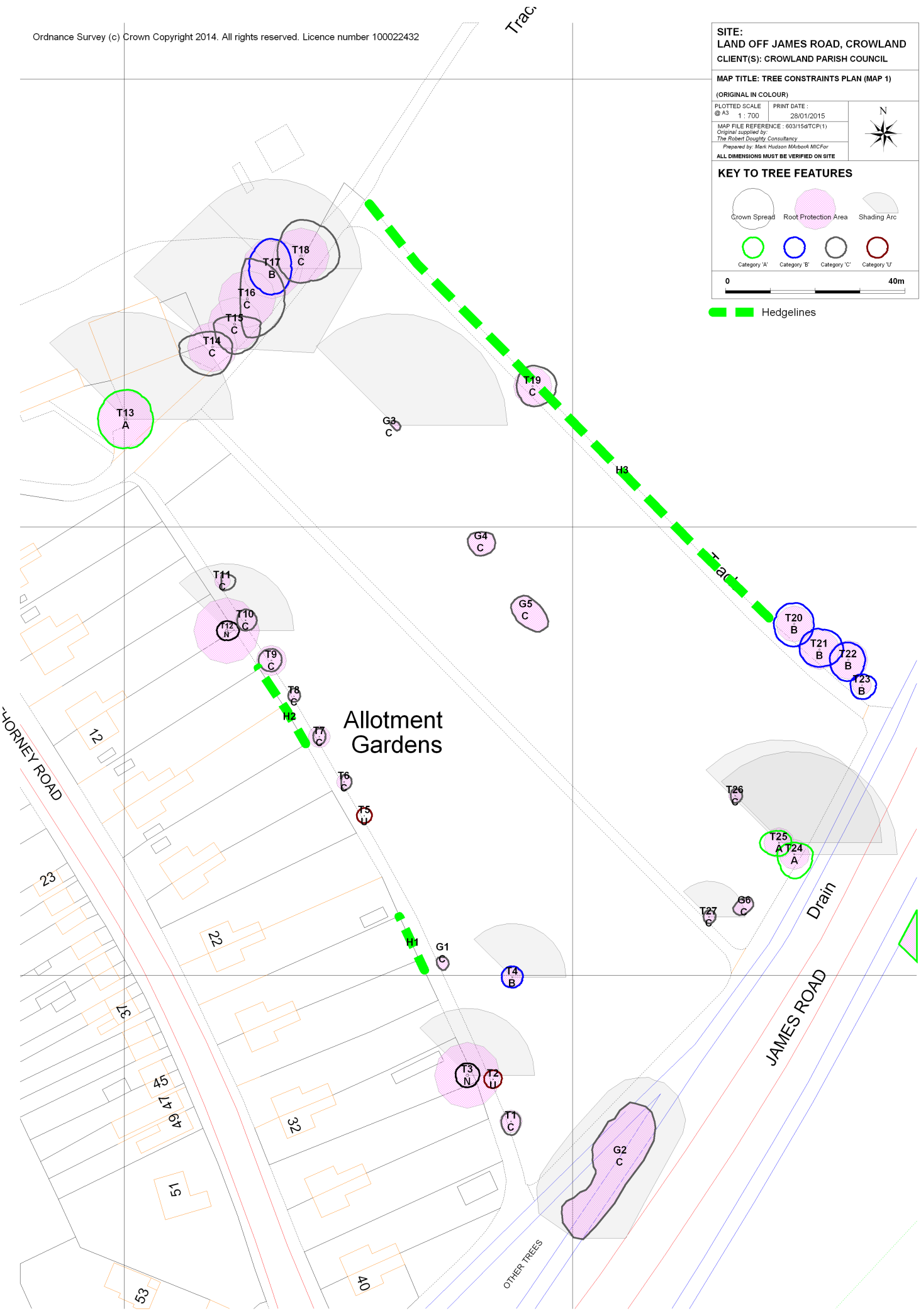
a) Stabilizer strut with base plate secured with ground pins



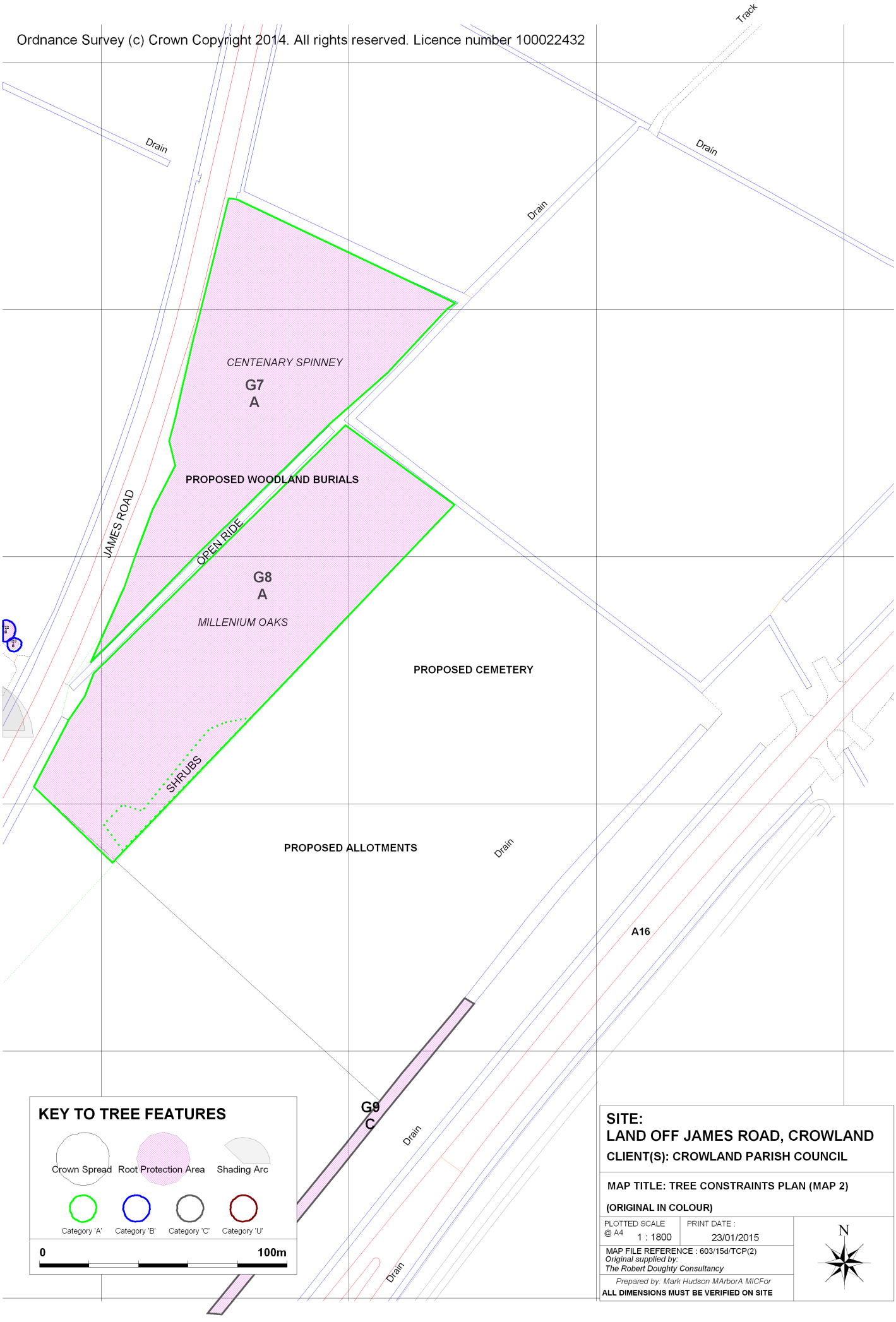
b) Stabilizer strut mounted on block tray

Source: BS 5837: 2012

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KEY TO TREE FEATURES

Crown Spread | Root Protection Area | Shading Arc

Category 'A' | Category 'B' | Category 'C' | Category 'U'

0 — 100m

SITE:
LAND OFF JAMES ROAD, CROWLAND

CLIENT(S): CROWLAND PARISH COUNCIL

MAP TITLE: TREE CONSTRAINTS PLAN (MAP 2)

(ORIGINAL IN COLOUR)

PLOTTED SCALE @ A4	PRINT DATE :
1 : 1800	23/01/2015

MAP FILE REFERENCE : 603/15d/TCP(2)
Original supplied by:
The Robert Doughty Consultancy

Prepared by: Mark Hudson MArborA MICFor

ALL DIMENSIONS MUST BE VERIFIED ON SITE

N