LIGHTWOODS Green ltd

Independent Arboricultural Advice

Planning and Development Services
TPO advice
Safety Surveys
Tree management
Subsidence investigation

Tree Survey,
Tree Protection Plan
Arboricultural Method Statement
Boundary Treatment

14 March 2024

The Grange, Felmingham

Completed by: Chris Shortis Dip. Arb. (RFS) M. Arbor A., Cert MHRA
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1. INTRODUCTION

1.1 **Brief:** I am instructed to carry out an arboricultural assessment of The Grange, Felmingham and to provide arboricultural advice in accordance with BS5837:2012 *Trees in relation to design, demolition & construction – Recommendations* (hereafter BS5837) for the reinstatement of the site access as per planning consent PF/23/0954 (North Norfolk District Council).

1.2 **Qualifications and experience:** I have based this report on our site observations and the provided information, and I have come to conclusions in the light of my experience. Observations or comments on structural engineering and the law are made from an arboricultural perspective. Specialist professional advice should be sought to clarify such observations.

1.3 **Scope of this report:** This report includes an assessment of the trees in relation to potential development in order to:

1. Record principle attributes (species and stem diameter).
2. Determine their quality and value.
3. Identify their remaining contribution and retention grading.
4. Illustrate the tree retention & removal balance against the proposed layout on the Tree Retention & Removal Plan
5. Define the tree protection measures to ensure the successful retention of all trees identified as such
6. Provide the methodology for all aspects of development that has the potential to result in the loss of, or damage to, a retention tree

1.4 **Purpose of the report:** The data collected and plotted is used to detail the arboricultural impact of the proposed layout and prepare the tree protection measures.

1.5 **Caveats**

1.5.1 This survey has been undertaken in compliance with BS5837; it is not intended to be a tree safety survey. Any notes offered on structural integrity of trees are incidental, though where trees are considered to be in immediately hazardous condition (identified by red font in the Structural condition & Notes column, see below), our recommendations given for immediate intervention should be put in hand by the owner / site manager as soon as can be arranged.

1.5.2 Trees are dynamic living organisms capable of achieving considerable size and structural complexity. They are exposed to and can become damaged by the elements and by human activity, and have co-evolved with decay-causing organisms that can degrade and sometimes destroy their structural integrity. Due to genetic characteristics and local micro environmental factors this integrity can be innately uncertain. The laws and forces of nature dictate a natural failure rate even among trees that are healthy and structurally sound. By their very nature, therefore, trees cannot be considered entirely hazard-free.

1.5.3 Tree surveys and / or tree inspections are, inherently, only a snapshot in time of the physiological and structural condition of the trees concerned.

1.5.4 Unless otherwise stated in our reporting material, all such surveys and inspections are undertaken from ground level and no internal inspections or tests have been undertaken. Any structural defects present might not be visible, for example being

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masked by vegetation, whether the tree's foliage, plants growing round the base of the tree, or climbing plants growing on the stem and into the crown.

1.5.5 Unless otherwise states, the survey data should be considered time-limited for planning purposes to a maximum of three years (absent revisions of BS5837, which render pre-existing data obsolete).

Instruction: The Grange, Felmingham 07.02.24
Ref. 33-1028
Chris Shortis Dip. Arb. (RFS), M. Arbor A., Cert MHRA
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2 Tree Survey Schedules

2.1 Explanatory Notes for Individual Trees

- **ID no**.: Trees are recorded using a site-specific unique identification number. This identification number is used for all references throughout the report and associated plans
- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed. In some instances, it may be difficult to identify a particular tree quickly and accurately without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated with a '?' after the name in order to avoid delay in the production of the report.
- **Estimated dimensions:** Estimated dimensions are marked *.
- **Height:** Height is to the nearest metre.
- **Stem diameter(s):** This is measured at 1.5m above ground level and recorded in millimetres. Trees with low crowns are measured just above the root flare. For trees with multiple stems see 3.2.2 in main text.
- **NSWE:** The branch spread is measured in metres at the four cardinal points of the compass to derive an accurate representation of the crown.
- **Ht 1st branch**: Height above ground in metres of attachment point of first significant branch (cardinal point may be given indicating direction of lowest branch).
- **Cr**own **Cl**ea**r**ance**:** Height of the crown above ground level at the lowest point.
- **Life Stage:** Assessed as Young, Semi-Mature, Early-Mature, Mature, Over Mature and Veteran.
- **Phys. condition:** An assessment of the physiological condition (i.e. health/vitality) status of the tree summarised into:

  Good: Generally in healthy condition

  Fair:Condition satisfactory though below mean species performance

  Poor: Tree in decline

  Dead: Self-explanatory
- **Structural condition & Notes:** Notes on the structural integrity of the tree based on visual tree assessment, including damage, decay fungi, pests, etc as appropriate, plus other pertinent observations
- **Management recommendations:** Recommendations for intervention (e.g. tree surgery, felling, etc) prior to any development and / or as a result of development. Hazardous trees are highlighted within the survey schedule.
- **Ret. Span:** An estimate of the remaining contribution span that the tree or group of trees is expected to have, based on species, condition, and context. The following longevity bands are used, categorised accordingly:

  <10 Tree is dead, dying, has a severe structural defect, or will become exposed following inevitable loss of companion shelter. Possibly requires sanitation felling Unsuitable for retention

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10+ Short-term longevity only: replacement planting generally appropriate
20+ Mid-term longevity
40+ Good longevity

- **QV Grade:** Quality & Value grade classification according to BS5837
  U - Unsuitable for retention
  A - High retention priority
  B - Moderate retention priority
  C - Low retention priority
  +subcategories 1, 2 & 3 reflecting arboricultural, landscape and cultural values respectively.
- **Proposal:** The retention / removal balance in light of the proposal.
  RET - Trees preferably retained
  REM - Trees defensibly removed to facilitate development
  U - Trees identified to be unsuitable for retention

2.2 Tree Survey Data for Individual Trees

ID No.	Species	Ht.	Dia. (mm)	N	S	W	E	Ht. 1st br.	Cr. Clr.	Life Stage	Phys. Cond	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade	Proposal
1	Sycamore	14	340	4.2	2.7	4.1	4.6	3.4	3.5	EM	G	Crown is asymmetrical from competition for light. No apparent structural defects	No action required at time of survey	40+	A1	RET
2	Norway spruce	13.5	280	2	4	1.7	2.7	3.2	1.5	EM	F	Poor shape with very suppressed crown development due to competition for light	No action required at time of survey	10+	C1	RET
3	Norway maple	10.5	360	5.4	5.4	5.7	5	4	3.5	EM	F	Ivy on the stem limiting inspection. Minor deadwood through the crown. Forms a joint canopy with the adjacent trees.	No action required at time of survey	20+	B1	RET

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ID No.	Species	Ht.	Dia. (mm)	N	S	W	E	Ht. 1st br.	Cr. Clr.	Life Stage	Phys. Cond	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade	Proposal
4	Himalayan birch	14.5	250	3.7	2.3	3.4	2.2	3	3	EM	G	Twin crown stems from 4m with robust union. Crown is asymmetrical from competition for light.	Crown lift to 5m over the drive	20+	B1	RET
5	Himalayan birch	15	340	4.2	1.9	3.8	4	5	5	EM	G	Crown is slightly suppressed to the south by competition for light. Occluded old pruning wounds on the stem. No apparent significant defects	Crown lift to 5m over the drive	20+	B1	RET
6	Pedunculate oak	10	320	4.5	4	4.4	1	2	2	EM	G	Low branches towards the road have been maintained by vehicle damage and those over the adjacent property have been inexpertly pruned.	Crown lift to 5m over the drive	40+	B1	RET
7	Holly	7	90	2.4	1.6	1.7	1	3	3	Y	F	Crown lifted to 3m. No apparent structural defects.	No action required at time of survey	10+	C1	RET
8	Yew	2.5	55	1	1	1	1	1.4	1.4	Y	F	Crown is sparse from competition for light. Poor annual shoot extension.	Remove to facilitate development	10+	C1	REM
9	Pedunculate oak	10	105	3.1	0	0.5	2	3	5	Y	F	Tree of unremarkable form and the crown is entirely asymmetrical from competition for light.	Remove to facilitate development	10+	C1	REM
10	Himalayan birch	14	260	2.7	2.5	0.5	3.2	4	6	EM	G	Self-corrected stem lean from ground level. Minor deadwood through the lower crown. No apparent significant defects	No action required at time of survey	20+	B1	RET
11	Norway spruce	11.5	190	2.3	1	1.9	0.2	2.5	2.5	EM	F	Crown is asymmetrical from competition for light with significant live growth to the SW.	No action required at time of survey	20+	C1	RET
12	Himalayan birch	6.5	80	0.5	1	1	0.7	2.5	2	Y	F	Forms a joint canopy with the adjacent trees. No apparent significant defects	No action required at time of survey	10+	C1	RET
13	Sycamore	7.5	110	2.9	2	2	1	2.5	2	Y	G	Forms a joint canopy with the adjacent trees. No apparent significant defects	No action required at time of survey	10+	C1	RET

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ID No.	Species	Ht.	Dia. (mm)	N	S	W	E	Ht. 1st br.	Cr. Clr.	Life Stage	Phys. Cond	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade	Proposal
14	Sycamore	15	9x 200	5.3	2.5	4.6	4.5	3.5	3.5	M	P	Tree on the adjacent property and not inspected in detail. Multiple stem regrowth from a cut stem. Major deadwood through the crown, particularly on the south side where there are areas of dieback. Diameter of the stems is 1250mm at 1.3m Epicormic growth from the base.	Remove epicormic growth to 3.5m above ground level for visibility splay.	10+	C1	RET

2.3 **Explanatory Notes for Tree groups**

- **ID no**.: Unique tree group reference number.
- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed. The species listed represent the main components and there may be other minor species not listed.
- **Estimated dimensions:** Estimated dimensions are marked *.
- **Count:** Number of trees recorded within groups or woodlands. Accurate count for less than 20 trees, estimated number for 20+ trees.
- **Height:** Mean height is to the nearest metre.
- **Stem diameter(s):** Stem diameter at 1.5m above ground level for 80 percentile member of TG. Trees with larger diameters are identified on the plan at Appendix 3.
- **MRCS:** An estimated mean radial crown spread for trees at the 80 percentile size.
- **Ht 1st branch**: Height above ground in metres of attachment point of first significant branch (cardinal point may be given indicating direction of lowest branch).
- **Cr**own **Cl**ea**r**ance**:** Height of the crown above ground level at the lowest point.
- **Life Stage:** Assessed as Young, Semi-Mature, Early Mature, Mature, Over Mature and Veteran.
- **Phys. condition:** An assessment of the physiological condition (i.e. health/vitality) status of the tree summarised into:

  Good: Generally in healthy condition

  Fair: Condition satisfactory though below mean species performance

  Poor: Tree in decline

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Dead: Self-explanatory

- **Structural condition & Notes:** Notes on the structural integrity of the tree based on visual tree assessment, including damage, decay fungi, pests, etc as appropriate, plus other pertinent observations
- **Management recommendations:** Recommendations for intervention (e.g. tree surgery, felling, etc) prior to any development. Immediately hazardous trees will be notified to the client separately.
- **Ret. Span:** An estimate of the remaining contribution span that the tree or group of trees is expected to have, based on species, condition and context. The following longevity bands are used, categorised accordingly:

  <10 Tree is dead, dying, has a severe structural defect, or will become exposed following inevitable loss of companion shelter. Possibly requires sanitation felling Unsuitable for retention

  10+ Short-term longevity only: replacement planting generally appropriate

  20+ Mid-term longevity

  40+ Good longevity

- **QV Grade:** Quality & Value grade classification according to BS5837:2012

  U - Unsuitable for retention

  A - High retention priority

  B - Moderate retention priority

  C - Low retention priority

+subcategories 2 & 3 reflecting arboricultural, landscape and cultural values respectively.

- **Proposal:** The retention / removal balance in light of the proposal.

  RET - Groups and woodlands to be retained

  PRET - Signifies partial retention (see Tree Retention & Removal Plan)

  REM - Groups and Woodlands to be removed to facilitate development

  U - Groups and Woodlands identified to be unsuitable for retention

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2.4 **Tree Survey Data for Tree Groups**

ID No.	Count	Species	Ht.	Dia. (mm)	MCRS	Ht. 1st br.	Cr. Clr.	Life Stage	Phys. Cond	Structural condition & Notes	Management recommendations	Ret. Span	QV Grade	Proposal
TG 1	6	Leyland cypress	11	290	3.5	1	1	EM	F	Somewhat scruffy group formed of a grown out hedge. Previously managed at 2.4m. Low growth towards the road is trimmed or managed by vehicle impacts to form a dense screen. Maximum crown spread is achieved from 4m.	Remove to facilitate development	10+	C2	RET
TG 2	20	Leyland cypress	12	300	3.5	1	1	EM	F	Somewhat scruffy group formed of a grown out hedge. Previously managed at 2.4m. Low growth towards the road is trimmed or managed by vehicle impacts to form a dense screen. Maximum crown spread is achieved from 4m above ground level.	Return to management, reducing the height to 6m and trimming the sides.	10+	C2	RET

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TREE RETENTION & REMOVAL PLAN.

Note this plan consists of a single sheet and is scaled for printing at A2. It is intended to be read in colour.

Instruction: The Grange, Felmingham 07.02.24
Ref. 33-1028
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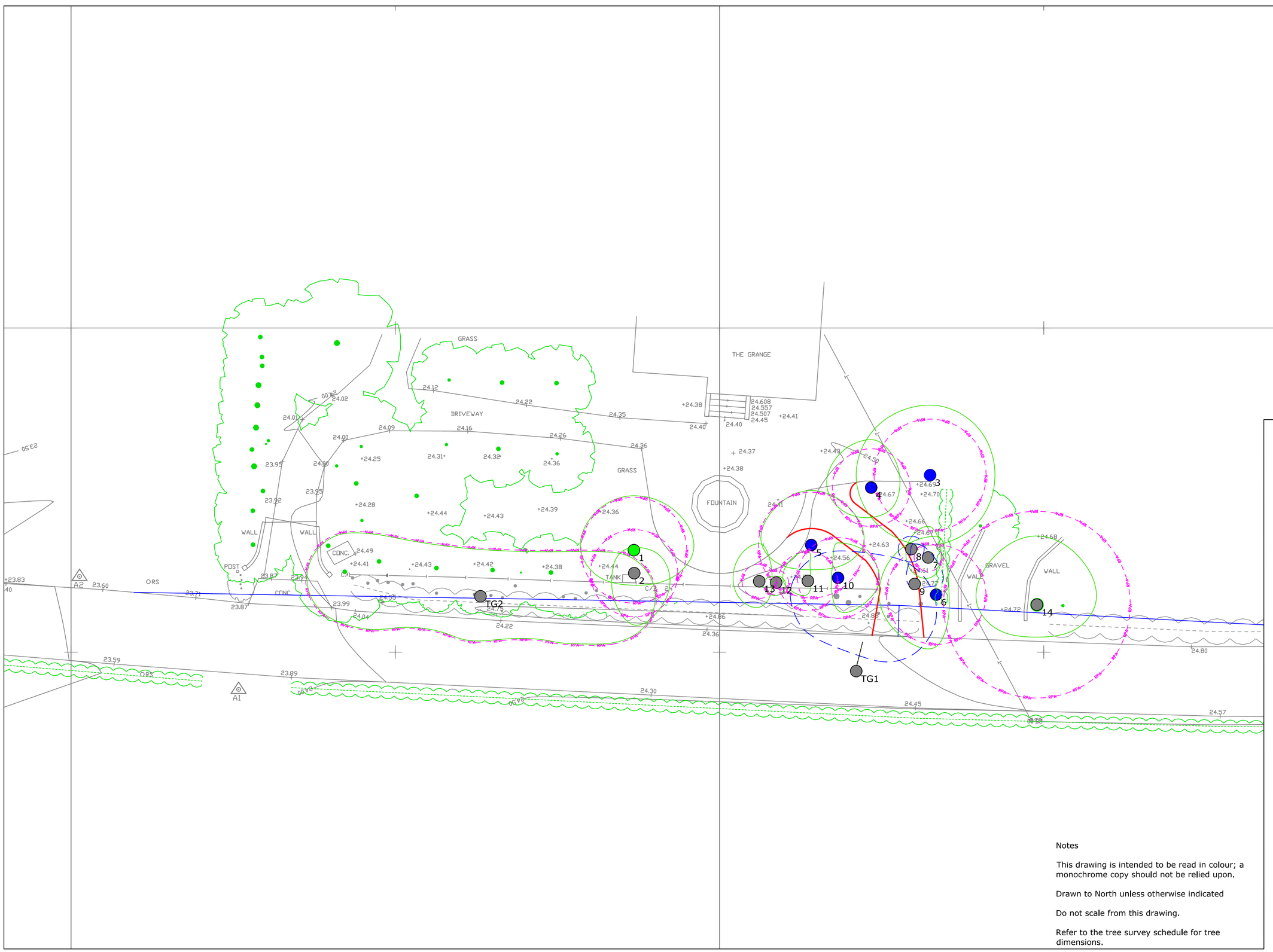

Notes

This drawing is intended to be read in colour; a monochrome copy should not be relied upon.

Drawn to North unless otherwise indicated

Do not scale from this drawing.

Refer to the tree survey schedule for tree dimensions.

LIGHTWOODS Green ltd

Client: Mr V Ward

Instruction: The Grange, Felmingham

Ref: 33-1028

Drawing Title: Tree Survey Plan

DWG No.: 33-1028.01

Date: 09.01.24

Scale: 1:200 @ A2

Key
Quality and Value Categories
(Shown adjacent to ID number)

Category U	Unsuitable	
Category A	High	
Category B	Moderate	
Category C	Low	

Crown outlines
Trees to be retained

Trees to be removed

Root protection area (RPA) calculated in accordance with BS5837 Table 2

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TREE PROTECTION PLAN & ARBORICULTURAL METHOD STATEMENT

Note this plan consists of a single sheet and is scaled for printing at A2. It is intended to be read in colour.

Instruction: The Grange, Felmingham 07.02.24
Ref. 33-1028
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ARBORICULTURAL METHOD STATEMENT

1. Any questions or deviations from this arboricultural method statement and tree protection plan should be addressed to Lightwoods Green in the first instance.

2. The tree works required to facilitate the consent are as follows:
Trees 8 & 9 - Fell
Trees 4, 5 & 6 - Crown lift to 5m.
Tree 14 - Remove epicormic growth from stem to 3.5m above ground level
Tree group TG1 - Fell
Tree group TG2 - Return to management as per schedule

3. Following completion of the tree works, the physical tree protection measures for the installation works shall be installed in line with the provisions of BS5837 and at the locations shown on the this plan. These measures shall include:
a) Permanent tree protection fencing to BS5837 Figure 2 (see detail on this dwg) to be installed prior to any works on site and to remain in situ throughout the development. MAGENTA LINE

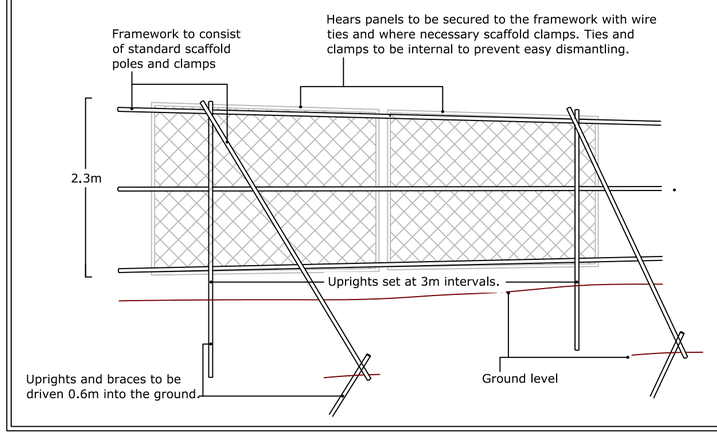
4. The fencing comprises the Construction Exclusion Zone (CEZ). Within this Zone, the following activities are strictly prohibited during primary construction (other than as described below):
a) Excavation / lowering of levels into rootable soil: removal of surface organic matter using hand tools is acceptable; scraping or reduction in depth of topsoil is not
b) Removal of existing hard surfaces
c) Grubbing out of redundant buried services/structures
d) Installation of new services, including drainage.
e) Formation of new hard surfaces or paths
f) Operation, transit or storage of plant, and storage of materials, including during hard and soft landscaping, other than on ground protection boarding
g) Storage or handling of any chemical substance injurious to trees, including fuels, oils, lubricants and cement washings

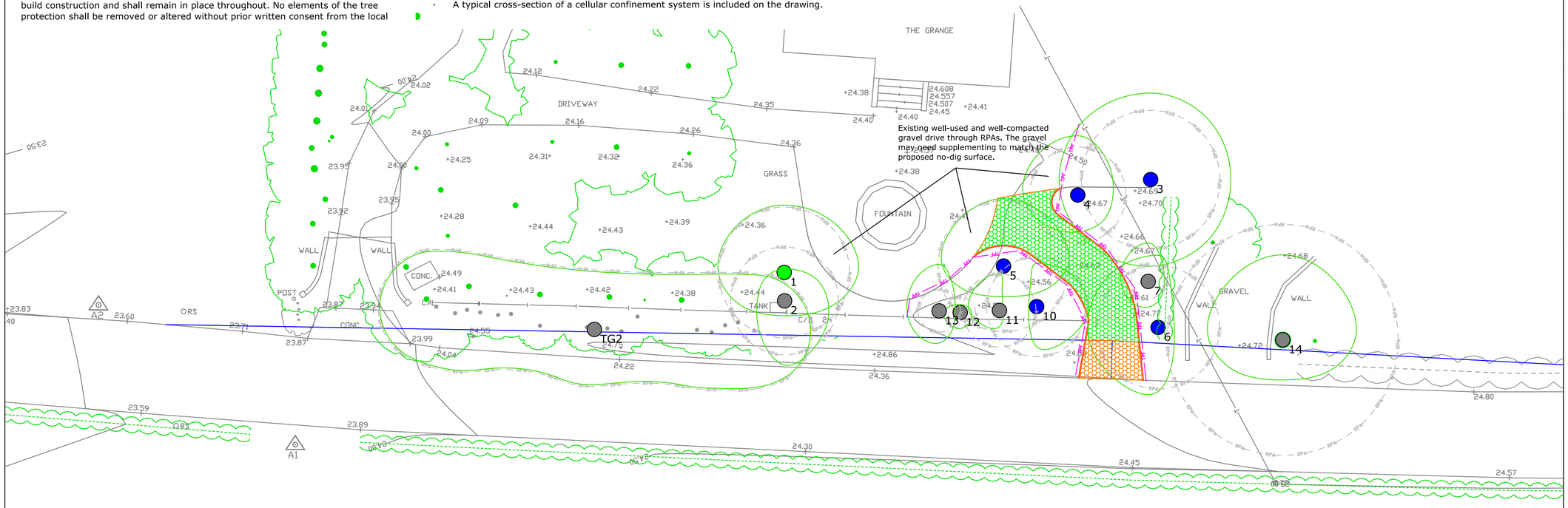
5. The Construction Exclusion Zone shall be established site-wide prior to the main build construction and shall remain in place throughout. No elements of the tree protection shall be removed or altered without prior written consent from the local planning authority, including the removal of the existing hard surfaces within RPAs

6. Installation of the verge crossing will be completed as follows:
- The extent of the construction area is shown by the orange honeycomb hatch
- This is indicative in extent - all works for the crossing, whether larger or lesser in extent will be completed in line with this method statement.
- The excavation works shall be carried out using an airspade™ or similar air displacement tool.
- Roots exposed should immediately be wrapped or covered with dry hessian to prevent desiccation and to protect them from rapid temperature changes. This covering must be removed prior to backfilling, which should take place as soon as possible.
- An arboricultural assessment will be made of the roots present to gauge the impact on the trees shown for retention.
- The root treatment (realignment or pruning) will be determined by the arboriculturist.
- The kerb bed will be lined with 200 gauge DPC polythene liner to prevent any phytotoxic leachates from wet concrete entering the root soil profile of the trees.

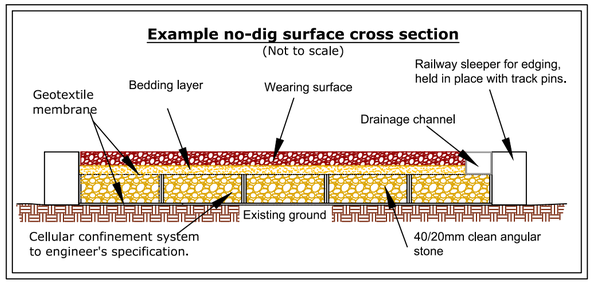
7. The installation of the new vehicle access (the drive) between the verge crossing and existing drive will be completed as follows:
- The extent of the construction area is shown by the green honeycomb hatch
- This is indicative in extent - all works for the drive, whether larger or lesser in extent will be completed in line with this method statement.
- The existing vegetation will be removed to a maximum depth of 100mm using hand tools.
- Any roots exposed should immediately be wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping should be removed prior to backfilling, which should take place as soon as possible.
- The drive should be constructed using a cellular confinement system, such as Geosynthetics Cellweb, in place of an excavated sub-base.
- The cellular confinement system will be installed directly over area exposed by the vegetation removal - No additional excavation is permitted.
- The depth of the cellular confinement system will be determined by the supplier.
- The wearing surface will be installed onto the cellular confinement systems.
- A typical cross-section of a cellular confinement system is included on the drawing.

Tree Protection Fencing from BS5837:2012 figure 2
(Not to scale)





Example no-dig surface cross section
(Not to scale)



Notes

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Drawn to North unless otherwise indicated

Do not scale from this drawing.

Refer to the tree survey schedule for tree dimensions.

LIGHTWOODS Green ltd

Client: Mr V Ward

Instruction: The Grange, Felmingham

Ref: 33-1028

Drawing Title: Tree Protection Plan and Arboricultural Method Statement - Drive

DWG No.: 33-1028.02

Date: 7.02.24

Scale: 1:200 @ A2

Key
Quality and Value Categories
(Shown adjacent to ID number)

Category U	Unsuitable	
Category A	High	
Category B	Moderate	
Category C	Low	

Crown outlines
Trees to be retained

Trees to be removed

Root protection area (RPA) calculated in accordance with BS5837 Table 2

Tree Protection Fence (TPF)

New Surfaces
Existing vegetation to be removed and replaced with a no-dig surface

New verge crossing - Airspade excavation and TRAD5 installation

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BOUNDARY TREATMENT SPECIFICATION

Note this plan consists of a single sheet and is to be printed at A3. It is intended to be read in colour.

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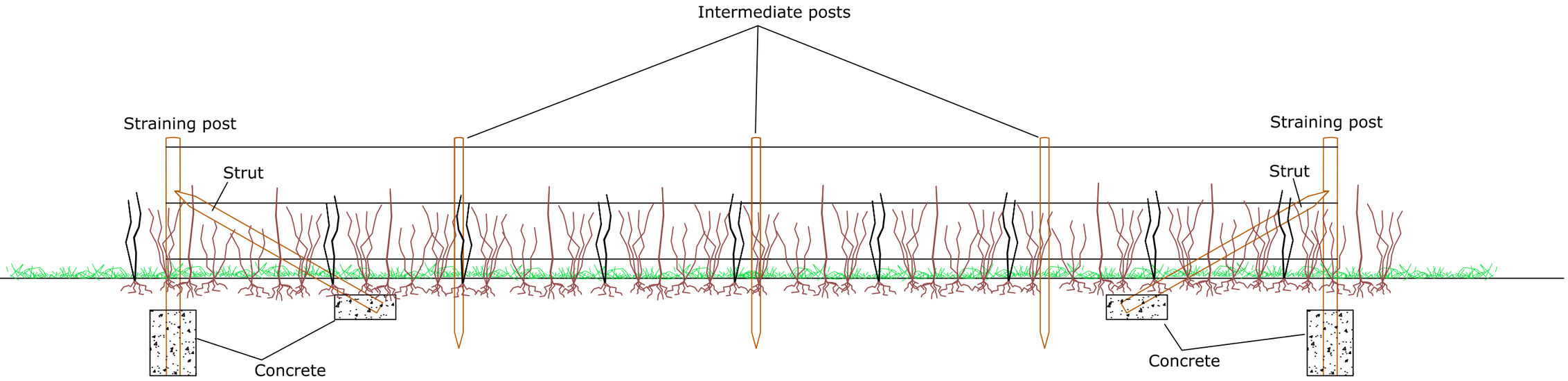

Boundary treatment
The boundary treatment will demarcate the west and north boundaries between The Grange and adjacent land identified as Parcel 2 in the planning application PF/23/0954. The treatment will comprise of a post and wire fence, with a native species hedgerow to the north and west of the fence (see inset right).

Fencing
The fence will consist of a 1.2m high post and wire fence.
Straining posts will be 2.1m x 125mm
Intermediate posts will be 1.8m x 75mm
Struts will be 2.1m x 75mm
The wire will be 4.0mm zinc coated or as appropriate

Straining posts and struts will be set in concrete.
Holes will be hand dug and lined with DPM grade plastic sheeting or bags
Intermediate post will be driven into the ground using a post driver or maul.
Intermediate posts will be set between 2.5m and 4m apart as appropriate.
The fencing wire will be secured using 3mm zinc staples. Staples on the straining posts will be driven home. Staple on the intermediate posts will be left with sufficient gap for the wire to be free to move.

Hedging
Native species mix - 40% Hawthorn, 15% Blackthorn, 15% Hazel, 10% Field maple, 10% Crab apple & 10% Dog rose
2 year-old transplants
Staggered double row 40cm between plants and a minimum of 6 plants per metre.
Notch planted.
Biodegradable rabbit spirals
Keep clear of weeds until established
Replace failures.
Remove guards once established
Trim once within the first 2 years to encourage bushy growth.

LIGHTWOODS Green ltd

Client: Mr Ward

Instruction: The Grange, Felmingham

Ref: 33-1028

Drawing Title: Boundary Treatment Plan

DWG No.: 33-1028.03

Date: 14.03.24

Scale: Not to scale

For illustrative purposes only - Do not scale from this drawing.

Fencing specification to be confirmed by installers

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