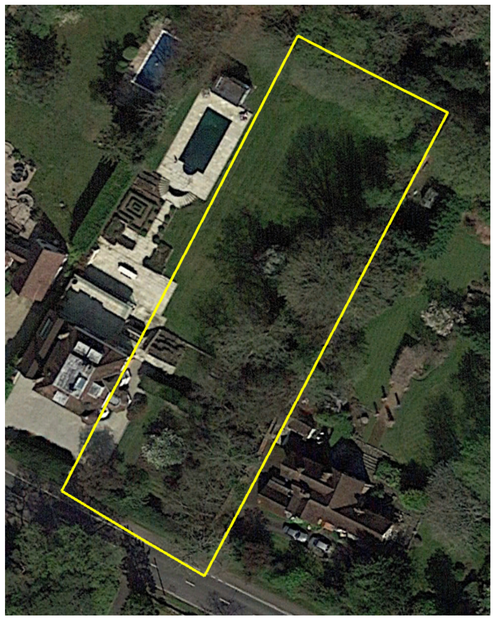
Site Overview



Tree Data Schedule

Reference (T = Tree n = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W E S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals) Priority	Inspect. Freq (yrs)	Vigour / Physiological Condition	Structural Condition	Amenity Value: Life Expectancy (yrs)	Retention Category
T1	Early-Mature **Pissards Plum** *Prunus cerasifera 'pissardii'.*	5	2	43	2.5 4.5 4.5 3	15 1	Form: Multi-stemmed at 1.5m with an unbalanced crown. History: No evidence of significant pruning. **Defects: Significant decay and emerging ganaderma decay brackets to base significant included bark at 1.5m.** Other: Acceptable condition at present due to location.	No action required. n/a	1.5	Moderate	Poor	Low	<10 C
T2	Semi-Mature **Apple** *Malus sp.*	3.5	1	19	2 2 3 3	15 1	Form: Twin-stemmed at 0.5m with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Recorded stem diameter is equivalent for 2 stems (16cm, 10cm).	No action required. n/a	3	Moderate	Good	Low	20-40 C
T3	Semi-Mature **Magnolia** *Magnolia sp.*	3.5	0.5	20	4 4 4 4	15 1	Form: Multi-stemmed at ground level with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate	Good	Low	10-20 C
T4	Mature **Ash** *Fraxinus excelsior.*	15	7	90	6 6 6 6	15 1	Position: Situated on third party land. Form: Single stemmed and vertical with a balanced crown. History: Multiple pruning wounds due to crown reduction. **Defects: No significant defects observed.** Other: Limited inspection, dimensions estimated.	No action required. n/a	3	Moderate	Good	High	40+ A
G5	Semi-Mature **Beech** *Fagus sylvatica.*	av 7.5	av 1.5	av 30	av 3 6 3 4 each	15 1	Form: Two close growing specimins. History: No evidence of significant pruning. **Defects: Symptoms of beech bark disease (bark lesions, die back and exudates) both trees have significant decay colums at 1m within stems.**	Remove or reduce height to 4m. Moderate	1	Low	Poor	Moderate	10-20 C
T6	Young **Beech** *Fagus sylvatica.*	4	1.5	14	1 0.5 1 3	15 1	Form: Single stemmed with a slight lean and an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good	Low	40+ C
T7	Early-Mature **Beech** *Fagus sylvatica.*	12	5	50 @ Base	3 5 5 5	15 1	Form: Twin-stemmed at 1.5m with a slightly unbalanced crown. History: No evidence of significant pruning. **Defects: Symptoms of beech bark disease (bark lesions, die back and exudates).** Other: Major die back throughout.	Remove. High	N/A	Low	Very Poor Poor	Low	<10 U
G8	Semi-Mature **Beech** *Fagus sylvatica.*	av 12	av 2	av 35	av 5 6 4 3 each	15 1	Form: Two close growing specimins. History: No evidence of significant pruning. **Defects: Minor die back to upper canopy.**	Monitor. Moderate	1	Low	Poor	Low	20-40 C
T9	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	5	2	21	3 6 1 3	15 1	Form: Single stemmed and leaning with an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good	Low	20-40 C
T10	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	6	4	20	0.5 0.5 4 5	15 1	Position: Situated on third party land. Form: Single stemmed and leaning with an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Limited inspection, dimensions estimated.	No action required. n/a	3	High	Good	Low	20-40 C
T11	Early-Mature **Lime** *Tilia sp.*	15	4	60	6 6 6 6	15 1	Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Ivy prevented detailed inspection.	Remove ivy and inspect stem for defects. Moderate	1	Moderate	Good Fair	Moderate	40+ A
T12	Early-Mature **Pear** *Pyrus sp.*	3	1.5	40 @ Base	1.5 3 4 2	15 1	Form: Twin-stemmed at 1m with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Smothered in ivy.	No action required. n/a	3	Low	Poor	Low	10-20 C -
G13	Semi-Mature **Holly** *Ilex aquifolium.*	av 5	av 1	av 20	av 2.5 4 2.5 2.5 each	15 1	Form: Two single stemmed specimens. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good	Low	40+ C
T14	Early-Mature **Purple Beech** *Fagus sylvatica 'purpurea'.*	11	1.5	58	5 7.5 2.5 6	15 1	Form: Single stemmed with a slight lean and an unbalanced crown. History: No evidence of significant pruning. **Defects: Symptoms of beech bark disease (bark lesions and die back) significant signs of decay to base north and south.**	Monitor. Moderate	1	Low	Poor	Low	10-20 C
T15	Mature **Oak** *Quercus robur.*	17	1.5	123	6 7 8 7.5	15 1	Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. **Defects: Significant to major deadwood throughout.** Other: Tree in decline.	Monitor deadwood monitor. Moderate	1	Low	Poor	Low	20-40 B

Dense overgrown mixed species including Hawthorn, Sycamore and Holly
Ht: 4m
Dia: 20cm

Dense overgrown mixed species including Hawthorn, Sycamore and Holly
Ht: 4m
Dia: 20cm

Mixed shrubs
Ht:3m

Dense Holly and Laurel
Ht:4m

Dense Holly and Laurel
Ht:4m

Dense Holly and Laurel
Ht:4m

Yew hedge
Ht:2.5m

RPA ajter amending to account for influence of local topography on likely rooting habit

Tree Data Schedule Continued

Reference (T = Tree n = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (cm)	Crown Spread (m) N W E S	Scaled Tree Diagram (m)	Notes	Recommendations (Independent of any development proposals) Priority	Inspect. Freq (yrs)	Vigour / Physiological Condition	Structural Condition	Amenity Value: Life Expectancy (yrs)	Retention Category
T16	Early-Mature **Ash** *Fraxinus excelsior.*	13	6	53	6 7.5 5 7	15 1	Form: Twin-stemmed at ground level with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Recorded stem diameter is equivalent for 2 stems (36cm, 39cm).	No action required. n/a	3	Moderate	Good Good	Low	40+ B
G17	Early-Mature **Lime** *Tilia sp.*	av 20	av 5	av 65	av 5-5 5-5 5-5 each	15 1	Form: Two multistemmed specimens. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate	Good Fair	Moderate	40+ A
T18	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	12	4	44	0.5 5 8 5	15 1	Form: Single stemmed and leaning with an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good Fair	Low	20-40 B -
T19	Semi-Mature **Lime** *Tilia sp.*	10	2	27	4 4 4 4	15 1	Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good Good	Low	40+ B
G20	Semi-Mature **Cherry** *Prunus sp.*	av 6	av 3	av 20	av 3 3 3 each	15 1	Form: Three close growing specimens. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate	Good Good	Low	20-40 C
T21	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	12	4	40	3 2 5 3	15 1	Form: Single stemmed with a slight lean and an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good Good	Low	20-40 C
T22	Mature **Ash** *Fraxinus excelsior.*	16	4	94	7 10 10	15 1	Form: Multi-stemmed at 3m with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate	Good Good	Moderate	40+ A
T23	Early-Mature **Sycamore** *Acer pseudoplatanus.*	12	4	63	6 6 6 6	15 1	Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good Good	Low	40+ B
T24	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	5	1.5	28	4.5 4 1.5 3	15 1	Form: Multi-stemmed at ground level with an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Recorded stem diameter is equivalent for 3 stems (21cm, 12cm, 14cm).	No action required. n/a	3	High	Good Good	Low	40+ C
T25	Early-Mature **Apple** *Malus sp.*	2.5	1.5	30 @ Base	5 4 2 3	15 1	Form: Multi-stemmed at 0.5m with an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate	Fair Fair	Low	10-20 C
T26	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	10	5	28	2.5 2 4 3.5	15 1	Form: Single stemmed and vertical with an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good Good	Low	40+ C +
T27	Early-Mature **Oak** *Quercus robur.*	12	1	57	5 7 7.5	15 1	Form: Single stemmed with a slight lean and a slightly unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	Moderate	Good Good	Low	40+ B
T28	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	12	2	43	3 6 6 7.5	15 1	Form: Twin-stemmed at 3m with an unbalanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good Good	Low	40+ B
G29	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	av 12	av 2	av 45	av 3 6 7.5 each	15 1	Form: Four close growing specimens. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good Good	Moderate	40+ B
T30	Early-Mature **Oak** *Quercus robur.*	10	4	64	5 8 5	15 1	Form: Single stemmed and vertical with a balanced crown. History: No evidence of significant pruning. **Defects: No significant defects observed.** Other: Ivy prevented detailed inspection.	Remove ivy and inspect stem for defects. Low	3	Moderate	Good Fair	Low	20-40 B
G31	Semi-Mature **Sycamore** *Acer pseudoplatanus.*	av 10	av 2	av 75	av 2 2 4 each	15 1	Form: Two close growing specimins. History: No evidence of significant pruning. **Defects: No significant defects observed.**	No action required. n/a	3	High	Good Good	Low	40+ C

Tree Ref.	Species	Height (m)	Root Protection Area Radius (m)	m²	Square (m)
T1	Pissards Plum	5	5.2	84	9.1
T2	Apple	3.5	2.3	16	4.0
T3	Magnolia	3.5	2.4	18	4.3
T4	Ash	15	10.8	366	19.1
G5	Beech	7.5	3.6	41	6.4
T6	Beech	4	1.7	9	3.0
T7	Beech	12	5.0	79	8.9
G8	Beech	12	4.2	55	7.4
T9	Sycamore	5	2.5	20	4.5
T10	Sycamore	6	2.4	18	4.3
T11	Lime	15	7.2	163	12.8
T12	Pear	3	4.0	50	7.1
G13	Holly	5	2.4	18	4.3
T14	Purple Beech	11	7.0	152	12.3
T15	Oak	17	14.8	684	26.2
T16	Ash	13	6.4	127	11.3
G17	Lime	20	7.8	191	13.8
T18	Sycamore	12	5.3	88	9.4
T19	Lime	10	3.2	33	5.7
G20	Cherry	6	2.4	18	4.3
T21	Sycamore	12	4.8	72	8.5
T22	Ash	16	11.3	400	20.0
T23	Sycamore	12	7.6	180	13.4
T24	Sycamore	5	3.4	35	6.0
T25	Apple	2.5	3.0	28	5.3
T26	Sycamore	10	3.4	35	6.0
T27	Oak	12	6.8	147	12.1
T28	Sycamore	12	5.2	84	9.1
G29	Sycamore	12	5.4	92	9.6
T30	Oak	10	7.7	185	13.6
G31	Sycamore	10	3.0	28	5.3

Drawing No: CCL 10561 / TCP Rev: 2
Title: Tree Constraints Plan (Existing Layout)
Site: Land adjacent to 38 The Ridgeway EN6 4AX
Scale: 1:300 Paper Size: A1

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Tree Retention Categories Stems & canopies shown

Category A tree	Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
Category B tree	Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees
Category C tree	Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
Category U tree	Trees unsuitable for retention due to their very poor condition.

Tree Constraints Plan

BS 5837 Root Protection Area (radius = 12xstem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building.

Root Protection Area having been amended to account for for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

1 Photo 1

MN = Measured North:

Canopy spreads are sometimes measured to an approximate N defined by site features. Often more accurate, especially where rows of trees are not aligned N-S or E-W.

Tree Constraints Plan
(Existing Layout)

Excerpts from the Arboricultural Impact Assessment

Overview

It is proposed to construct a new detached residential property and garage as indicated on the plans in Appendix 6. The existing layout is indicated in black and the footprint of the proposed layout is indicated in pale green.

A new vehicular access is to be created from The Ridgeway.

The table below summarises the potential impact on trees due to various activities.

Activity	Trees Potentially Affected
Tree Removal: Retention Category A	None
Tree Removal: Retention Category B	T16
Tree Removal: Retention Category C	T1, T2, T3, G5, T6, G8, T9, T12, G13, T14 and the 4m tall dense holly and laurel.
Tree Removal: Retention Category U	T6
Tree Pruning	T11 and G17
RPA: House Foundations	T15, G17 and T10
RPA: Terrace Foundations	T15, G17 and T10
RPA: New Hard Surface	T4
RPA: Replace Existing Hard Surface	None
RPA: Underground Services	Unknown – To be confirmed
RPA: Change of Ground Levels	None
RPA: Soil Compaction	Trees adjacent the construction area (preventable by installing tree protection measures)

Other potentially damaging activities often associated with construction sites include demolition or the careless use of plant machinery, hazardous materials, or fires. All of the above potential impacts are considered in detail throughout this section.

The accompanying Arboricultural Method Statement (duplicated in Appendix 6) specifies the measures proposed to minimise all possible potential risks of damage to the retained trees.

Tree Removal

All trees to be removed are indicated on the Tree Removal Plan and are listed below:

- **Retention Category A:** It is proposed to retain all Retention Category A trees.
- **Retention Category B:** It is proposed to remove the Retention Category B tree, T16. This tree is located so close to the proposed residence that its retention is not possible.

  This tree grows in excess of 3m from the closest public vantage point and also grows within a row of trees with a similar height. Consequently, it is barely visible from public vantage points and it is not considered to have a particularly high amenity value. Its removal shall not have a major impact on the visual amenity of the locality.
- **Retention Category C:** It is proposed to remove the following Retention Category C trees: T1, T2, T3, G5, T6, G8, T9, T12, G13, T14 and the 4m tall dense holly and laurel. These trees are wither located so close to the proposed residence that their retention is not practical, or they are of low/poor quality and their replacement is desired.

  The majority of these trees are relatively small and are barely visible from public vantage points. Consequently, they are not considered to have a particularly high amenity value and their removal shall not have a significant impact on the visual amenity of the locality.
- **Retention Category U:** It is proposed to remove the Retention Category U tree, T7.

  Trees within this category are in such poor condition that they should be removed regardless of development proposals. Consequently, the removal of Category U trees is not considered to be a direct impact of the development.

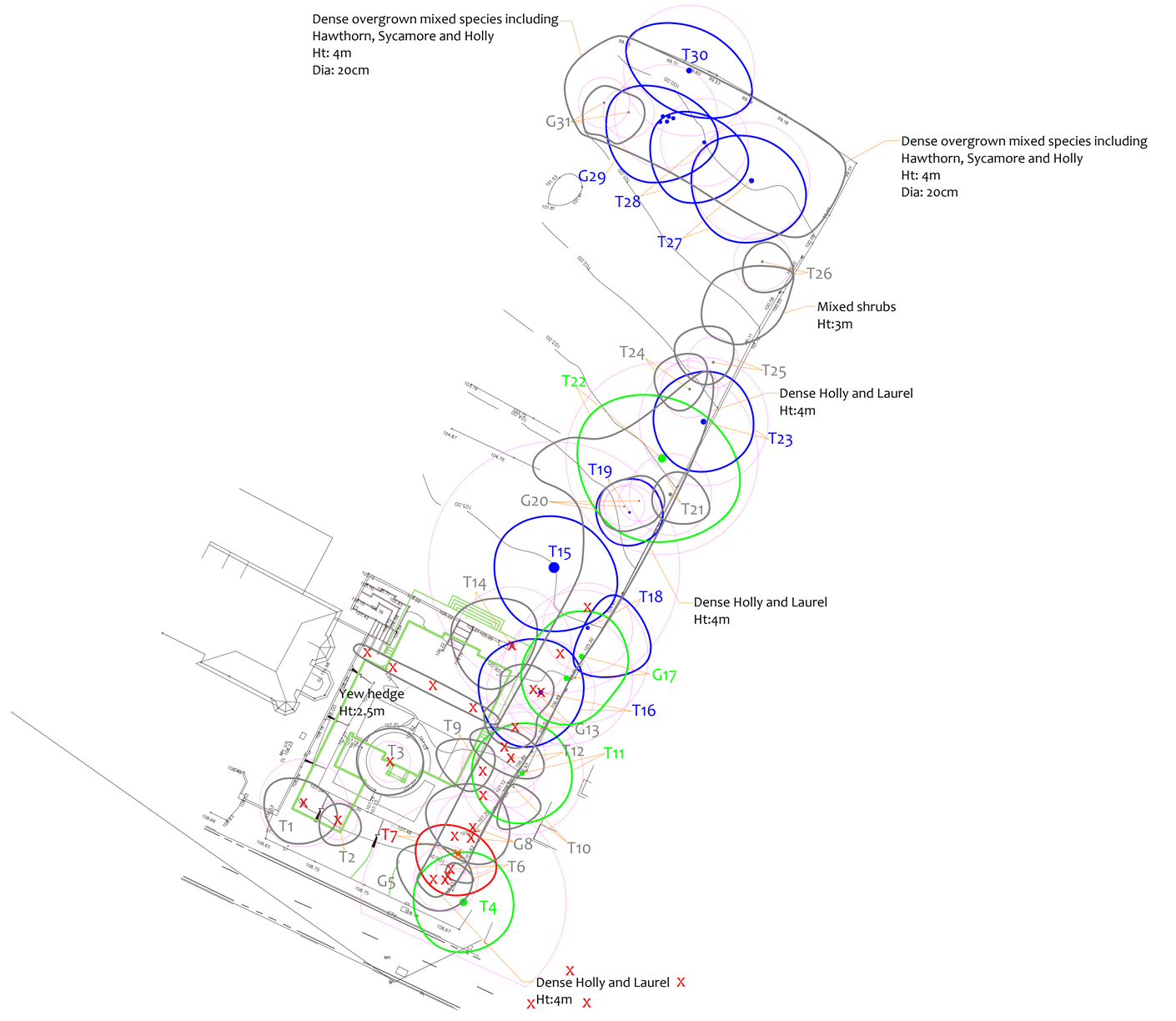
Details specific to each tree can also be found in the Tree Data Schedule.

Mitigation Planting

There is ample scope for new planting to mitigate against tree loss. I understand that it is proposed to plant several new trees as part of a post development landscaping scheme.

See Section 4 for a more detailed assessment

Proposed Layout (Pale Green)



Tree Removal Plan

(Existing Layout with Proposals Overlaid)

Tree Ref.	Species	Height (m)	Root Protection Area		
			Radius (m)	m²	Square (m)
T1	Pissards Plum	5	5.2	84	9.1
T2	Apple	3.5	2.3	16	4.0
T3	Magnolia	3.5	2.4	18	4.3
T4	Ash	15	10.8	366	19.1
G5	Beech	7.5	3.6	41	6.4
T6	Beech	4	1.7	9	3.0
T7	Beech	12	5.0	79	8.9
G8	Beech	12	4.2	55	7.4
T9	Sycamore	5	2.5	20	4.5
T10	Sycamore	6	2.4	18	4.3
T11	Lime	15	7.2	163	12.8
T12	Pear	3	4.0	50	7.1
G13	Holly	5	2.4	18	4.3
T14	Purple Beech	11	7.0	152	12.3
T15	Oak	17	14.8	684	26.2
T16	Ash	13	6.4	127	11.3
G17	Lime	20	7.8	191	13.8
T18	Sycamore	12	5.3	88	9.4
T19	Lime	10	3.2	33	5.7
G20	Cherry	6	2.4	18	4.3
T21	Sycamore	12	4.8	72	8.5
T22	Ash	16	11.3	400	20.0
T23	Sycamore	12	7.6	180	13.4
T24	Sycamore	5	3.4	35	6.0
T25	Apple	2.5	3.0	28	5.3
T26	Sycamore	10	3.4	35	6.0
T27	Oak	12	6.8	147	12.1
T28	Sycamore	12	5.2	84	9.1
G29	Sycamore	12	5.4	92	9.6
T30	Oak	10	7.7	185	13.6
G31	Sycamore	10	3.0	28	5.3

Drawing No:	CCL 10561 / TRP Rev: 1
Title:	Tree Removal Plan (Existing Layout with Proposals Overlaid)
Site:	Land adjacent to 38 The Ridgeway EN6 4AX
Scale:	1:300
Paper Size:	A1

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Arboricultural Consultants
01422 316660

Tree Retention Categories
Stems & canopies shown

Category A tree	Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
Category B tree	Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees
Category C tree	Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
Category U tree	Trees unsuitable for retention due to their very poor condition.

Tree Removal Plan

(Existing Layout with Proposals Overlaid)

BS 5837 Root Protection Area (radius = 12xstem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building.

Root Protection Area having been amended to account for for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

X Tree to be removed to facilitate the proposal

X Tree to be removed due to its low quality

Proposed pruning

MN = Measured North:

Canopy spreads are sometimes measured to an approximate N defined by site features. Often more accurate, especially where rows of trees are not aligned N-S or E-W.

Excerpts from the Arboricultural Impact Assessment

Overview

It is proposed to construct a new detached residential property and garage as indicated on the plans in Appendix 6. The existing layout is indicated in black and the footprint of the proposed layout is indicated in pale green.

A new vehicular access is to be created from The Ridgeway.

The table below summarises the potential impact on trees due to various activities.

Activity	Trees Potentially Affected
Tree Removal: Retention Category A	None
Tree Removal: Retention Category B	T16
Tree Removal: Retention Category C	T1, T2, T3, G5, T6, G8, T9, T12, G13, T14 and the 4m tall dense holly and laurel.
Tree Removal: Retention Category U	T6
Tree Pruning	T11 and G17
RPA: House Foundations	T15, G17 and T10
RPA: Terrace Foundations	T15, G17 and T10
RPA: New Hard Surface	T4
RPA: Replace Existing Hard Surface	None
RPA: Underground Services	Unknown – To be confirmed
RPA: Change of Ground Levels	None
RPA: Soil Compaction	Trees adjacent the construction area (preventable by installing tree protection measures)

Other potentially damaging activities often associated with construction sites include demolition or the careless use of plant machinery, hazardous materials, or fires. All of the above potential impacts are considered in detail throughout this section.

The accompanying Arboricultural Method Statement (duplicated in Appendix 6) specifies the measures proposed to minimise all possible potential risks of damage to the retained trees.

Impact on Tree Canopies

It is proposed to prune back the lower branches of T11 and G17 that are growing towards the proposal in order to create a clearance distance of 2.5m. This shall require the removal of relatively small secondary branches which should be pruned back to a secondary growth point. The pruning works should be undertaken sympathetically (working to BS 3998: 2010 guidelines).

Such a small amount of pruning shall have no impact on local visual amenity and shall not be detrimental to tree health.

All other tree canopies shall be unaffected by the proposals.

Impact on Tree Roots

Building Foundations:

The foundations for the new property will extend into to the very edge of the theoretical Root Protection Areas of T15, G17 and T10. However, only circa 2%, 1.5% and 1% of the Root Protection Areas shall be affected respectively (see the Impact Assessment Plan), so the potential impact is considered to be negligible.

However, in order to minimise the impact on tree roots, a pile and beam or pile and raft foundation is proposed where the building shall extend into the theoretical Root Protection Areas. The following restrictions are proposed:

- Excavation shall be limited to a maximum depth of 400mm to facilitate the installation of a raft or beam foundation.
- Only hand tools shall be used during the excavation.
- If roots in excess of 25mm diameter are encountered close to the edge of the excavation, they shall be retained wherever possible and protected with damp sacking during times that they are unearthed. Any roots that need to be severed shall be pruned with secateurs.
- The raft/beam may be supported on narrow diameter piles (maximum diameter 300mm). Before installing such piles, their location shall be determined by trial pits excavated to a depth of 600mm using hand tools and overseen by the appointed arborist. Trial pit dimensions should not exceed 300mm x 300mm. If any roots in excess of 25mm diameter are encountered, the pile shall be relocated.

Terrace Foundations:

The foundations for the new terrace will extend into to the very edge of the theoretical Root Protection Areas of T15, G17 and T10. Timber decking is proposed for the terrace and the following restrictions are proposed:

- Post holes shall be narrow as possible and shall not exceed 300mm x 300mm.
- Excavation for the post holes shall be undertaken using hand tools and overseen by the local authority tree officer or an approved project arborist.
- Roots in excess of 25mm are to be retained and the post hole relocated.
- A flexible fencing system which permits the relocation of the posts will therefore be necessary.
- All exposed roots over 25mm diameter shall be sleeved to prevent contact with fence posts and cement products.

By adopting such a sympathetic method of installation, it will be possible to retain all significant roots and ensure that the root system will be able to supply the canopy with the required water and nutrients. Hence it is considered that the proposed terrace shall not result in any long-term detrimental impact on the health of T15, G17 and T10.

New Surfaces:

It is proposed to install a new driveway over the Root Protection Area of T4. Although the full extent of the driveway has not yet been confirmed, it shall need to be installed in a sympathetic manner to minimise excavation and compaction of soils. Guidelines are discussed below and proposed in the accompanying Arboricultural Method Statement, which will minimise any impacts on roots.

In order to minimise the impact on roots where the new driveway is proposed over the Root Protection Area of T4, the following mitigation is proposed:

- A suitable load spreading surface shall be in place at all times during demolition and construction activities.
- The new surface shall be installed entirely above ground. Any existing turf or vegetation may be removed along with very loose topsoil. However no further excavation shall occur.
- A gravel sub-base containing no fine particles shall be incorporated into the design. This shall be contained within a 3D cellular confinement system to ensure that the weight of vehicles will be evenly spread over a wide area. This shall prevent excessive soil compaction and reduce the depth of sub-base required.
- A porous surface and sub-base are proposed which will enable passage of oxygen and water to the soils beneath.
- The new surface shall be located in excess of 0.5m from any buttress roots as recommended in BS 5837 (7.4.2.7).

Underground Services:

No underground services should be installed through any Root Protection Area without consulting the project arborist and if necessary, gaining approval from the local authority.

Summary

In order to facilitate the development, it is proposed to remove one Retention Category B tree and thirteen Retention Category C and Retention Category U trees, which are all located internally to the site. the majority of these trees are relatively small and barely visible from public vantage points. Consequently, there shall not be a significant impact on local amenity due to their removal. Several new trees are to be planted to mitigate against tree removal and to ensure tree cover is maintained throughout the site.

T11 and G17 require minimal pruning to create an adequate clearance from the proposal.

A new hard surface is proposed within the RPA of T4. However, a porous surface is proposed using the No-Dig Method as per BS 5837 recommendations. Consequently, the impact on T4 shall be minimal.

Foundations for the new building and terraced area are proposed within the Root Protection Area of T15, G17 and T10. However, the small extent of the RPAs affected coupled with the sympathetic foundation design, shall ensure no detrimental impact on trees.

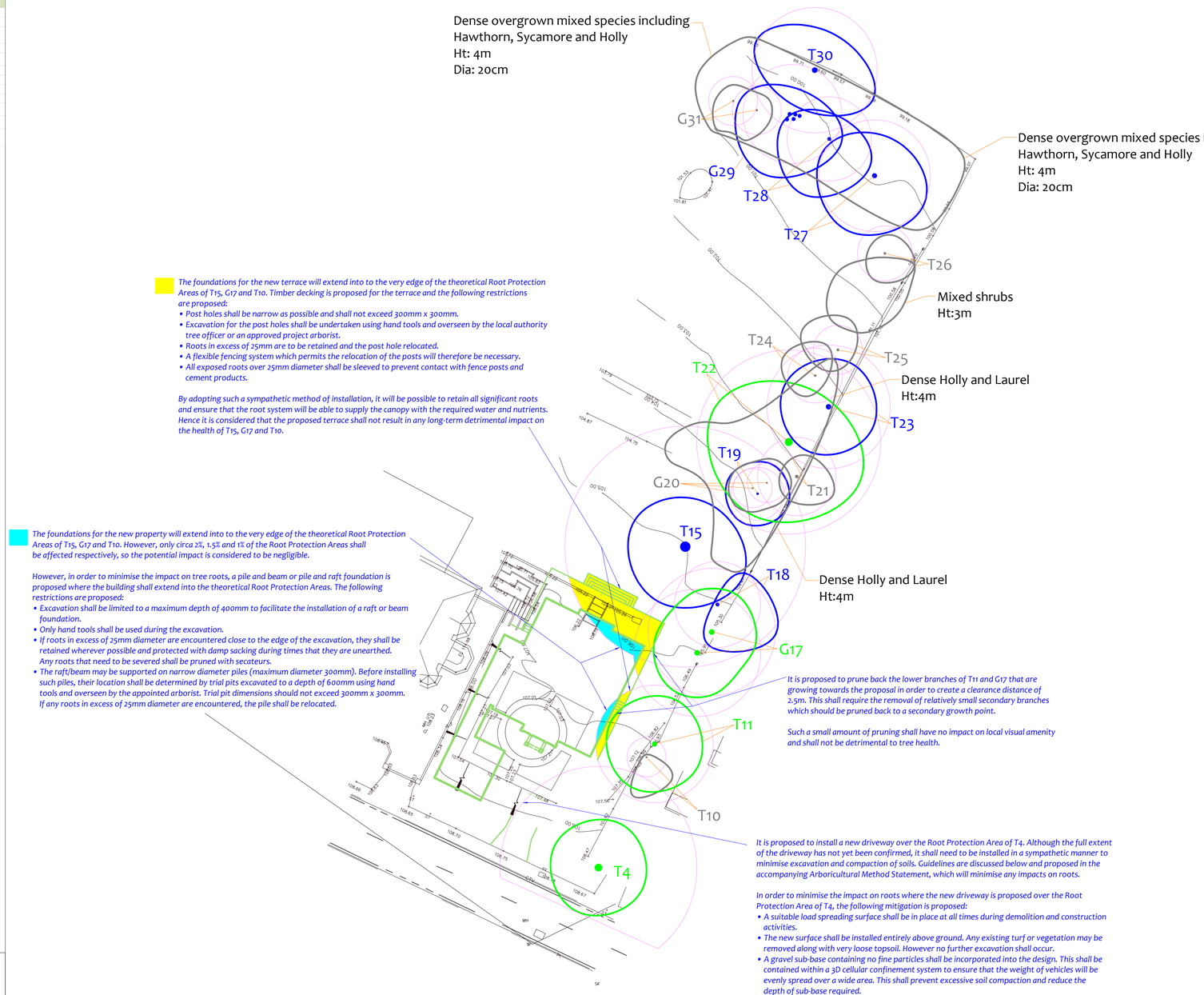
A suitable load spreading surface shall need to be maintained throughout the Restricted Activity Zones A.

Tree protection measures are specified throughout the accompanying Arboricultural Method Statement that will ensure no negative impact on retained trees due to construction activity.

Adequate space has been allowed between the proposal and all trees such that no future pressure to overly-prune or remove trees shall occur as a consequence of the proposal.

See Section 4 for a more detailed assessment

Proposed Layout (Pale Green)



The foundations for the new terrace will extend into to the very edge of the theoretical Root Protection Areas of T15, G17 and T10. Timber decking is proposed for the terrace and the following restrictions are proposed:

- *Post holes shall be narrow as possible and shall not exceed 300mm x 300mm.*
- *Excavation for the post holes shall be undertaken using hand tools and overseen by the local authority tree officer or an approved project arborist.*
- *Roots in excess of 25mm are to be retained and the post hole relocated.*
- *A flexible fencing system which permits the relocation of the posts will therefore be necessary.*
- *All exposed roots over 25mm diameter shall be sleeved to prevent contact with fence posts and cement products.*

By adopting such a sympathetic method of installation, it will be possible to retain all significant roots and ensure that the root system will be able to supply the canopy with the required water and nutrients. Hence it is considered that the proposed terrace shall not result in any long-term detrimental impact on the health of T15, G17 and T10.

The foundations for the new property will extend into to the very edge of the theoretical Root Protection Areas of T15, G17 and T10. However, only circa 2%, 1.5% and 1% of the Root Protection Areas shall be affected respectively, so the potential impact is considered to be negligible.

However, in order to minimise the impact on tree roots, a pile and beam or pile and raft foundation is proposed where the building shall extend into the theoretical Root Protection Areas. The following restrictions are proposed:

- *Excavation shall be limited to a maximum depth of 400mm to facilitate the installation of a raft or beam foundation.*
- *Only hand tools shall be used during the excavation.*
- *If roots in excess of 25mm diameter are encountered close to the edge of the excavation, they shall be retained wherever possible and protected with damp sacking during times that they are unearthed. Any roots that need to be severed shall be pruned with secateurs.*
- *The raft/beam may be supported on narrow diameter piles (maximum diameter 300mm). Before installing such piles, their location shall be determined by trial pits excavated to a depth of 600mm using hand tools and overseen by the appointed arborist. Trial pit dimensions should not exceed 300mm x 300mm. If any roots in excess of 25mm diameter are encountered, the pile shall be relocated.*

It is proposed to prune back the lower branches of T11 and G17 that are growing towards the proposal in order to create a clearance distance of 2.5m. This shall require the removal of relatively small secondary branches which should be pruned back to a secondary growth point.

Such a small amount of pruning shall have no impact on local visual amenity and shall not be detrimental to tree health.

It is proposed to install a new driveway over the Root Protection Area of T4. Although the full extent of the driveway has not yet been confirmed, it shall need to be installed in a sympathetic manner to minimise excavation and compaction of soils. Guidelines are discussed below and proposed in the accompanying Arboricultural Method Statement, which will minimise any impacts on roots.

In order to minimise the impact on roots where the new driveway is proposed over the Root Protection Area of T4, the following mitigation is proposed:

- *A suitable load spreading surface shall be in place at all times during demolition and construction activities.*
- *The new surface shall be installed entirely above ground. Any existing turf or vegetation may be removed along with very loose topsoil. However no further excavation shall occur.*
- *A gravel sub-base containing no fine particles shall be incorporated into the design. This shall be contained within a 3D cellular confinement system to ensure that the weight of vehicles will be evenly spread over a wide area. This shall prevent excessive soil compaction and reduce the depth of sub-base required.*
- *A porous surface and sub-base are proposed which will enable passage of oxygen and water to the soils beneath.*
- *The new surface shall be located in excess of 0.5m from any buttress roots as recommended in BS 5837 (7.4.2.7).*

Impact Assessment Plan

(Existing Layout with Proposals Overlaid)

Tree Ref.	Species	Height (m)	Root Protection Area		
			Radius (m)	m²	Square (m)
T1	Pissards Plum	5	5.2	84	9.1
T2	Apple	3.5	2.3	16	4.0
T3	Magnolia	3.5	2.4	18	4.3
T4	Ash	15	10.8	366	19.1
G5	Beech	7.5	3.6	41	6.4
T6	Beech	4	1.7	9	3.0
T7	Beech	12	5.0	79	8.9
G8	Beech	12	4.2	55	7.4
T9	Sycamore	5	2.5	20	4.5
T10	Sycamore	6	2.4	18	4.3
T11	Lime	15	7.2	163	12.8
T12	Pear	3	4.0	50	7.1
G13	Holly	5	2.4	18	4.3
T14	Purple Beech	11	7.0	152	12.3
T15	Oak	17	14.8	684	26.2
T16	Ash	13	6.4	127	11.3
G17	Lime	20	7.8	191	13.8
T18	Sycamore	12	5.3	88	9.4
T19	Lime	10	3.2	33	5.7
G20	Cherry	6	2.4	18	4.3
T21	Sycamore	12	4.8	72	8.5
T22	Ash	16	11.3	400	20.0
T23	Sycamore	12	7.6	180	13.4
T24	Sycamore	5	3.4	35	6.0
T25	Apple	2.5	3.0	28	5.3
T26	Sycamore	10	3.4	35	6.0
T27	Oak	12	6.8	147	12.1
T28	Sycamore	12	5.2	84	9.1
G29	Sycamore	12	5.4	92	9.6
T30	Oak	10	7.7	185	13.6
G31	Sycamore	10	3.0	28	5.3

Drawing No:	CCL 10561 / TRP Rev: 1
Title:	Tree Removal Plan (Existing Layout with Proposals Overlaid)
Site:	Land adjacent to 38 The Ridgeway EN6 4AX
Scale:	1:300 Paper Size: A1

CROWN
Arboricultural Consultants
01423 316660

Tree Retention Categories
Stems & canopies shown

Category A tree	Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
Category B tree	Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees
Category C tree	Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
Category U tree	Trees unsuitable for retention due to their very poor condition.

Impact Assessment Plan

(Existing Layout with Proposals Overlaid)

BS 5837 Root Protection Area (radius = 12xstem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building.

Root Protection Area having been amended to account for for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

X Tree to be removed to facilitate the proposal

X Tree to be removed due to its low quality

Proposed pruning

MN = Measured North:

Canopy spreads are sometimes measured to an approximate N defined by site features. Often more accurate, especially where rows of trees are not aligned N-S or E-W.

Arboricultural Method Statement

CROWN Tree Consultancy 08000 14 13 30

Site: Land adjacent to 38 The Ridgeway, EN6 4AX

Author: Joe Taylor FdSc (Arboriculture), M. Arbor A

Date: 09 / 04 / 2021 Revision: 1 CCL ref No: 10561

Client: Shaun Knight Architecture

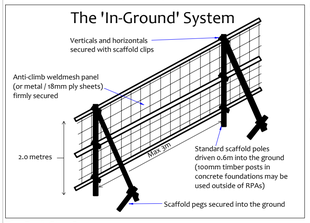
Tree Protection Barriers

The purpose of tree protection barriers is to keep construction activity away from Restricted Activity Zones or Construction Exclusion Zones. They should be appropriate to the nature and proximity of activity within the site. The barriers should be erected prior to the commencement of all activity including demolition, soil stripping and delivery of materials and demolition (except where existing structures require demolition to enable the barriers to be installed). Barrier systems are specified below and should be installed according to the legend on the Tree Protection Plan.

The In-Ground System

This system may be installed where indicated by a solid purple line on the Tree Protection Plan. It should be robust enough to withstand occasional knocks by plant machinery and, once installed, shall remain in place throughout the entire construction phase.

Vertical scaffold poles are driven into the ground, onto which are affixed horizontal scaffold poles and diagonal bracing struts. Weldmesh panels (or similar – e.g. Heras type fencing panels, or 18mm+ plywood boards) are secured to this scaffold framework using sturdy clips e.g. standard scaffold clips. The system is illustrated in the diagram to the right and is based on BS 5837 guidelines.

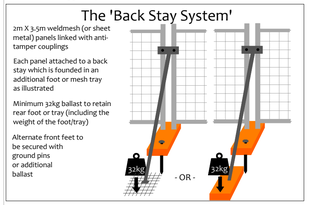


The Back-Stay System

This system may be installed where indicated by a solid or dashed purple line on the Tree Protection Plan. It is more practical over existing hard surfaces or where the fencing needs to be moved to enable permitted activities within a Restricted Activity Zone. This system should be able to withstand occasional knocks by machinery and should not be relocated except with the consent of the site manager and the approval of the local authority.

Within this system, weldmesh fencing panels (minimum height 2m) are affixed into rubber or concrete feet and clipped together with anti-tamper couplers. Two couplers should be used, spaced at least 1m apart. Alternate panels should be attached to a diagonal back stay connected to an additional foot or baseplate secured with ground pins or additional ballast. Where ground pins are not used, the total weight of the foot/plate plus ballast should total not less than 32kg.

Where it is not possible to install diagonal struts (such as very close to a hedge) then the front feet shall be secured using ground pins or ballast.



Notices

Suitable weather-proof notices should be displayed to identify tree protection zones. They should state the purpose of the fencing and that it should not be moved, or traversed, other than by authorised personnel.

Removal of Tree Protection Barriers

Removal of protective fencing or ground protection measures shall be done after all major construction work is complete and their removal has been approved by the appointed arborist.

Ground Protection Measures

Within Restricted Activity Zones, soils containing roots may be subject to compaction due to general construction activity (including pedestrian activity and use of plant machinery). In order to minimise compaction, it is proposed to ensure that a suitable load-spreading surface is in place at all times.

Any existing hard surfacing may be retained where engineers consider it adequate to spread the load of construction traffic. Otherwise it shall be reinforced or replaced with adequate ground protection measures.

Unless specified otherwise, ground protection shall consist of 24mm OSB boards laid at double thickness and screwed together to prevent slippage. The ground shall first be made even by raking, or by adding a few centimetres of sand or woodchip. Where only pedestrian traffic will occur boards or planks may be supported by a scaffold framework. The scaffold may be founded on poles driven into the ground and/or onto blocks (to raise the scaffold) with additional couplings to make the framework secure.

Where engineers consider OSB boards to be inadequate (e.g. for large plant machinery where the tracks may chew up the timber) sturdier ground protection measures will be installed such as road plates, or 100mm of 7–40mm angular gravel installed in 3D cellular confinement system (e.g. Cellweb TM).

If a piling mat is required, engineer's specifications should be referred to.

The ground protection measures shall be installed and approved before commencement of demolition and construction activity and before the arrival of plant machinery or materials. They shall remain in place until all heavy construction activity is complete or until they are due to be replaced with a new hard surface.

Construction Exclusion Zones

Within Construction Exclusion Zones the following restrictions shall apply:

- Tree Protection Barriers shall be erected and maintained throughout the entire project as indicated on the Tree Protection Plan and under the header -*Tree Protection Barriers*.
- These shall remain in place at all times except when authorised landscaping works are being undertaken. At such times, adequate ground protection measures shall be installed, and excavation shall be limited to that required for new planting. Furthermore, the project arborist shall be consulted prior to any works being undertaken in these zones.
- No construction activity or excavation shall occur unless agreed otherwise by the project arborist and local authority.
- No vehicles or plant machinery shall be driven or parked.
- No tree works, other than those specified on this document shall be undertaken.
- No alterations of ground levels or conditions shall occur.
- No chemicals or cement washings permitted.
- No temporary structures shall be installed.
- No spoil shall be stored.
- No fires shall be permitted.
- All hazardous materials (including non-essential cement products) shall be forbidden.
- Removal of hard surfaces, structures or turf shall be done using hand operated tools only and supervised by the project arborist.

Tree Works Specification

The following table specifies the tree works which will be required prior to the commencement of construction activity:

Tree Reference	Action Required	Notes
T1, T2, T3, G5, T6, G8, T9, T12, G13, T14, T16 and the 4m tall dense holly and laurel.	Remove.	Stumps of trees within the RPAs of retained trees shall be removed with a stump grinder NOT a mechanical excavator.
T11 and G17	Trim canopy to create a clearance distance of 2.5m from the proposal.	Branches to be pruned back to a secondary branch junction or the branch collar wherever possible. Pruning to be kept to a minimum to achieve the desired clearance of 2.5m.

New Surfaces

No-Dig Surface: Ground Preparation

This section specifies the *No-Dig* Method which must be used when installing any new hard surface surfaces in Restricted Zones.

Ground Preparation: Existing Hard Ground

- Where a hard surface already exists this shall be carefully removed in as small sections as possible and overseen by the project arborist.
- Small plant machinery (such as a Bobcat) may be used if carefully marshalled by the project arborist. If possible, the machinery should operate from outside of RPAs. Otherwise, suitable ground protection should be installed to prevent soil compaction over tree roots.
- The aggregate sub-base may be retained & reused. Otherwise it shall be carefully removed using hand tools so long as it does not contain any roots in excess of 25mm diameter.

Ground Preparation: Existing soft Ground

- Shrubs and perennials should be removed. Turf maybe lifted to a depth of 50mm using a hand operated turf lifting machine or a spade. Mechanical excavators shall not be used.
- Herbaceous roots may be removed using hand tools such as a garden fork or hand trowel. If any shrubs or trees have been removed, their roots may also be removed using hand tools.
- If the soils are firm enough all excavation should then cease and the new surface sub-base installed over a geotextile.
- However, the upper soil horizons may be carefully removed using hand tools to a **depth of 150mm maximum** if engineers deem that the soils are too rich in organic matter and therefore do not have the required load bearing capacity. This should be done using hand tools only, in strata of 50mm and overseen by the project arborist.
- However, all woody roots in excess of 25mm diameter (belonging to retained trees) shall remain intact. Small diameter roots (less than 25mm) that lie immediately beneath the proposed surface may be pruned if deemed appropriate by the project arborist.
- If roots in excess of 25mm diameter are encountered, the excavation shall cease and levels shall be built up accordingly using a reduced-fines aggregate. At least 150mm of coarse sand should cover any unearthed roots prior to the installation of a geotextile and reduced fines aggregate. Such exposed roots should be covered and protected soon after discovery.

Installing the Surface

Surface Edgings. Edging solutions requiring further excavation (e.g. kerbstones set in a trench) will not be used Instead, an above ground system shall be installed such as a tanalised timber edge retained by timber pegs driven into the ground, railway sleepers or custom-made steel edgings held in place by ground pins or by the surface subbase. The specific system adopted should be approved by the appointed arborist.

If preferred, batter slopes may be installed to tie in with existing ground levels (max 1:3 gradient, maximum 100mm increase in ground level). However, no increase in ground level may occurr immediately adjacent to any tree stem or exposed buttress roots.

The sub-base. Once the edgings are in place, a geotextile membrane shall be laid down to prevent root penetration into the road surface. A thin layer (up to 35mm) of angular gravel or crushed aggregate gravel (*reduced-fines or no-fines*) may then be laid over the membrane and levelled off.

A 3 dimensional cellular system should then be installed. This may either be a confinement system (flexible or rigid) which incorporates an aggregate, or a raft system that requires no aggregate. These three systems are all considered suitable for use over tree roots and are specified below:

1) Rigid Cellular System – This is a 3 dimensional cellular confinement system with a minimum thickness of 40mm. This may be filled with 7–14mm angular gravel.

The entire cellular system shall be laid first and may be pinned in place using ground pins. This shall be followed by the infill, working from one end such that heavy machinery does not pass over any Root Protection Areas until the in-fill is installed.

2) Flexible Cellular System – see illustration. This will be filled with a no fines angular in-fill (e.g. 7 – 14mm or 20 – 40mm gravel).

A 100mm deep system is generally adequate to cope with light traffic, though this should be verified with the manufacturer and engineers. A limestone based in-fill will not be acceptable. Enough infill should be used to allow for settlement and compaction and no more. If required, the infill may be periodically topped up.

The entire cellular system shall be laid first and may be pinned in place using ground pins. This shall be followed by the infill, working from one end such that heavy machinery does not pass over any Root Protection Areas until the in-fill is installed. The entire system may then be lightly compacted to a degree appropriate for the expected load.

Up to 50mm of 2 - 6mm clean hard grit (no fines) angular granular fill may be overlaid as a laying course.

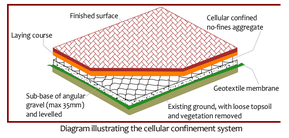


Diagram illustrating the cellular confinement system

Installing the Surface – Continued

3) Raft System (e.g. Arboraft™) – In this system, 85mm or 150mm deep polypropylene box structures are connected together to form a raft which sits above the ground and beneath the finished surface.

For situations other than very light usage, the 150mm system is recommended. This should be laid over a suitably thick geotextile. Another geotextile (or similar) is laid over the raft and any finished surface may then be installed according to engineers specifications. The finished surface may be porous or may be impermeable. If impermeable, ventilation and rainwater run off should be directed into the void. The overall thickness is likely to vary from 300mm to 450mm depending on the specification of the finished surface.

The advantage of this type of system (regarding roots) is that it is very light-weight (requiring no aggregate) and has an excellent load spreading capacity (reducing soil compaction) whilst also providing maximum aeration and rainwater to the soils beneath. It can also be a very cost effective solution since no aggregate needs to be purchased and installed.

The Finished Surface. The following surfaces are acceptable over rooting areas:

- **No-Fines gravel.** This option offers the maximum permeability. However, loose gravel should be avoided close to the site entrance as it has a tendency to spill out into the adjacent public footway. Resin bonded gravel may be acceptable if it is shown to be sufficiently porous to enable rainwater to easily pass through to the sub-base below.
- **Block paving.** This is a good alternative as it allows a fair degree of permeability. Blocks with extra wide nibs shall be utilised to enable maximum infiltration of water between the blocks. Blocks shall be jointed with 1mm – 4mm clean hard crushed stone (no fines) brushed over the spaces and settled with the aid of a vibrating plate compactor.
- **Porous asphalt to BS EN 13108-7 (previously Pervious Macadam BS 4987 – 1 & 2). This** offers a degree of permeability and is preferred over concrete or asphalt containing-fines (e.g. *Stone Mastic Asphalt* (BS EN 13108-5) or *Hot Rolled Asphalt* (BS EN 13108-4)). This surface may require a porous binder course. Actual specification will vary according to ground conditions and expected load, and should be agreed with a Highways Engineer or Geotechnical engineer.
- **Concrete.** Concrete is impermeable so is only suitable for very small areas e.g. narrow paths where oxygen and rainwater runoff will be able to penetrate beneath the surface from the sides. It is possible to engineer a fully concrete solution whereby a concrete slab is supported by narrow piles with a ventilated void beneath. This is effectively a bridge over the Root Protection Area and needs to be specified by an appropriately qualified engineer. This system can provide an excellent solution but is rarely adopted due to the prohibitive cost.

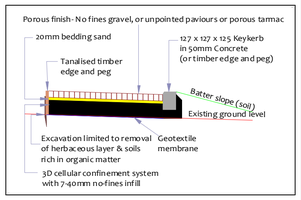


Illustration of No-Dig Method

Restrictions in Specific Zones

Restricted Activity Zone A

Within this zone trees roots are likely to be present where access will be required to facilitate construction. The following restrictions shall apply:

- No vehicles or plant machinery shall park or operate unless a suitable load spreading surface is in place. The load spreading surface shall be installed and/or maintained as specified under the heading **Ground Protection Measures**. This shall remain in place throughout the entire demolition and construction phase or until any new permanent hard surfacing is installed. Any pedestrian activity other than very occasional shall also require a suitable load spreading surface.
- Removal of existing structures such as, walls, steps and hard surfaces (where applicable) shall be undertaken using hand tools or a mechanical excavator operating from outside the Restricted Activity Zone and carefully marshalled by the project arborist.
- No excavation shall occur beneath any existing hard surfacing and its sub-base or beneath the foundations of any structure such as wall, steps or patio.
- No further excavation shall occur in this zone without consulting the project arborist and obtaining approval from the local authority.
- Existing ground levels shall be retained undisturbed or raised by no more than 150mm. Ground levels may only be raised using granular topsoil (not rich in clay) or where new surfacing is proposed.
- No new permanent or temporary structures shall be erected other than those shown on the planning application documents unless approved by the local authority.
- Underground services shall not be installed in this area without prior consultation with the project arborist and a methodology agreed and approved by the local authority.
- If roots are encountered in excess of 25mm diameter, they shall be retained wherever possible and protected with damp sacking during times that they are unearthed. Any roots in excess of 50mm that need to be severed shall be pruned with secateurs.
- Storage of materials and spoil shall be avoided unless it has been agreed with the project arborist that the ground protection measures are adequate to ensure no soil compaction or contamination occurs. All hazardous materials (including non-essential cement products) shall be forbidden.
- No fires shall be permitted.

When installing the new driveway over the Root Protection Area of T4, the following restrictions shall apply:

- No other building works shall be permitted.
- Prior to the new surface being installed, no vehicles or plant machinery shall drive, operate or park until unless ground protection measures are implemented as specified under the heading **Ground Protection Measures**. (Any existing hard surfacing may be retained in place of ground protection measures.)
- The new surface shall be installed according to the No-Dig method as specified under the header – **New Surfaces**.
- No vehicles or machinery shall pass over this area prior to the installation of the new surface unless ground protection measures are in place.

Restricted Activity Zone B

In this zone foundations are to be installed. In order to minimise the impact on roots, it is proposed to install a Shallow Foundation. The following restrictions shall apply:

- Deep concrete strip foundations shall not be acceptable in this area. Instead shallow raft or beam foundations shall be installed.
- Excavation for the raft or beam shall be limited to a depth of 400mm and shall be undertaken using hand tools. A mechanical excavator may only be used if agreed by the project arborist overseeing the excavation and if it operates from a suitable load spreading surface. Hand tools shall always be used to probe the upper soil horizons before any mechanical excavation occurs.
- Excavation shall not exceed 250mm beyond the building footprint unless approved otherwise by the local authority.
- Roots in excess of 25mm which are located close to the bottom or the edge of the excavation are to be retained intact if possible and covered with wet sacking whilst exposed. All roots in excess of 10mm which cannot be retained shall be neatly pruned with secateurs.
- Narrow diameter piles may be installed to support the raft or beam foundation. In which case, trial pits shall be excavated to determine the location of the piles. Trial pits shall be 300mm x 300mm and excavated using hand tools to a depth of 600mm. Excavation shall be undertaken in the presence of project arborist. Soil shall first be loosened with a garden fork to ascertain if large roots are present before the loosened soil is removed with a spade. If roots in excess of 25mm are encountered, they shall be retained intact wherever possible and the pile shall be relocated. Roots in excess of 10mm shall be pruned using sharp secateurs. Beyond this depth, piles may be installed using an auger or piling rig. Pile diameter shall not exceed 250mm unless agreed otherwise with the local authority.

Restricted Activity Zone C

In this zone foundations for the new terrace are to be installed. The following restrictions shall apply:

- Post holes shall be narrow as possible and shall not exceed 300mm x 300mm.
- Excavation for the post holes shall be undertaken using hand tools and overseen by the local authority tree officer or an approved project arborist.
- Roots in excess of 25mm are to be retained and the post hole relocated.
- A flexible fencing system which permits the relocation of the posts will therefore be necessary.
- All exposed roots over 25mm diameter shall be sleeved to prevent contact with fence posts and cement products.

General Restrictions - Throughout the Site

Preparatory Works

No demolition, removal of surfaces, or soil stripping shall commence until the protective fencing and ground protection measures are installed to the satisfaction of the local authority.

Fires

No fires shall be permitted beneath any tree canopy or within 5m of any tree stem, branch or foliage. No fires shall be permitted within any Construction Exclusion Zone or Restricted Activity Zone. No fires shall be permitted in the vicinity of any exposed tree roots.

Canopy Protection

In order to protect tree canopies the following restrictions shall apply throughout the site:

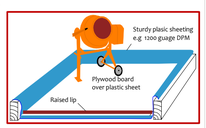
- No machinery in excess of 2m shall pass beneath the canopy of any tree without being carefully marshalled in order to ensure that no branches are damaged.
- If materials require installation or delivery beneath tree canopies, this shall be done without the use of overhead cranes.
- If materials are to be installed or delivered close to tree canopies (but not beneath them) and a crane is required, they shall be carefully marshalled in order to ensure that branches are not accidentally damaged.

Storage of Spoil and Materials

Storage of materials and spoil shall be avoided in any Construction Exclusion Zones and Restricted Activity Zones unless it has been agreed with the project arborist that the ground protection measures are adequate to ensure no soil compaction or contamination occurs. All hazardous materials (including non-essential cement products) shall be forbidden.

Hazardous Materials

Any mixing of cement based materials shall take place outside the Construction Exclusion Zones and Restricted Activity Zones. Where cement is to be mixed at considerable distances from trees and water run-off cannot enter Root Protection Areas, then no further special measures are required. Otherwise, provision shall be made to ensure that the mixing area is contained so that no water run-off enters the Root Protection Area of any trees (see diagram for example). Mixers and barrows shall be cleaned within this area.



All other chemicals hazardous to tree health, including petrol and diesel, shall be stored in suitable containers as specified by current COSHH Regulations, and kept away from Root Protection Areas.

Underground Services

No underground services (including soak-aways) shall be located in any part of the Construction Exclusion Zones or Restricted Activity Zones unless done so in a manner detailed in a specific Method Statement and approved by the local authority.

Site Hoarding

If site hoarding shall be installed over the Root Protection Area of any tree, the following restrictions shall apply:

- Ground levels shall be maintained as existing.
- Post holes shall not exceed 300mm x 300mm.
- No post hole shall be excavated within 1.5m of any tree stem.
- Post holes shall be excavated using hand tools or by a post-hole auger attached to plant machinery sited outside of Root Protection Areas.
- Roots in excess of 25mm shall be retained wherever possible.
- Roots in excess of 10mm shall be pruned with sharp secateurs.
- Pruning shall be minimal and only undertaken where absolutely necessary to facilitate the site hoarding. It shall be undertaken by a reputable tree surgeon working to BS 3998 (2010).

Site hoarding may be installed in place of the specified tree protection measures subject to the approval of the local authority with regard to its location and specification.

Siting of Cabins

Cabins shall be located outside of Construction Exclusion Zones and Restricted Activity Zones unless agreed otherwise by the project arborist. Where this is being considered, the project arborist shall be consulted and specific tree protection measures agreed. The following general restrictions will apply:

- All services to and from site cabins shall be installed above ground through any Root Protection Areas.
- No excavation shall occur within Root Protection Areas to enable cabins to be installed.
- The cabins shall be founded on a suitable load spreading surface.

Use of Heavy Plant

All machinery operatives are to be made aware of any Construction Exclusion Zones and Restricted Activity Zones that apply to this site.

All machinery operatives are to respect these zones and ensure that no damage occurs to trees due to the careless use of machinery.

Mechanical excavators should have tracks rather than wheels to help spread their load. They should be carefully marshalled when working close to tree canopies.

Scaffolding

If scaffolding is required in areas containing ground protection measures, the protective boards shall need to remain in-situ and be strengthened and stabilised to bear the weight of scaffold poles.

Prior to the installation of any scaffolding within 0.5m of any tree branches, the project arborist shall be consulted to specify any pruning works that may be required.

Timing of Operations

Activity within the site shall be phased according to the following chronology

Order	Phase	Activity
1st.	Pre-Construction Phase	Planning conditions relating to trees to be identified and discussed with the Project arborist and site manager.
2nd.		All specified tree removal and pruning to be undertaken (see Header -*Tree Works Schedule*).
3rd.		Install the tree protection barriers (fencing and ground protection boards - see Headers -*Tree Protection Barriers* and *Ground Protection Measures*).
4th.		Pre-Commencement site meeting: Tree protection barriers inspected. Additional protection measures to be agreed. Variances to be agreed. Location of underground services to be agreed. Boundary treatments to be agreed. Extents of excavation to be agreed. Scaffold restrictions to be agreed. Scope of future inspections / monitoring to be agreed.
5th.		Arboricultural Method Statement to be revised and approved inecessary.
		Protection measures confirmed acceptable by the local authority
6th.	Demolition and Construction Phase	Demolish existing structures and remove existing surfaces where applicable.
7th.		Install new buildings, hard surfaces and services taking into account restricted activities as specified in this Arboricultural Method Statement.
8th.		Site meeting with project arborist. Landscaping restrictions to be agreed. Condition of retained trees to be assessed and mitigation agreed. Ground conditions to be assessed and ground remediation to be agreed.
9th.	Post-Construction Phase	Remove protective barriers (fencing and ground protection measures as applicable).
10th.		Undertake restricted landscaping operations within Root Protection Areas, including (where applicable) boundary treatments, pedestrian surfaces, decking and any proposed tree planting.

Site Monitoring Schedule

Inspection	Site Attendees	Comments
Pre- Start Desk-top To occur prior to any works taking place on the site.	N/A.	Project Manager and Site manager to study this Method Statement & contact the Project Arborist to agree all protection measures.
Pre-Start Meeting After tree works completed & tree protection barriers / ground protection measures installed. Prior to any other activity, inc. demolition & soil stripping.	Site manager, project arborist. Tree Officer invited.	Tree protection fencing locations & specification checked. Ground protection measures checked. Contractors to be inducted to all relevant aspects of the Arboricultural Method Statement. Responsibilities checked and acknowledged. Adherence to the Arboricultural Method Statement to be discussed and agreed. Report on findings to be sent to the local authority tree officer (see accompanying reporting template)
Monthly Inspection and Reporting To occur once per calendar month throughout the entirety of the project until the local authority agree that tree protection measures may be removed	Site manager and project arborist.*	Tree protection fencing locations & specification checked. Ground protection measures checked. Past month, present and future month – activities and adherence to Arboricultural Method Statement discussed and checked. Report on findings to be sent to the local authority tree officer within 5 working days.
Overseeing Installation of hard surface in Restricted Activity Zones. Excavation and initial stage of installation to be overseen.	Site manager and project arborist.*	Two week's notice to be given prior to commencement. Preparatory excavations to be overseen. Commencement of installation to be overseen. Activities to be recorded and photographed. Mitigation measures to be employed specified by the project arborist.
Overseeing Installation of foundations in Restricted Activity Zone B. All excavation to be overseen.	Site manager and project arborist.*	Two week's notice to be given prior to commencement. Excavation to be as specified in this Method Statement. Roots to be retained or pruned as specified in this Method Statement. Activities to be recorded and photographed. Mitigation measures to be employed specified by the project arborist.
Post-Construction Meeting Post external construction activity but prior to removal of fencing & landscaping operations.	Site manager, project arborist. Tree Officer invited.	Retained trees inspected. Ground conditions assessed and mitigation measures agreed where appropriate. Further landscaping operations and restrictions to be agreed.

* Where agreed with the L.A. it may be acceptable to supply photographs of the fencing to avoid the necessity for a site visit.

Tree Protection Plan

CROWN Arboricultural Consultants 01422 316660

BS 5837 Root Protection Area (radius = 12xstem diameter)

Root Protection Area needing amendment due to site conditions, e.g. presence of exising road or building.

Root Protection Area having been amended to account for for site conditions

T1 = Tree No 1 G2 = Group No 2 H3 = Hedge No 3

Tree Retention Categories
Stems & canopies shown

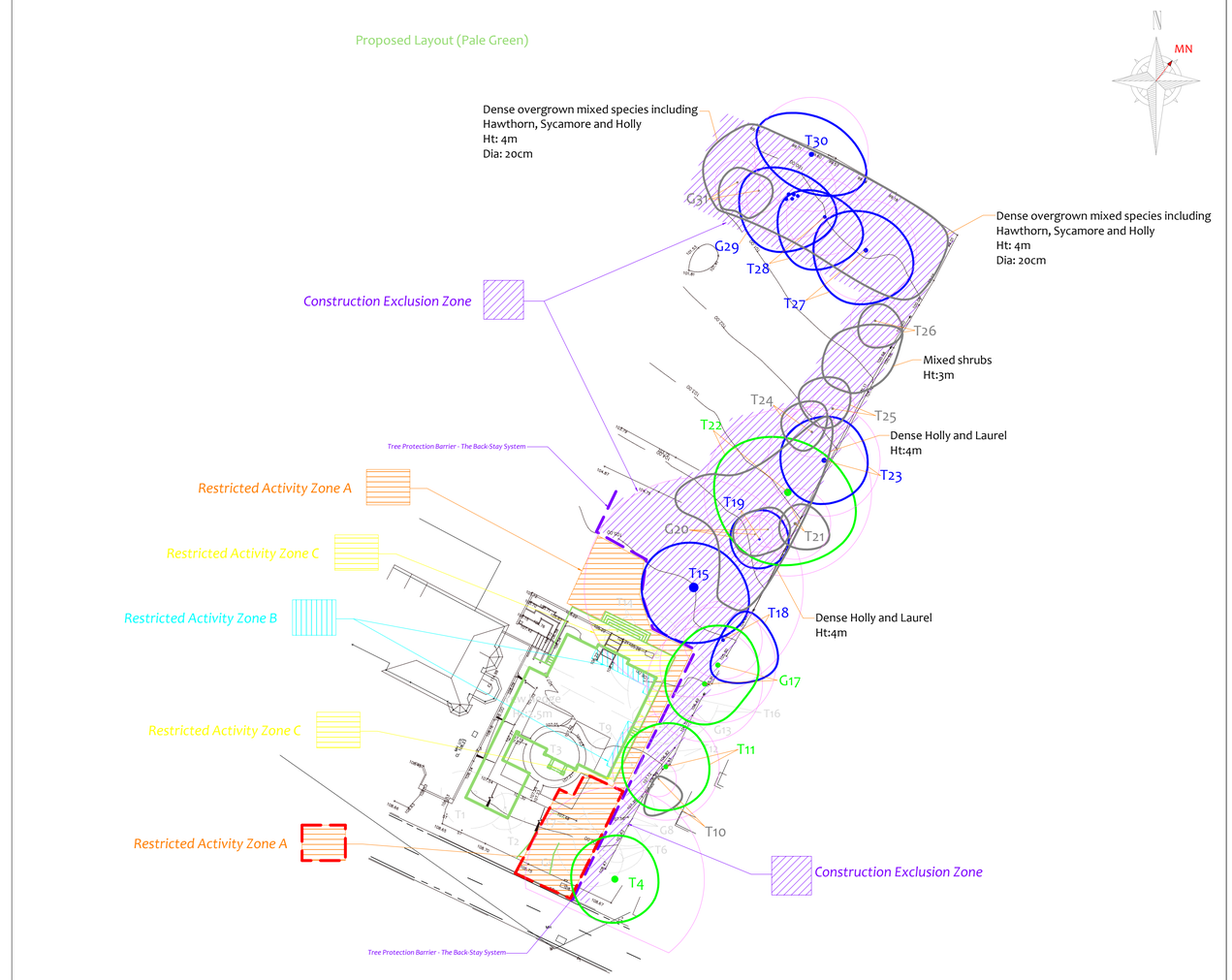
Category A tree	Trees of high quality with an estimated life expectancy of 40+ years. Usually large trees with significant presence or smaller trees with excellent form. Retention of these trees is highly desirable.
Category B tree	Trees of moderate quality with a life expectancy of 20+ years. Usually maturing trees, or younger trees with good form. Retention of these trees is desirable though less than Category A trees
Category C tree	Unremarkable trees of low quality and merit. Individual specimens are not considered to be a material planning consideration.
Category U tree	Trees unsuitable for retention due to their very poor condition.

Drawing No: CCL 10561 / TPP Rev: 1

Title: Tree Protection Plan (Existing Layout with Proposals Overlaid)

Site: Land adjacent to 38 The Ridgeway EN6 4AX

Scale: 1:200 (0 5 10m) Paper Size: A1



Personnel and Accountability

This table should be completed at the Pre-Start Meeting or earlier

Position	Name	Contact Phone & email	Roles
Project Manager	Insert Details	Insert Details	Liaising with site manager & project arborist regarding any potential issues relating to trees. Scheduling of meeting, excavations and inspections. Overseeing this monitoring schedule. Instructing the project arborist and arranging access. Liaising with local authority regarding discharge of planning conditions and variances to the Arboricultural Method Statement.
Site Manager	Insert Details	Insert Details	Day to day monitoring of tree protection measures. Fortnightly supply of site photographs showing all tree protection measures. Induction of all contractors. Reporting to the Appointed Arborist of any incidents or potential variations to the agreed tree protection measures.
Project Arborist	Crown Tree Consultancy	08000 14 13 30 0203 797 7449 Info@crowntrees.co.uk	Liaising with LPA Tree Officer over all arboricultural matters. Initial inspection and signing off of tree protection barriers including ground protection measures. Monthly site visits and inspections. Oversight of excavation for basement down to 1.2m in Restricted Zones. Reporting to the local authority following site inspections and any variation or incidents.
Local Authority	Welwyn Hatfield Council	Contact Centre 01707 357 000 Trees landscapes@welhat.gov.uk Planning Applications planning@welhat.gov.uk	Receipt of reports from the appointed arborist. Liaising with the appointed arborist to agree suitability of tree protection measures and any variations. Enforcement. Advice and assistance with the discharge of planning conditions relating to trees.
Additional Contact	Insert Details	Insert Details	Insert Details
Additional Contact	Insert Details	Insert Details	Insert Details

Tree Data

Tree Ref.	Species	Height (m)	Root Protection Area		
			Radius (m)	m²	Square (m)
T1	Pissards Plum	5	5.2	84	9.1
T2	Apple	3.5	2.3	16	4.0
T3	Magnolia	3.5	2.4	18	4.3
T4	Ash	15	10.8	366	19.1
G5	Beech	7.5	3.6	41	6.4
T6	Beech	4	1.7	9	3.0
T7	Beech	12	5.0	79	8.9
G8	Beech	12	4.2	55	7.4
T9	Sycamore	5	2.5	20	4.5
T10	Sycamore	6	2.4	18	4.3
T11	Lime	15	7.2	163	12.8
T12	Pear	3	4.0	50	7.1
G13	Holly	5	2.4	18	4.3
T14	Purple Beech	11	7.0	152	12.3
T15	Oak	17	14.8	684	26.2
T16	Ash	13	6.4	127	11.3
G17	Lime	20	7.8	191	13.8
T18	Sycamore	12	5.3	88	9.4
T19	Lime	10	3.2	33	5.7
G20	Cherry	6	2.4	18	4.3
T21	Sycamore	12	4.8	72	8.5
T22	Ash	16	11.3	400	20.0
T23	Sycamore	12	7.6	180	13.4
T24	Sycamore	5	3.4	35	6.0
T25	Apple	2.5	3.0	28	5.3
T26	Sycamore	10	3.4	35	6.0
T27	Oak	12	6.8	147	12.1
T28	Sycamore	12	5.2	84	9.1
G29	Sycamore	12	5.4	92	9.6
T30	Oak	10	7.7	185	13.6
G31	Sycamore	10	3.0	28	5.3