



Arboricultural Impact Assessment (including Tree Survey)

**Land South of Halifax Road,
Penistone**

Report reference: AR-3706-02
March 2020

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| Report Title: | Arboricultural Impact Assessment (Including Tree Survey) Land South of Halifax Road, Penistone |
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Appendix 1 Tree Survey including Tree Constraints Plan DR-3706-01

Appendix 2 Planning Layout 2001.01-B by Sten Architecture

Summary Statement

The Site is rural, pastoral farmland on a village edge location, adjacent to Halifax Road (A629).

The tree survey comprised eighteen individual trees, of which two are inside the Site and two straddle the Site boundary. The remaining 14 trees are just outside the Site boundary. Five trees are assessed as retention category A (27.8%), five trees as retention category B (27.8%) and eight trees as retention category C (44.4%) including T5 and T13 Elders verging on category U due to late age.

The trees are on the periphery of the Site and none are identified as for removal for the proposed residential scheme. A large ash in the south-west corner has features indicative of veteran or transition veteran and should be retained with restricted access and monitored. Tree protection fencing is recommended to protect tree canopies and root protection areas which extend into the Site. Landscape works are included within the scheme. Refer to the Planning Layout in Appendix 2 for reference.

Introduction

Purpose of the report

1. This report has been commissioned by Barratt Homes and David Wilson Homes to provide professional independent, detailed arboricultural advice on relevant trees present at land south of Halifax Road at the edge of Penistone.
2. A Planning Layout plan (drawing ref: 2001.01-B) has been provided in PDF format by Sten Architecture to enable an initial impact assessment of the proposed residential works on the existing relevant trees within the Site and is included at the back of this report for reference. A Tree Protection Plan may be required for clarification. The proposals include houses with gardens, access roads, three areas of public open space and landscape buffering.

Impact Schedule

The following schedule identifies the individual tree and its retention category with the main feature(s) of the proposed works likely to cause an impact as based on the Planning Layout plan. The tree references are shown on the tree constraints plan. Any mitigation measures are noted.

| Tree ref. | Species | Retention category | Proposal feature | Impact | Mitigation |
|-----------|-------------------------|--------------------|------------------|--|---|
| T1 | Rowan | C 2 | Plot 50 garden. | Outside Site boundary, canopy overhangs Site and root protection area (RPA) within Site. | Tree protection barrier to BS5837:2012. |
| T2 | Hawthorn and dead elder | C 2 | Plot 50 garden. | Outside Site boundary, root protection area (RPA) within Site. | Tree protection barrier to BS5837:2012. |

| Tree ref. | Species | Retention category | Proposal feature | Impact | Mitigation |
|-----------|-------------------------------------|--------------------|--|--|---|
| T3 | Japanese cherry | C 2 | Plot 50 garden. | Outside Site boundary, canopy overhangs Site slightly. | Tree protection barrier to BS5837:2012. |
| T4 | Ash (Early Ancient Veteran tree) | A 3 | Access drive and small turning head for plot 172. Public open space area. | Potential RPA incursion – to be confirmed. | Use of no-dig, permeable paving type within RPA. No ground level changes or excavations within RPA. Tree protection barrier to BS5837:2012. Tree permanently protected from access with a timber post and rail fence. |
| T5 | Elder | U/C 3 | Garden of plot 200/201 and fencing. | Minor pruning may be required. | Tree protection barrier to BS5837:2012. |
| T6 | Sycamore | B 2 | Area of public open space. | Outside Site boundary. Canopy extends into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T7 | Oak | A 2 | Area of public open space. | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T8 | Goat willow | C 2 | Area of public open space. | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |

| Tree ref. | Species | Retention category | Proposal feature | Impact | Mitigation |
|------------|----------|--------------------|----------------------------|--|--|
| T9 | Ash | B 2 | Area of public open space. | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T10 | Elder | C 3 | Area of public open space. | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T11 | Ash | B 2 | Area of public open space. | Outside Site boundary. Canopy extends into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T12 | Ash | B 2 | Area of public open space. | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T13 | Elder | C 3/ U | Area of public open space. | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T14 | Sycamore | A 2 | Gardens of plots adjacent. | No impact expected due to distance. | None required. |
| T15 | Oak | A 2 | Garden of plot 208. | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. |

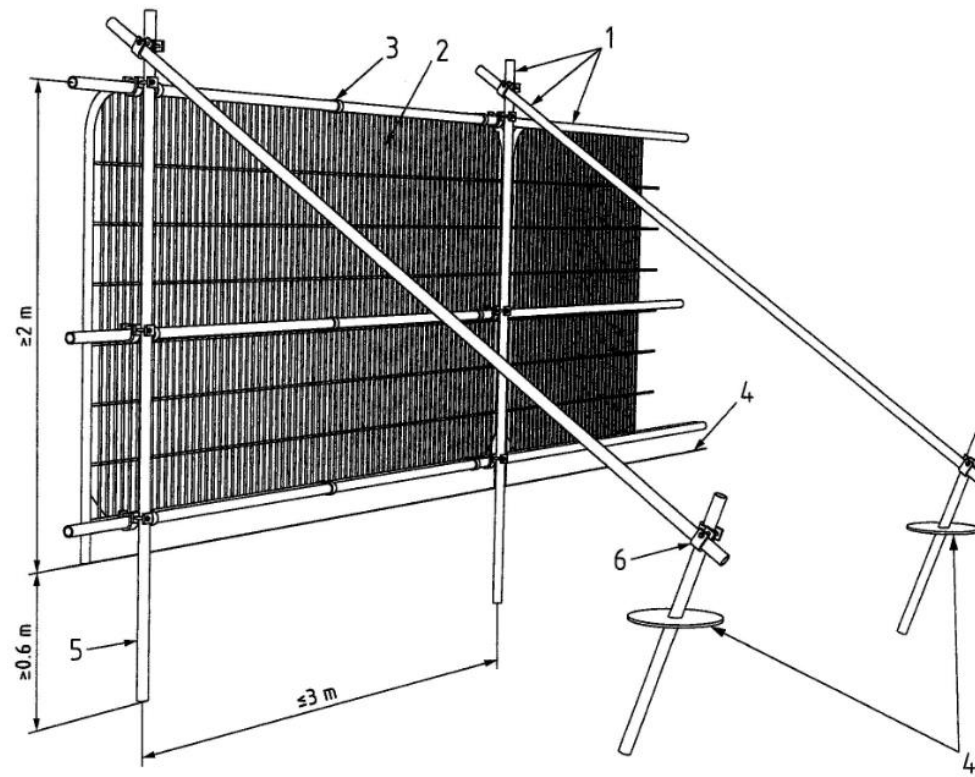
| Tree ref. | Species | Retention category | Proposal feature | Impact | Mitigation |
|------------|----------|--------------------|------------------------|---|--|
| | | | | | No ground level changes within RPA. |
| T16 | Hawthorn | C 2 | Garden of plot 329. | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T17 | Hawthorn | B 2 | Garden of plot 338/339 | Outside Site boundary. Canopy and RPA extend into Site. | Tree protection barrier to BS5837:2012. No ground level changes within RPA. |
| T18 | Beech | A 1 | Garden areas. | Outside Site boundary. No impact expected as canopy and RPA barely extend into Site. | Tree protection barrier to BS5837:2012 if required. |

Implications for retained trees

Tree protection

3. All the trees surveyed in the Tree Survey AR-3706-01 would be retained with protection during the development works where necessary.
4. Trees should be protected from unwanted damage during construction works with temporary tree protection barriers. The barriers should be erected to the outer edge of the tree canopy or the edge of the RPA, whichever is the furthest away from the tree, unless otherwise indicated on the Tree Protection Plan – to be confirmed.

5. Tree protection barriers should be the default specification for protective barrier, Figure 2, BS 5837: 2012 Trees in relation to design, demolition and constructions – Recommendations. Where Site circumstances prevent the use of the default barrier, an alternative specification would be recommended by the project arboriculturist with agreement of the local planning authority.
6. All-weather notices should be attached to the barrier with words such as: "Construction exclusion zone – no access".
7. The Ash tree T4 is entering early ancient veteran tree status and additional protection is recommended. As well as the standard temporary tree protection barrier around the furthest extent of the canopy and RPA, long-term restriction of access under the canopy and over the RPA is recommended. An arboricultural method statement may be required to provide more detail of the construction activities around T4. The current compaction of the ground close to the stem of T4 may be alleviated when access is restricted.



Key

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

Figure 1

Tree work

8. Where pruning work is necessary and authorised to roots or branches of retained trees to enable facilitation works, it should be carried out by a competent contractor in accordance with BS 3998: 2010 Tree Works – Recommendations.
9. Roots smaller than 25mm diameter may be pruned back where necessary, making a clean cut with a suitable sharp tool, except where they occur in clumps. Roots in clumps or larger than 25mm diameter should be severed only following consultation with an Arboriculturist, as such roots may be essential to the health and stability of the tree.

Demolition

10. Demolition is not expected within the proposed Site works.
11. *Drainage and utilities*
12. Drainage and utilities are expected to be included within the proposed Site works and should not involve digging or trenching within RPA's.

Trees to be removed

13. No trees are expected to be removed for the proposed development works.

Mitigation

14. There is opportunity within the scheme to plant trees and enhance wildlife potential. Trees closer to buildings are likely to be small to medium-sized trees, such as: field maple varieties (*Acer campestre* var.), alder varieties (*Alnus glutinosa* var.), serviceberry (*Amelanchier arborea* Robin Hill), birch varieties, hawthorn (*Crataegus monogyna*), holly varieties, crabapple (*Malus* 'Golden Hornet'), Cherry plum (*Prunus cerasifera* 'Nigra').

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Summary Statement

The Site is rural, pastoral farmland on a village edge location, adjacent to Halifax Road (A629).

The tree survey comprised eighteen individual trees, of which two are inside the Site and two straddle the Site boundary. The remaining 14 trees are just outside the Site boundary. Five trees are assessed as retention category A (27.8%), five trees as retention category B (27.8%) and eight trees as retention category C (44.4%) including T5 and T13 Elders verging on category U due to late age.

The trees are on the periphery of the Site and none are identified as for removal. A large ash in the south-west corner has features indicative of veteran or transition veteran and should be retained and monitored.

This report should be read in conjunction with the attached Tree Constraints Plan Ref: DR-3706-01.

Introduction

Purpose of the report

15. This report has been commissioned by Avant Homes and Yorkshire Land Limited to provide professional independent, detailed arboricultural advice on all relevant trees present at site address.
16. This report has been undertaken in accordance with BS 5837:2012 Trees in relation to construction – Recommendations.
17. The client has provided a topographical plan. The trees outside the Site boundary were not indicated on this plan and estimated positions of these trees were made and shown on the Tree Constraints Plan.
18. All findings and recommendations are based on visual observations conducted from ground level during the Site visit only. No other diagnostic procedures were used to establish any extent of internal decay nor was a climbing inspection undertaken.
19. All measurements were obtained with the use of a clinometer and an electronic distometer. On occasion it is not viable to provide accurate measurements due to restricted access or other mitigating circumstances on site, and the data may be estimated.
20. Due to the potentially large penalties for illegally carrying out work to protected trees, it is recommended that a check with the local planning authority is carried out prior to any tree works being undertaken and any required consents such as for work to trees with Tree Preservation Orders and/or Conservation Areas are obtained before work to trees on site. Additionally, work to trees at certain times of the year may contravene sections of the Wildlife and Countryside Act regarding nesting and roosting of protected species.

Site description

21. The Site comprises three fields on sloping ground to the south side of A629 Halifax Road, Penistone. To the east of the Site is low density residential development off Wellhouse Lane. The north-east boundary is formed by a steep-sided railway

cutting. Open areas of grassland and scattered trees occupy land to the south of the Site. The Site boundaries are formed by drystone walls, hedging, timber post and rail fence or post and wire fencing. Scattered trees are located to the periphery of the Site.

22. Topography of the Site is undulating and sloping generally to the south with the highest ground located near the Halifax Road at the north side of the Site (approximately 233m AOD). The lowest area of the Site is the south-west (approximately 211m AOD). The Site is within a valley situated near the upper part of the south-facing valley slope.
23. Mature woodland areas sit to the south-west and west of the Site. The vegetation at the top of the railway cutting, outside the Site boundary, includes trees which slightly overhang the Site boundary in places.

Survey conditions

24. The trees were surveyed in sunny, bright conditions on 18th October 2018 following a cold, late Spring and hot summer.

Tree data abbreviations and survey methodology

| | | | |
|-------|-----------------------|-----|-----------------------------|
| T | Tree | GL | Ground level |
| G | Tree group | MS | Multi-stemmed |
| H | Hedge | AFP | Access facilitation pruning |
| OSB | Outside Site boundary | Ave | Average dimension |
| #/est | Estimated dimension | Typ | Typical dimension |
| N | North | E | East |
| S | South | W | West |
| Min | Minimum | Lwr | Lower |
| adj | Adjacent | Ht | Height |

25. The trees were assessed visually from ground level. Where access to a tree is restricted this is noted in the schedule.
26. The tree reference numbers refer to the attached Tree Constraints Plan (TCP) references. The trees were not tagged for this survey.
27. The tree species is listed by common name in the schedules, with a key to scientific names below:

| Common name | Botanical name | Common name | Botanical name |
|-------------------|------------------------------------|--------------------|----------------------------|
| Alder (common) | <i>Alnus glutinosa</i> | Goat willow | <i>Salix caprea</i> |
| Alder (grey) | <i>Alnus incana</i> | Hawthorn | <i>Crataegus monogyna</i> |
| Apple | <i>Malus domestica</i> | Hazel | <i>Corylus avellane</i> |
| Aspen | <i>Populus tremula</i> | Holly | <i>Ilex aquifolium</i> |
| Ash | <i>Fraxinus excelsior</i> | Hornbeam | <i>Carpinus betulus</i> |
| Beech | <i>Fagus sylvatica</i> | Larch | <i>Larix decidua</i> |
| Birch (silver) | <i>Betula pendula</i> | Lime (common) | <i>Tilia x europaea</i> |
| Chestnut (sweet) | <i>Castanea sativa</i> | Maple (field) | <i>Acer campestre</i> |
| Chestnut (horse) | <i>Aesculus hippocastanum</i> | Maple (Norway) | <i>Acer platanoides</i> |
| Cherry (wild) | <i>Prunus avium</i> | Poplar (black) | <i>Populus nigra</i> |
| Cherry (bird) | <i>Prunus padus</i> | Oak (sessile) | <i>Quercus petraea</i> |
| Cherry (Japanese) | <i>Prunus serrulata</i> | Oak (pendunculate) | <i>Quercus robur</i> |
| Leyland Cypress | <i>X Cupressocyparis leylandii</i> | Rowan/mountain ash | <i>Sorbus aucuparia</i> |
| Elm (English) | <i>Ulmus procera</i> | Sycamore | <i>Acer pseudoplatanus</i> |
| Elm (wych) | <i>Ulmus glabra</i> | Weeping willow | <i>Salix chrysocoma</i> |

28. Measurement of the existing height above ground level of the first significant branch and the direction of growth and the height of the canopy. This informs ground clearance, crown/stem ratio and shading.
29. The stem/trunk diameter is measured with a diameter tape at 1.5m from ground level around the stem for single stem trees and for multi-stemmed trees and other variants in accordance with Annex C of the British Standard. Where access restricts measurement of the tree, an estimate has been made, denoted by '#'.

30. Canopy spread is measured with an electronic distometer. The close-spacing of some of the trees impeded measurements of canopy spread and height and estimates were made.
31. The age of the tree is based on the typical longevity of the particular tree species. The age classes are: young (Y), semi-mature (SM), early mature (EM), mature (M), over-mature (OM) and veteran (V).
32. The physiological condition of the tree is an assessment of its likely health, vigour and stress. The classes for physiological condition are: good, fair, poor and dead.
33. Structural condition includes tree form, visible defects, irregularities and influencing factors.
34. Preliminary management recommendations note work (with prior approval where necessary) to promote the health and longevity of the tree and/or improve safety and/or increase habitat potential.
35. The life expectancy (life exp.) is the estimated remaining contribution in years, (<10, 10+, 20+, 40+).
36. The retention category (ret cat) for each tree is assessed in accordance with BS 5837: 2012 Table 1, summarised as below:

| | |
|-------------------|--|
| Category A | Trees of high quality with an estimated remaining life expectancy (ERC) of at least 40 years. Green canopy outline on plan. |
| Category B | Trees of moderate quality with an estimated ERC of at least 20 years. Blue canopy outline on plan. |
| Category C | Trees of low quality with an ERC of at least 10 years, OR young trees with a stem diameter below 150mm. Grey canopy outline on plan. |
| Category U | Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Trees unsuitable for retention. Dark red canopy outline on plan. |

37. Sub- categories of 1, 2 or 3 are included in the tree data tables and are defined as follows:

Sub-category 1 trees are those with 'mainly arboricultural value'

Sub-category 2 trees are those with 'mainly landscape value'

Sub-category 3 trees are those with 'mainly cultural or conservation value'.

38. The root protection area (RPA) in m² is for layout purposes and indicates the 'minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority'. The RPA is calculated in accordance with BS 5837: 2012 Annex D. Where Site features are likely to have distorted the typical RPA, a polygon of the same area is estimated on plan to reflect a more realistic shape, in accordance with the British standard.

Tree data

39. The following schedule contains the tree data obtained on site:

| Ref | Species | Life stage | Ht (m) | Can Ht (m) | Lowest branch | Stem diam (mm) | RPA (m ²) | Canopy spread (m) | Physio logical | Structural condition | Recommendations | Life exp. (yrs) | Ret cat |
|-----------|-------------------------|------------|--------|------------|---------------|-------------------------|-----------------------|---------------------------------|----------------|---|---|-----------------|---------|
| T1 | Rowan | OM | 8 | 1.8 | 1.8m N | 100 ave x 14 | 64 | N 3.5 E 4.5 S 3# W 3.5 | Good | Fair. OSB. M-S. Pruning work, part calloused wounds. Close to stone wall. Good crown. | Protect canopy and RPA with Tree barrier. | 10-20 | C 2 |
| T2 | Hawthorn and dead elder | OM | 6 | 1.8 | 1.8m N | 300 at base | 41 | N 2 E 3 S 2# W 3 | Fair | Fair. OSB. M-S. Within 3m of boundary. Pruning work evident. Dead elder entwined with stems. Top of retaining wall. | Protect canopy and RPA with Tree barrier. | 10-20+ | C 2 |
| T3 | Japanese cherry | M | 7 | 2 | 2.5m NE | 175 125 150 80 | 34 | N 4 E 4.5 S 4# W 4.5 | Good | Fair. OSB. M-S. Ascending stems from 1m. Top of retaining wall. | Protect canopy and RPA with Tree barrier. | 10-20 | C 2 |

| Ref | Species | Life stage | Ht (m) | Can Ht (m) | Lowest branch | Stem diam (mm) | RPA (m²) | Canopy spread (m) | Physio logical | Structural condition | Recommendations | Life exp. (yrs) | Ret cat |
|-----------|---------|------------|--------|------------|---------------|----------------|----------|-----------------------------------|----------------|--|--|-----------------|---------|
| T4 | Ash | OM | 18 | 2 | 2m S | 1220 | 679 | N 9 E 11 S 13.5 W 11.5 | Fair | Fair. Largest tree on Site and entering 'Early Ancient' age class for veteran status. Features noted are torn out branches part calloused with cavities; wide bole and root flare (up to 2.5m from stem) with <i>Ganoderma</i> sp.fungal bracket in NE flare in a decayed zone extending at least 30cm towards the tree stem. Likely dieback of NW canopy as no evidence of current season extension growth and dead branch in mid canopy. Stubs with live growth decaying with <i>Daldinia concentrica</i> fungal bodies present. Calloused wounds. Scaffold plank (section of) wedged in fork at about 4m. Short branch stub at union. Thickening of stem at 2-3m with possible adaptive growth for any stem decay. Damaged bark on N side and tractor tracks over roots N side. Young growth inner canopy on older limbs. | Retain for conservation value and NPPF July 2018. On Site boundary. Restrict tractor/vehicle movements over the roots to avoid ground compaction and further root damage. Monitor health and any symptoms of <i>Hymenoscyphus fraxineus</i> (ash dieback). Consider limiting access post-development with a post and rail fence around extent of RPA or further. | 40+ | A 3 |
| T5 | Elder | OM | 5 | 1.5 | 0.3m NE | 70 x6 | 14 | N 2.5 E 2.5 S 2.5# W 2.5 | Poor | Poor. Declining – stem between timber pole and stone wall. Stubs below 1m. Stems from GL. | - | <10 | U/C 3 |

| Ref | Species | Life stage | Ht (m) | Can Ht (m) | Lowest branch | Stem diam (mm) | RPA (m²) | Canopy spread (m) | Physio logical | Structural condition | Recommendations | Life exp. (yrs) | Ret cat |
|-----|-------------|------------|--------|------------|---------------|-------------------------|----------|--------------------------------|----------------|--|--|-----------------|---------|
| T6 | Sycamore | EM | 10 | 1 | 1.2m NE | 325# | 48 | N 7.5 E 9.5 S 0 W 5 | Fair | Fair. OSB. Stem leans N up slope. Bias N. Less branching to S. Minor dead wood lwr canopy. Stem wound at 0.4m part calloused, 20cm long. | Protect canopy and RPA with Tree barrier. | 20-40 | B 2 |
| T7 | Oak | EM | 10 | 1.5 | 2m NE | 380 | 72 | N 5.5 E 4 S 5# W 4.5 | Good | Fair. OSB. Good, dense crown. Stem attached to barbed wire fence. Top of steep bank. Pruned branch at 2m – now a dead stub 1m long. Prune wounds mid stem. Fork at 2.5m. | Cut fencing either side of stem. Protect canopy and RPA with Tree barrier. | 40+ | A 2 |
| T8 | Goat willow | OM | 10 | 1.5 | 2.5m E | 275 250 x3 125 x4 | 137 | N 7.5 E 7 S 7# W 5# | Fair | Fair. OSB. M-S. Stems splay out from GL. Stubs and dead wood in central canopy. Lower down bank. Overhangs Site by 2m approx.. | Protect canopy and RPA with Tree barrier. | 10-20 | C 2 |
| T9 | Ash | M | 11 | 1.81 | 2m E | 200 300 | 64 | N 2# E 7 S 4# W 4# | Fair | Fair. OSB. M-S. 3 stems from GL. Stem wound on one from GL to 1m. Dead wood lwr canopy (Typical). Overhangs Site by 2.7m. | Monitor for <i>Hymenoscyphus fraxineus</i> . Protect canopy with Tree barrier. | 20-40 | B 2 |
| T10 | Elder | M | 5 | 1 | 1.8m E | 100 | 5 | N 2.5 E 1.5 S 1.5 W 1 | Fair | Fair. On the Site boundary fence. Restricted growth W next to a shrubby hawthorn. Stem leans through fence. | - | 10-20 | C 3 |
| T11 | Ash | EM | 11 | 1 | ? | 200 225 x2 # | 64 | N 3# E 7 S 5# W 6# | Good | Fair. OSB. 3 stems splay out from GL Undergrowth - difficult to survey. Overhangs by 2.5m. | Protect canopy and RPA with Tree barrier. | 20-40 | B 2 |

| Ref | Species | Life stage | Ht (m) | Can Ht (m) | Lowest branch | Stem diam (mm) | RPA (m²) | Canopy spread (m) | Physio logical | Structural condition | Recommendations | Life exp. (yrs) | Ret cat |
|------------|----------|------------|--------|------------|---------------|------------------------------------|----------|--------------------------------------|----------------|---|---|-----------------|-----------|
| T12 | Ash | EM | 11 | 1 | ? | 200 | 18 | N 6# E 5# S 1 W 6# | Good | Good. OSB. Slightly kinked stem at base. Calloused wounds. Not yet overhanging Site boundary. Close to T11. | - | 20-40 | B 2 |
| T13 | Elder | M | 3.5 | 1 | ? | 75 x7 | 18 | N 1.5 E 2 S 2 W 1.5 | Fair | Fair. OSB. M-S. Rounded crown. Overhangs Site by 1m. | Protect canopy and RPA with Tree barrier. | <10 | C 3/ U |
| T14 | Sycamore | M | 15 | 1.8 | 2m SE | 600# | 163 | N 7# E 7# S 7# W 7# | Good | Good. OSB. Good, stout stem. Balanced and dense crown. Does not overhang Site. 11m from Site boundary. | - | 40+ | A 2 |
| T15 | Oak | M | 16 | 1.8 | 2m NE | 275 x3 450 300 200 200 | 255 | N 8 E 8 S 11 W 9# | Good | Good. OSB. M-S. Dead stub at 1.8m-decaying. Stubs in canopy. Good, domed canopy. Overhangs Site by 2.1m. | Protect canopy and RPA with Tree barrier. | 40+ | A 2 |
| T16 | Hawthorn | M | 5 | 1 | 0.2m W | 140 200# 140 150 75 | 55 | N 3.5# E 3.5 S 1 W 3 | Fair | Fair. Beside stone wall. Pruned branch at 1m (may have failed). Dieback at top and E side. Sheep rubbing on lower stem. | Protect canopy and RPA with Tree barrier. | 10-20 | C 2 |
| T17 | Hawthorn | M | 5 | 2 | 2m NW | 200 x3 100 | 64 | N 4 E 4 S 4# W 2.5 | Fair | Fair. OSB. M-S plus an adjacent hawthorn. Stub at 1m with regrowth. Overhangs by approx. 1m. Fruiting well. | Protect canopy and RPA with Tree barrier. | 20-40 | B 2 |
| T18 | Beech | EM | 5 | 1.8 | ? | 175# | 14 | N 2.5# E 2.5# S 2.5# W 2.5# | Good | Good. OSB. In rear garden of residential property. Small tree with good growth potential. | Protect canopy and RPA with Tree barrier. | 40+ | A 1 |

Findings

Tree descriptions and recommendations

40. The tree survey comprised eighteen individual trees, of which two are inside the Site (T5 and TT16) and two straddle the Site boundary (T4 and T10). The remaining 14 trees are just outside the Site boundary.
41. Five trees are assessed as retention category A (27.8%), five trees as retention category B (27.8%) and eight trees as retention category C (44.4%) including T5 and T13 Elders verging on category U due to late age.
42. The trees on Site should be retainable within development of the Site due to their peripheral location.
43. Recommended tree works include light pruning works to remove dead branches, which will require owner permission for trees outside the Site boundary, and monitoring of ash trees for symptoms of ash dieback.
44. The largest tree in the survey and within the Site, T4 ash, has features which indicate that it qualifies as an early ancient tree or fully mature transition veteran which should be retained within development under National Planning Policy Framework 2018. Features present on T4 include rot site, dead branches, live stubs and fungal fruit bodies (Figures 1-3). Although a section of root flare is hollow with decay, this decay may not have reached the main stem. The stem shows slight adaptive growth (thickening of the stem) at 2-3m which may suggest decay here. Typical practice for retaining trees in the late maturity/early ancient phase safely within development is to limit close access with a local type of fencing or walling around the extent of the root protection area or canopy extent, whichever is the greater. This tree should be monitored annually. Further ground compaction around the RPA, changes of level and development within the RPA should be avoided.
45. Several trees are located just outside the Site boundary though canopies and RPA's may extend into the Site. Protection from damage should be given to these trees, particularly T15 oak, close to the western Site boundary, which is assessed as retention category 'A' (Figure 4). Protection would include tree protection barriers around the RPA or canopy, whichever is the greater, during construction. Buildings and changes to ground level should be avoided within the RPA also.

46. Hedges are located to the southern periphery of the Site and comprise hawthorn with small amounts of holly and elder. These appear to be trimmed to between 1.8m and 1m height annually. These hedges have gaps, particularly near T4.
47. The trees on Site are generally of landscape value (category 2) owing to the open visibility of the Site and locality. Tree T4 ash, and to a lesser extent, T5 elder, T10 elder have mainly conservation value (category 3) for their habitat quality.



Figure 2

The northern side of T4 ash (with woodland outside the Site boundary in the background). Decline in part of the crown is evident.

Figure 3

The wide root flare of T4 ash includes decayed wood with a small fungal bracket of *Ganoderma* sp. at ground level and possible rotted older brackets. The decay extends at least 30cm from the dark area towards the stem.



Figure 4

T4 ash with a stub of naturally fractured branch and live growth. Branch fungus *Daldinia concentrica* is evident on the underside.



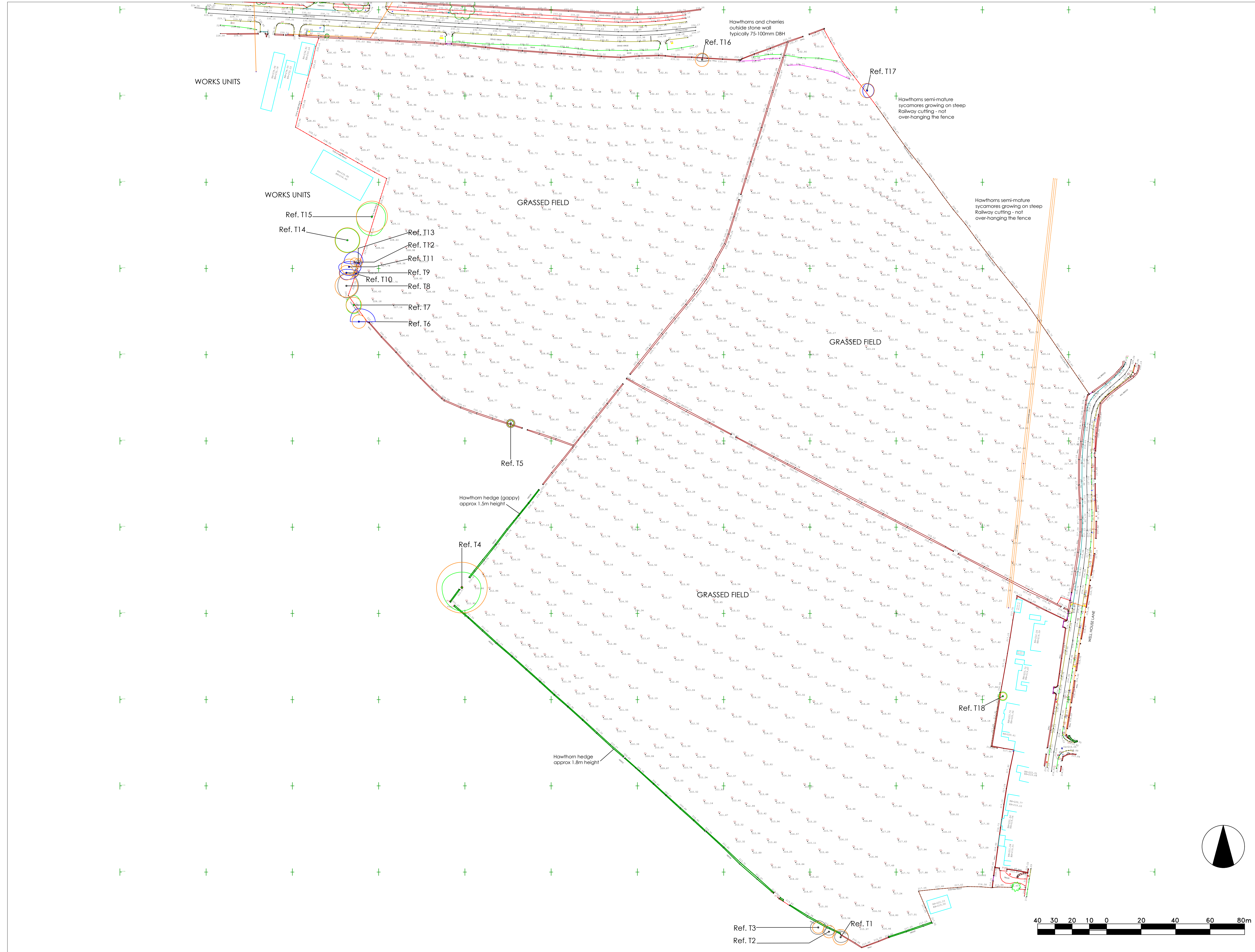
Figure 5

T15 oak located just outside the Site boundary fence and overhanging the Site. This tree should be protected from damage during development.

DR-3706-01 Tree Constraints Plan

Appendix 2: Planning Layout 2001.01-B

KEY
This plan is for guidance only and should not be scaled from.
The original of this drawing was produced in colour - a mono-chrome copy should not be relied upon.



KEY
BS5837:2012 Retention categories:

| | |
|----------------------------|--|
| Retention category A | |
| Retention category B | |
| Retention category C | |
| Category U | |
| Root Protection Area (RPA) | |

Land off Halifax Road, Penistone
Appendix 1: Tree Constraints Plan
Dwg. No. DR-3706-01
Scale: 1:1000 @A1

Brooks
Ecological
Groundwork advised

Brooks Ecological 10017410 (08/04/21)
1001 A 1 Southern Road, Gainsborough, Lincoln, LN40 8BA

| Private Barratt | | |
|-----------------|------|-------------|
| Name | Beds | Total Units |
| Kensley End | 2 | 8 |
| Kensley Mid | 2 | 31 |
| Maddstone Semi | 3 | 6 |
| Maddstone End | 3 | 4 |
| Maddstone Mid | 3 | 24 |
| Ellerton Semi | 3 | 4 |
| Ellerton End | 3 | 3 |
| Ellerton Mid | 3 | 11 |
| Moorby Det | 3 | 5 |
| Moorby Semi | 3 | 38 |
| Densby | 4 | 43 |
| Windermere | 4 | 22 |
| Aldeby | 4 | 11 |
| Total | | 215 |

| Private DW | | |
|----------------|------|-------------|
| Name | Beds | Total Units |
| H433 Cornhill | 4 | 10 |
| H437 Brookgate | 4 | 25 |
| H456 Avoirdale | 4 | 10 |
| H469 Holden | 4 | 23 |
| H497 Chaworth | 4 | 19 |
| H421 Winslowe | 4 | 19 |
| Total | | 106 |

| Affordable | | |
|------------|------|-------------|
| Name | Beds | Total Units |
| Kensley | 2 | 13 |
| Maddstone | 3 | 9 |
| Ellerton | 3 | 15 |
| Type 67 | 2 | 61 |
| Type 69 | 3 | 40 |
| Total | | 138 |
| Total | | 459 |

REV: DESCRIPTION:BY: DATE:

STEN

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CLIENT:Barratt Homes and David Wilson Homes
Yorkshire West
(Trading names of BDW Trading Limited)

SITE:Penistone

TITLE:Planning Layout

SCALE AT A3:1:500

DATE:11.02.20

DRAWN:TS

CHECKED:SL

PROJECT NO:2001

DRAWING NO:2001.01

REVISION:B