BONDFIELD CRESCENT, WOMBWELL
for Gleeson Homes & Regeneration

TREE SURVEY

ROSETTA
LANDSCAPE DESIGN

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1.0 GENERAL

1.1 This tree survey was undertaken by Martin Popplewell (Landscape Architect) and Scott Reid (Arboricultural Consultant) on 29 November 2016 on behalf of Gleeson Homes & Regeneration in conjunction with proposals for residential development on site.

1.2 The survey should be read in conjunction with drawing 2710/1 (Existing Trees on Site).

1.3 The study site is located within the urban area of Wombwell around 0.5 km west of the town centre. It is bounded to the north, west and east by the rear gardens of adjacent dwellings and to the south by the grounds of Wombwell Oakfield Junior School.

1.4 The site is presently not in active use having previously been occupied by The Gables School – all buildings have now been demolished. Ground is relatively level across the site at around 70 metres Above Ordnance Datum (AOD).

1.5 Several trees on site are included within Tree Preservation Order 7.2004; these are noted in the schedule.

1.6 Trees grow and can develop weaknesses, the climate is thought to be changing and the many other factors which affect trees are rarely static. It is advisable to have trees inspected by a qualified arboriculturist regularly, and in this instance it is recommended that these inspections should be made every year.

1.7 The report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.

1.8 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.

1.9 No liability can be accepted by the consultant in respect of the trees unless the recommendations (see Section 9) are carried out under their supervision and within the timescale indicated.

1.10 The report aims to consider both the aesthetic qualities of the trees as well as their health. The health of the trees is considered in relation to the proposed change of use to housing.

1.11 It must be noted that this tree report and accompanying drawing(s) do not constitute a Schedule of Works, and approval should be sought from the local authority prior to any works commencing.

2.0 SPECIES AND THEIR ARRANGEMENT IN THE LANDSCAPE

2.1 The more substantial trees surveyed lie along / just beyond the site perimeter and within a well-spaced group towards the south east corner of the site. In addition there are many self-sown trees which can be found in groups of varying site throughout the site.

2.2 Considering firstly the larger specimens, there is no single dominant species whilst several are broadly native (Sycamore, Norway Maple, Ash, Alder, Beech, Cherry and Birch) there are also a number of ornamental species present – Fastigiate Hornbeam, Silver Maple, False Acacia and Tree of Heaven.

2.3 Considering the areas of young self sown trees, species present include Alder, Aspen, Birch, Cherry and Goat Willow

2.4 Shrub species (mostly Hawthorn with occasional Elder) are found throughout the site.

3.0 HEIGHT AND SIGNIFICANCE IN THE LANDSCAPE

3.1 The most visually-prominent trees are: (i) the line of trees along the western boundary (T3-T7); (ii) the group of trees towards the south east corner T17-19, T22-24); and (iii) isolated Sycamore T27. All these are in the 10-15m range but their prominence relates as much to their isolated positions as much as their height.

3.2 Other than the above the vegetation on site is only of modest size so has relatively little visual significance in the local landscape.

4.0 AGE AND CONDITION

4.1 The majority of trees surveyed fall within the 'Early mature' and 'Semi Mature' categories and all but one are in Fair or Good condition with no action required in the main. Some crown damage from flailing where they overhang the site is evident but this activity is likely to cease with change of use.

4.2 There are only two dead / nearly dead trees on site – Tree of Heaven T19 and the northnmost tree in G22 both of which have been ring-barked. Their removal is recommended on grounds of safety.

5.0 ENVIRONMENTAL CONDITIONS

5.1 Due to their location on level ground surrounded on all sides by built development trees on site would not be expected to be subject to potential impact from prevailing winds. Indeed, there is no evidence of this at the present time and the proposed development of the site is likely to provide increasingly sheltered conditions for any retained trees over time.

5.2 Ground water conditions are not assessed to be a significant factor in present or future growth or health of trees due to the apparent porous nature of the ground.

6.0 CODES USED WITHIN SCHEDULE

Column	Information
1	Tree reference number (recorded on tree survey drawing).
2	Species (common and scientific names, where possible).
3	Height of tree in metres.
4	Stem diameter in centimetres at 1.5m above adjacent ground level (on sloping ground taken on the upslope side of the tree base) or immediately above the root flare for multi-stemmed trees. # - estimated value
5	Branch spread in metres taken at the four cardinal points to derive an accurate representation of the crown (recorded on the tree survey drawing).
6	Age class (young, semi mature, early mature, mature, over mature, veteran).
7	Height in metres of crown clearance above adjacent ground level (to inform on ground clearance, crown stem ratio, and shading).
8	Physiological condition (e.g. good, fair, poor, dead).
9	Estimated remaining contribution in years (e.g. less than 10, 10-20, 20-40, more than 40).
10	Category grading. Trees are assessed in terms of quality in accordance with BS 5837:2012 into U or A to C categories (see Section 7.0) which are recorded on the tree survey drawing.
11	Notes on appearance and structural condition (e.g. collapsing, the presence of any decay, and physical defect).
12	Preliminary management recommendations, including further investigation of suspected defects that require more detailed assessment, and potential for wildlife habitats.

7.0 TREE QUALITY ASSESSMENT

7.1 **TREES UNSUITABLE FOR RETENTION**

Definition – Category U
(*Shown in broken outline on drawing with cross at trunk location)*
Those 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.

Criteria – Category U
Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)

Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.

Trees infected with pathogens of significance to the health and/or safety of other trees nearby or very low quality trees suppressing adjacent trees of better quality.

NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve;

7.2 TREES TO BE CONSIDERED FOR RETENTION

Definition - Category A1, A2, A3
(*Shown in heavy outline on drawing with star at trunk location)*
Trees of high quality with an estimated life expectancy of at least 40 years.

Criteria - Category A

A1 (*Mainly arboricultural qualities*)
Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue).

A2 (*Mainly landscape qualities*)
Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.

A3 (*Mainly cultural values, including conservation*)
Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).

Definition - Category B1, B2, B3
(*Shown in medium outline on drawing with solid dot at trunk location)*
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Criteria - Category B

B1 (*Mainly arboricultural qualities*)
Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable fore retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.

B2 (*Mainly landscape qualities*)
Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.

B3 (*Mainly cultural values, including conservation*)
Trees with material conservation or other cultural value.

Definition - Category C1, C2, C3
(*Shown in light outline on drawing with open circle at trunk location)*
Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.

Criteria - Category C

C1 (*Mainly arboricultural qualities*)
Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.

C2 (*Mainly landscape qualities*)
Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value; and/or trees offering low or only temporary/transient landscape benefit.

C3 (*Mainly cultural values, including conservation*)
Trees with no material conservation or other cultural value.

NOTE: Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation.

8.0 DETAILED SCHEDULE OF VEGETATION ON SITE

\# Trees denoted thus are included within Tree Preservation Order 7.2004 (TPO number shown in brackets)

Tree number on dwg	Species	Height (m)	Stem diameter (cm)	Branch spread (m)	Age class	Crown clearance + Ht/direction of lowest branch	Physiological condition	Estimated remaining contribution (years)	Category grading	Notes / Structural condition	Preliminary management recommendations
T1	Elder	4	15	N 2.5 S 2.5 E 3 W 2	EM	2.5	Good	10-20	C1	Self sown specimens with stem that forks into multiple limbs at 1.5m. Dense compact crown. Acceptable condition at present.	No action
G2	Wild Cherry	8	15	As plan	SM	0	Good	10-20	C1	Group of self sown suckers arising from T3 adjacent – all are multi-stemmed with dense shrubby crowns that read as one. Acceptable condition at present.	No action
T3	Wild Cherry	13	14, 20	N 5 S 4.5 E 8 W 6	EM	3	Fair	10-20	C1	Stem forks into multiple limbs at 2.5m; wide spreading dense crown. Tree lies offsite but both stems lean over site and branches are rubbing against fence line.	No action
T4# (TPO T12)	Ash	14	25, 25, 33, 16	N 5 S 6 E 6.5 W 6	EM	2.5	Good	20-40	B1	Tree lies offsite but canopy overhangs site boundary. Multi-stemmed with evenly balanced rounded crown. Minor deadwood and bark wounding noted together with cavity at base.	No action
T5	Alder	9	25	N 1 S 4.5 E 6 W 4	EM	1.5	Good	20-40	C1	Straight main stem and relatively narrow dense crown biased to south. Minor deadwood noted and epicormic growth at base. No major visible defects.	No action
T6# (TPO T13)	Sycamore	14	38, 38, 30	4.5 m rad	EM	3	Good	20-40	B1	Stem forks into two at 1 m; evenly balanced dense crown. Slightly tight unions and rubbing stems from base. Minor deadwood noted but acceptable condition at present.	No action

Tree number on dwg	Species	Height (m)	Stem diameter (cm)	Branch spread (m)	Age class	Crown clearance + Ht/direction of lowest branch	Physiological condition	Estimated remaining contribution (years)	Category grading	Notes / Structural condition	Preliminary management recommendations
T7	Hawthorn	5	13, 11, 11, 10	4 m rad	EM	1.5	Good	10-20	C1	Multi-stemmed tree with low wide spreading shrubby crown. Acceptable condition at present but of limited arboricultural value.	No action
G8	3nr. Sycamore	11	27	N 4 S 4 E 5 W 4	EM	2.5	Good	20-40	C1	Single and twin stemmed trees within group; crowns read as one. Rubbing stems noted but acceptable condition at present.	No action
H9	Hawthorn	5	13	6 m wide	EM	1.5	Fair	10-20	C2	Mature hedgerow along site boundary has been left untrimmed for many years.	No action
G10	Silver Birch, Elder, Cherry	8	12	As plan	SM	0	Good	20-40	C1	Area of self sown trees; narrow dense crowns read as one. Of limited arboricultural value.	No action
T11# (TPO W1)	Field Maple	11	30, 38	4.5 m rad	EM	3	Good	20-40	B1	Twin stemmed tree with dense rounded crown. In good condition with no major visible defects.	No action
G12# (TPO W1)	Aspen	13	13	As plan	SM	2.5	Good	20-40	C1	Area of self sown trees; all have straight stems and dense narrow crowns that read as one. Occasional bark wounds and deadwood noted but no major visible defects.	No action
T13# (TPO W1)	Ash	12	30	5 m rad	EM	2.5	Good	20-40	B1	Tree lies offsite but canopy overhangs site boundary. Straight main stem forks into multiple limbs at 5m; dense relatively high crown. Appears to be in good condition with no major visible defects.	No action
G14	Cherry, Silver Birch	7	12	As plan	SM	2	Good	10-20	C1	Group of young self sown trees lie offsite but canopies overhang site boundary. Thin narrow crowns read as one.	No action
G15	Alder, Goat Willow	7	12	As plan	SM	0	Good	10-20	C1	Large area of young self sown trees. Stems in close proximity, dense crowns read as one.	No action

Tree number on dwg	Species	Height (m)	Stem diameter (cm)	Branch spread (m)	Age class	Crown clearance + Ht/direction of lowest branch	Physiological condition	Estimated remaining contribution (years)	Category grading	Notes / Structural condition	Preliminary management recommendations
T16	Alder	7	14	2.5 m rad	SM	0.5	Good	10-20	C1	Straight main stem and dense narrow conical crown. In good condition with no major visible defects.	No action
T17# (TPO T2)	False Acacia	8	10, 10, 12	N 4 S 3 E 3.5 W 3.5	SM	1.5	Fair	10-20	C1	Multi-stemmed tree with dense rounded crown. Tight stem forks, otherwise acceptable condition at present.	No action
T18	Norway Maple	10	41	N 5.5 S 7 E 5.5 W 5.5	EM	2.5	Good	20-40	B1	Straight main stem forks into multiple limbs at 4m; dense wide spreading crown. Slightly tight stem fork and minor deadwood noted.	No action
T19	Tree of Heaven	10	41	N 7 S 5 E 5.5 W 6	EM	3	Dead	<10	U	Stem forks into multiple limbs at 2-3 m with dense rounded crown. Tree has been completely ring barked and will shortly die.	Fell and remove
G20	Alder	9	13	As plan	SM	1	Good	10-20	C1	Group of self sown trees on site boundary; dense narrow crowns read as one. Acceptable condition at present.	No action
G21# (TPO T6 & T7)	2nr. Hawthorn	9	30	As plan	M	2.5	Fair	10-20	C1	Pair of mature multi-stemmed trees with dense rounded crowns.	No action
T22	Fastigiate Hornbeam	12	24	N 3.5 S 4 E 3 W 3.5	EM	1	Good	20-40	B1	Stem forks into multiple limbs at 3m with epicormic growth at base. Dense compact crown, typical of species.	No action
G23# (one tree in group is TPO T8)	5nr. Norway Maple	13	30	N 4 S 6.5 E 6 W 5	EM	3	Good	20-40	B1	Group of well spaced trees with straight main stems that fork into multiple limbs at 3-4 m. All have dense rounded crowns that read as one; minor deadwood noted. Northernmost specimen has been ring barked at 1 m and will shortly die.	Remove northernmost tree in group

Tree number on dwg	Species	Height (m)	Stem diameter (cm)	Branch spread (m)	Age class	Crown clearance + Ht/direction of lowest branch	Physiological condition	Estimated remaining contribution (years)	Category grading	Notes / Structural condition	Preliminary management recommendations
T24# (TPO T9)	Beech	13	37	N 4.5 S 6.5 E 6 W 5	EM	1	Good	20-40	B1	Straight main stem and dense rounded crown. In good condition with no major visible defects.	No action
T25	Norway Maple	6	12	3 m rad	EM	1	Fair	10-20	C1	Tree has been pollarded at 0.5m and is now showing signs of regrowth. Of limited arboricultural value.	No action
T26	Silver Maple	11	25	4 m rad	EM	2	Good	10-20	C1	Straight main stem and relatively high compact crown. Significant bark wounding at base; otherwise in acceptable condition at present.	No action
T27# (TPO T11)	Sycamore	15	7x27	N 8 S 7 E 6.5 W 5	EM	2	Good	20-40	B1	Multi-stemmed tree with dense rounded crown. Rubbing stems and epicormic growth at base.	No action
T28	Sycamore	10	22	4 m rad	SM	1	Good	20-40	C1	Self sown tree whose stem forks into multiple limbs at 0.5 m (tight stem fork). Dense shrubby crown.	No action
G29	Ash, Hawthorn	10	20 10	As plan	EM	1	Fair	10-20	C1	Pair of trees in close proximity. Dense rounded crowns read as one. Canopies conflict with overhead cables. One stem of Ash is rubbing against fence post	Pruned back canopy from overhead cables to leave 1 m clearance.

9.0 GENERAL RECOMMENDATIONS

9.1 Generally

Any recommended tree works should only be carried out with the consent of the local authority.

9.2 Trees in relation to Development

Consider the depth of foundations with reference to NHBC recommendations.

9.3 Tree Work before Development

Remove all 'U' category trees including those approved for removal in relation to approved development. Erect a robust fence to protect not only the retained trees themselves, but also the rooting zones at limit of canopy spread or in accordance with BS 5837:2012.

9.4 Care of Trees during Development

It is recommended that the precautions below be issued to the site manager for display on site.

GENERAL PRECAUTIONS DURING DEVELOPMENT:

- Section 4.6 of British Standard 5837:2012 "Trees in Relation to Construction" gives details of the method for calculating the root protection area (RPA - based on stem diameter) which should be left undisturbed around each retained tree. This is to prevent soil compaction, stacking etc. during demolition/construction. The RPA is included on the Tree Constraints Plan together with an indication of Above Ground Constraints.

- Based on the above calculation, and taking into account site specific issues, fencing in accordance with BS 5837:2012 should be erected around trees to be retained. This shall comprise a framework of scaffold poles driven vertically into the ground with diagonal bracing for support and welded mesh panels wired to uprights. This must be erected before any site access for demolition or construction. The above details and distances of tree protection will normally be set as a condition of any planning approval.

- British Standard 5837:2012 provides guidance for methods of working on development sites in proximity to retained trees and the principles set down in Section 7 of the document should be strictly adhered to. The following principles are particularly important:

    - Traffic must not enter tree root protection areas.

    - Stacking of construction materials should not occur beneath any tree canopies or within tree root protection areas.

    - Cement mixing or flushing should not occur inside minimum tree protective zones or within 10m of any tree (including trees on adjacent properties).

    - Fires should not be lit within 10m of any tree/canopy (this distance should be increased if conditions are windy).

    - Toxic materials (cements, oils, etc) should not be stored beneath canopies or within tree root protection areas.

9.5 **Towards Conclusion of Development**

Surgery is best carried out at this stage so that any known root damage can be corrected by the appropriate crown thinning to restore root/shoot balance. Similarly, trees now seen in relation to garden situations can be shaped as required. Planting to augment existing trees as part of the landscape works can now be appropriately undertaken at this stage.

mp/ROSETTA LANDSCAPE DESIGN

01 December 2016

projects/docs/2610-ts-01dec16

APPENDIX

PHOTOGRAPHS

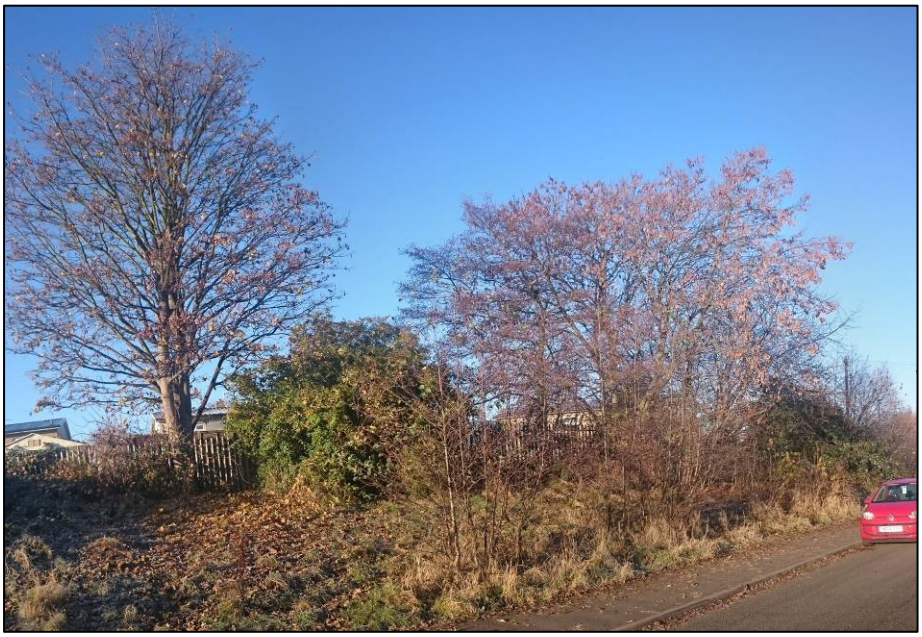


Photo 1:

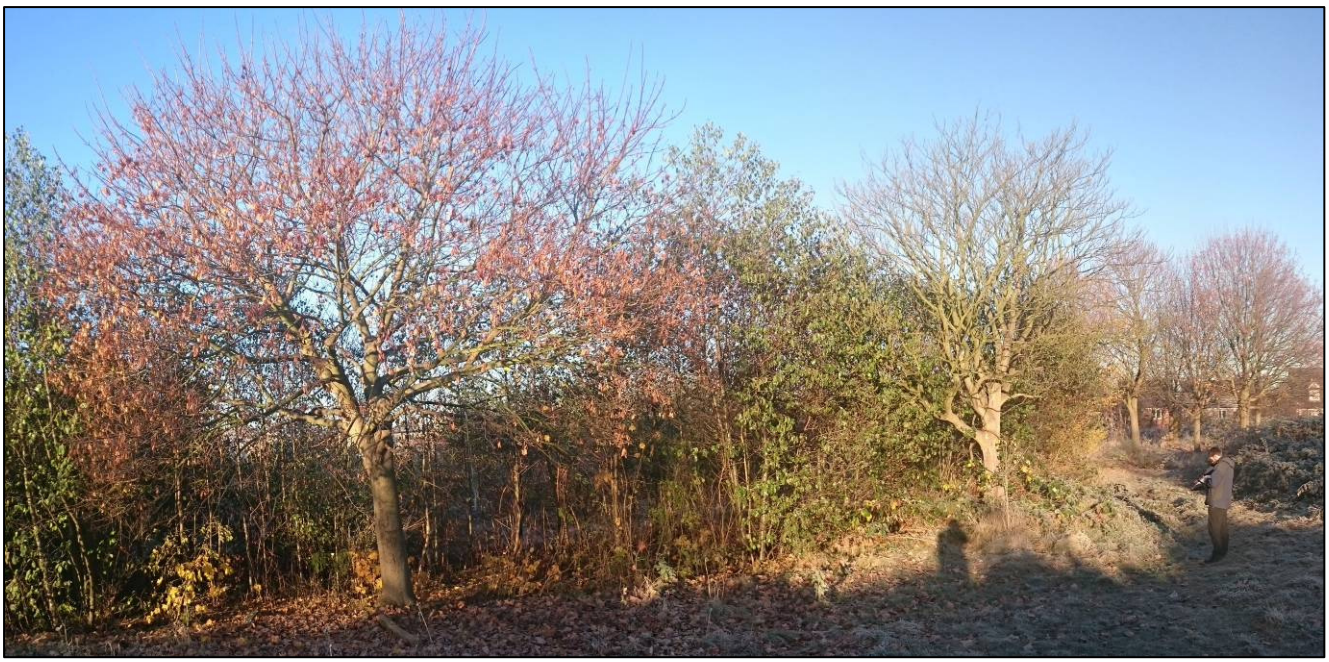
View north showing line of trees along western site boundary: Sycamore T6 on left, Cherry T3 / Ash T4 on right.

Photo 2:

View west showing trees in south west corner of site: Field Maple T11 centre right and Aspen group G12 on left.

Photo 3:

View north showing Norway Maple T18 on left and Tree of Heaven T19 centre right – the latter has been ring-barked and will shortly die.



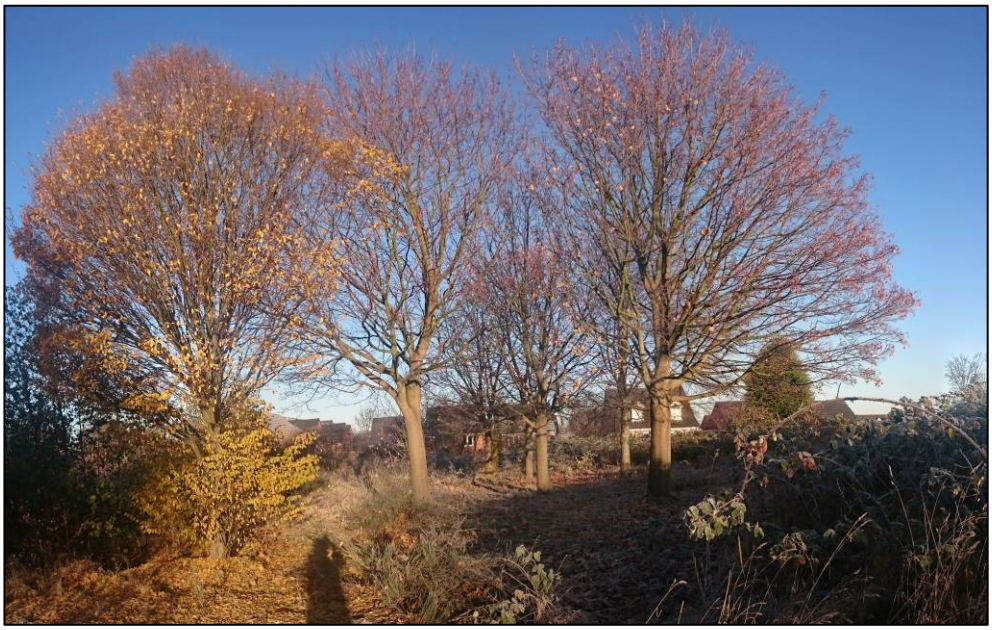


Photo 4:

View north showing groups of mature trees within south east part of site: Fastigiate Hornbeam T22 on left, Norway Maple group G23 on right with Beech T24 beyond.

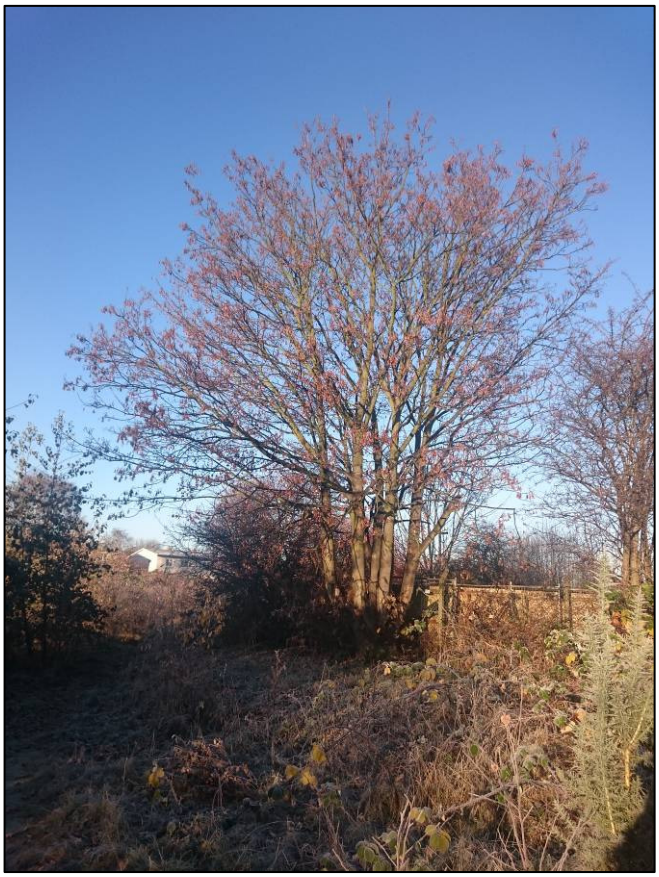


Photo 5:

View north showing isolated Sycamore T26 on site boundary.

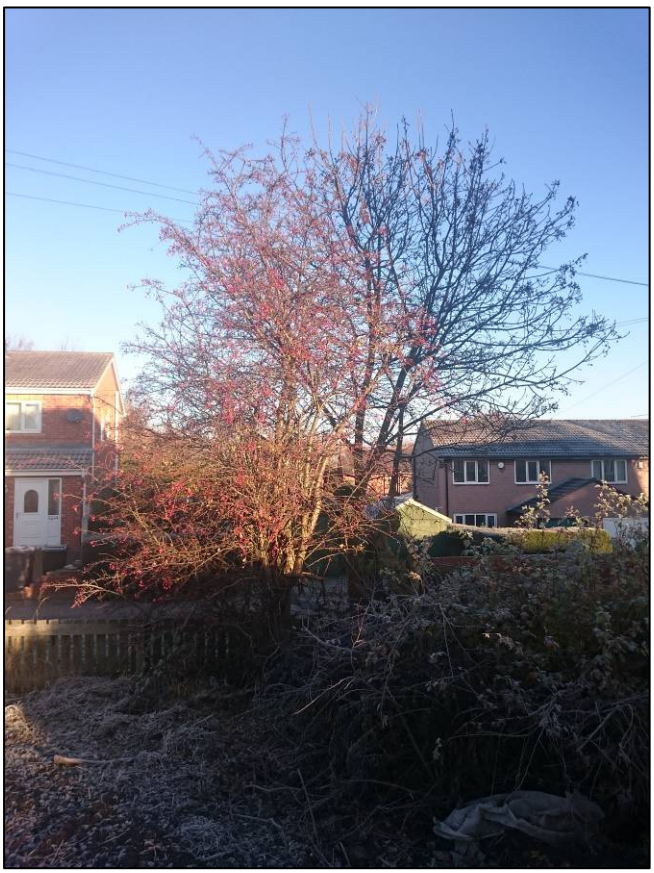


Photo 6:

View north showing Ash / Hawthorn group G29 in extreme north east corner of site.