PLANNING APPLICATION FOR CREATION OF NEW VILLAGE CENTRE

ARBORICULTURAL SURVEY, IMPACT ASSESSMENT AND TREE PROTECTION PLAN

VILLAGE CENTRE (SOUTH), CAMP ROAD, UPPER HEYFORD

ON BEHALF OF DORCHESTER LIVING

BS5837:2012 'TREES IN RELATION TO DESIGN, DEMOLITION AND CONSTRUCTION **–** RECOM**MENDATIONS'**

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REVISIONS:

Date	Rev	Description	Initials
13.04.16	-	First issue	MR
15.04.16	A	9.2 typo 9.3 added site description	MR
26.04.16	B	Removal of tree T1508	SHG
04.05.16	C	Remove TPP and final layout onto TRL	MR
20.05.16	D	Update layout	MGP
25.05.16	E	Update layout	MGP
15.05.16	F	Update layout	MGP

1. INTRODUCTION

1.1 Pegasus Group have been instructed by Dorchester Living to carry out an arboricultural assessment in relation to land to the south of Camp Road, Upper Heyford; hereafter referred to as 'the site'.

APPENDIX 1 – SITE LOCATION PLAN

1.2 The scope of the assessment was to visit the site and to re-survey relevant trees, groups and hedges in accordance with BS5837:2012 '*Trees in relation to design, demolition and construction – recommendations*.' Pegasus Group was requested to then present the following information:

- Tree survey report
- Schedule of tree survey data
- Tree Survey and Constraints Plan.

1.3 With reference to the above information and BS 5837:2012, Pegasus Group were subsequently also instructed to assess the impact of development proposals on the site's arboricultural resource and to produce the following:

- Arboricultural Impact Assessment
- Tree Retention and Loss Plan
- Tree Protection Plan
- Heads of terms for an Arboricultural Method Statement.

2. REPORT LIMITATIONS

2.1 Trees are living organisms as well as self-supporting dynamic structures. Their physiological and structural condition can change rapidly in response to a wide range of biotic/abiotic factors. They have the potential to fail structurally, without prior manifestation of any reasonably observable symptoms. It is therefore not possible to categorically state that any tree is 'safe'.

2.2 This report is prepared for the planning application purposes only and does not evaluate the degree of risk posed by trees.

2.3 It is beyond the scope of this report to comment in relation to structural damage – direct or indirect, existing or potential – that might be associated with vegetation growth, or vegetation-related soil subsidence or heave.

2.4 Any management recommendations set out within this report are of an advisory and preliminary nature only and relate to trees within the context of current site use.

2.5 Any physical alterations to site conditions subsequent to the date of the site survey will have the potential to change/invalidate the findings and recommendations of this report.

2.6 The findings and recommendations of this report are limited to a period of 24 months from the date of this report.

2.7 Findings relate to the site conditions as found at the time of survey.

3. DOCUMENTS AND INFORMATION PROVIDED

3.1 For the purposes of carrying out the assessment, Pegasus Group were provided with the following information:

- Jestico and Whites Proposed Masterplan 2738-OV-150 Rev P10
- Eden Landscape Architects Tree Planting Strategy
- Jestico and Whites Proposed Masterplan 2738-OV-150 Rev P16, date 19.05.16
- Jestico and Whites Proposed Masterplan 2738-OV-150 Rev P17, date 24.05.16

4. OTHER CONSIDERATIONS

Statutory tree protection

4.1 Cherwell District Council have confirmed that the site is located within the Upper Heyford Conservation Area but that none of the trees on or adjacent to the site are currently protected by Tree Preservation Order (TPO).

4.2 It must therefore be noted that the trees >75mm DBH that are located within the Conservation Area are subject to statutory protection.

4.3 Notwithstanding specific exemptions and in general terms, a Conservation Area prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees or woodlands without the prior consent of the local planning authority.

4.4 Penalties for contravention of a Conservation Area tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £25,000 if convicted in a Magistrates' Court, or an unlimited fine is the matter is determined by the Crown Court.

4.5 On many sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission.

4.6 Any proposed tree works that are planned to be carried out on site must be carried out in accordance with the statutory controls outlined.

Statutory Wildlife Protection

4.7 Although preliminary visual checks from ground level of likely wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside the remit of this report.

4.8 Trees which contain holes, splits, cracks and cavities could potentially provide a habitat for bats in addition to birds and small mammals. It is recommended that in line with any accompanying specialist advice, any tree works should only be carried out following a detailed climbing inspection to the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, the

project manager, site owner or consulting arboriculturist should be informed and appropriate action taken as recommended by a Statutory Nature Conservation organisation such as Natural England.

4.9 It is advised that tree/hedgerow works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. Ideally, operations should be avoided during this period. Any necessary work should only be carried out following a preliminary check of the vegetation.

4.10 For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species Regulations 2010, form the basis of the statutory legislation for flora and fauna in Britain.

5. DESCRIPTION OF SITE AND TREES

5.1 The site is located to the south of Camp Road, within the approximate centre of the former military airbase of Upper Heyford, Oxfordshire.

- Post Code OX25 5TD
- SP 51380 25750

5.2 The site area at the time of survey consisted of numerous semi-derelict buildings with associated roadways and areas of hardstanding.

5.3 The distribution of trees and groups within the site reflects the existing layout.

5.4 The overall impression of the site from an arboricultural perspective is one of well-established trees, often set within extensive hard surfacing, that are in some cases now outgrowing their original planting location and purpose.

5.5 The trees within the northern part of the site are reasonably large and function as landscape features within the Camp Road street scene.

6. SURVEY METHODOLOGY

Site visit

6.1 Pegasus Group visited the site on 3rd December 2015. Individuals present on site: Matt Reid MICFor MArborA L

Tree Survey

6.2 The tree survey was carried out with reference to methodology set out in BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. Trees were not tagged.

6.3 Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (eg avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups/woodlands were also surveyed as individuals

6.4 Tree survey findings are recorded in the tree survey schedule.

APPENDIX 2 – TREE SURVEY SCHEDULE

6.5 Within the tree survey schedule, each surveyed Tree (T), Group (G), or Hedgerow (H)on or adjacent to the site is given a reference number which refers to its position on the tree survey plan. Also shown on the tree survey plan are quality grading and preliminary tree constraints: root protection areas (see paragraph 8.2 for definition).

APPENDIX 3 – TREE SURVEY & CONSTRAINTS PLAN

6.6 In accordance with BS5837:2012, the following measurement standards were applied.

- *Tree species* are listed by common name.
- *Heights* are measured in metres. They are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- *Trunk diameters* are measured in millimetres and are rounded to the nearest 10mm. Single stemmed tree diameters are measured at 1.5m above ground level or, where a fork or swelling makes this impractical, at the narrowest point beneath. Diameters of multi-stemmed trees are calculated as 'combined stem diameters' according to specific guidance set out within BS5837:2012. Where trunk diameters have had to be estimated due to poor access, for example, this is indicated with a '#'.

- *Branch spreads* are taken at the four cardinal points to derive an accurate representation of the tree crown. They are recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over *10m.*
- *Crown clearance* is expressed both as existing height above ground level of first significant branch along with its direction of growth (eg 2.5m-N), and also in terms of the overall canopy. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- *Estimates.* Where any other measurement has had to be estimated, due to inaccessibility for example, this is indicated by a "#" suffix to the measurement as shown in the tree survey schedule.
- *Life stage* is defined as Y – young (stake dependent), SM - Semi-Mature (still capable of being transplanted without preparation, up to 30cm girth and not yet sexually mature), EM – Early Mature (not yet having reached 75% of expected mature size), M – Mature (anything else up to normal life expectancy for the species), OM – Over Mature (anything beyond mature and in natural decline), V – Veteran (any tree displaying characteristics described by Natural England).
- *General observations* are recorded in relation to a tree's structural and/or physiological condition (eg the presence of any decay and physical defect) and /or any preliminary management recommendations that may be appropriate.
- *Physiological condition* is described as Good (no indications of impaired physiological function and in optimum condition for age and species), Fair (with indicators of reduced vitality. Some intervention may be required), Poor (with significantly impaired physiological function for age and species).
- *Structural condition* is described as Good (without any observable significant bio-mechanical structural weaknesses), Fair (with minor biomechanical structural flaws. Some remedial action may be required), Poor (with significant biomechanical weaknesses requiring intervention particularly where risk management is required).
- *Useful life expectancy,* or the length of time a tree's is estimated to be able to make a useful contribution, is expressed in years as: <10, 10+, 20+, 40+.
- *Quality of individual trees, groups of trees and woodlands is assessed in terms of quality* and benefit within the context of proposed development and graded into one of four categories (A, B, C and U) which are differentiated on the tree survey (Appendix 3) plan by the colours indicated below:
  - Category A (Green) Trees of high quality with an estimated remaining life expectancy of 40 years
  - Category B (Blue) Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
  - Category C (Grey) Trees of low quality with an estimated remaining life expectancy of at least 10 years.
  - Category U (Red) Unsuitable for retention. Trees in such a poor condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
- A, B and C trees have also been given a sub-category of 1, 2 or 3 which reflects their arboricultural, landscape or cultural and conservation values

respectively. Each subcategory has an equal weight, for example an A1 tree has the same retention priority as an A3 tree.

- In addition to the category, the tree survey schedule also describes each tree's root protection area (RPA) in terms of radius (metres) and overall area (sq metres).

7. TREE SURVEY FINDINGS

7.1 A summary of the tree survey findings for the whole site is shown in table form below and can be seen graphically on the Tree Survey and Constraints Plan.

	A	B	C	U	Total
Groups	0	1	0	0	1
Trees	0	5	12	0	17
Total	**0**	**6**	**12**	**0**	**18**

7.2 With reference to the above table it can be seen that out of a total of 18 survey items:

- The greater majority of surveyed items (12 trees) were considered to be *low* quality with a life expectancy of 10+ years.
- A reasonable proportion of surveyed items (six items consisting of one group, and five trees) were assessed as *moderate quality* with a life expectancy of 20+ years
- No surveyed items were assessed as *high quality* with a life expectancy of 40+ years.
- No surveyed items were assessed as *unsuitable* for retention in the current site context, having life expectancies of <10 years.

7.3 In summary, and with regard to the context of the site, the principal arboricultural considerations are:

- Majority numbers of low quality trees and groups
- Fewer numbers of moderate quality trees.

8. IDENTIFICATION OF PRELIMINARY TREE CONSTRAINTS

8.1 In accordance with BS5837:2012, below ground constraints, or root protection areas (RPAs), for the surveyed trees have been plotted onto the tree survey plan for the site. These are represented as a circle centred on the base of each tree stem with a radius of 12 times stem diameter measured at 1.5m above ground level.

8.2 With reference to BS5837:2012, a root protection area (RPA) is defined as

> **"a layout design tool indicating 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 should be treated as a **priority". "The default position** [when considering design layout in relation to RPAs] should be that structures are located outside the RPAs of **trees to be retained".**

8.3 BS5837:2012 states (4.6.2) that,

> **"where pre**-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a **polygon of equivalent area should be produced."**

The BS goes on to state that,

> **"modifications to the shape of the RPA should reflect a** soundly based arboricultural assessment of likely root **distribution,"**

and that any deviation from the original circular plot should take into account:

- morphology and disposition of roots
- topography and drainage
- soil type and structure
- the likely tolerance of the tree to root damage/disturbance

8.4 Root systems can be damaged in a number of ways as follows:

- Severance of a root will destroy all parts of the root beyond that point. The larger the root severed, the greater the impact on the tree. If roots are damaged close to the trunk, the anchorage and stability of the tree can be affected.
- The root bark protects the root from decay and is also essential for further root growth. If damage to the bark extends around the whole circumference, the root beyond that point will be killed.
- Soil compaction, which may occur from storage of material or passage of heavy equipment over the root area, can restrict and even prevent gaseous diffusion through the soil, and thereby asphyxiate the roots. The roots must have oxygen for survival, growth and effective functioning.

- Lowering the soil level will strip out the mass of roots near the surface.
- Raising soil levels will have the same effect as soil compaction.
- Incorrect selection and application of herbicide.
- Spillage of oils or other harmful materials.

8.5 Above ground constraints posed by trees describe the capacity for trees to have an overbearing or dominating effect on new developments; usually post occupancy. Typical above ground constraints include a number or combination of inconveniences including shading, branch spread, movement of trees during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated requests to fell or heavily prune retained and protected trees.

9. DESCRIPTION OF PROPOSED DEVELOPMENT

9.1 The development proposals are for redevelopment of the area to create a new village centre area that will serve a wider scale residential re-development of the former air base site as a whole.

9.2 The two main existing buildings (Buildings 457 and 455) on the site shall be retained and restored to create a bistro restaurant and bar and hotel respectively. The village centre proposals (which have undergone iterative processes of extensive urban and landscape design) shall also incorporate a market and village square with covered canopy area, along with outdoor eating space overlooking the village green area.

9.3 The application area defined by the red line also incorporates vehicle and cycle parking together with servicing and delivery areas.

10. ARBORICULTURAL IMPACT ASSESSMENT (AIA)

10.1 With reference to BS5837:2012 *'Trees in relation to design, demolition and construction'*, this AIA evaluates the direct and indirect effects of the proposals on the site's arboricultural resource.

10.2 The AIA considers the effects of any tree loss required to implement the illustrative design as well as any potentially damaging activities proposed in the vicinity of retained trees.

10.3 With reference to BS5837:2012, the AIA includes a tree retention/loss plan. This illustrates the anticipated extent of tree removals that will be required in order to enable the construction of the development proposals.

APPENDIX 4 – TREE RETENTION/LOSS PLAN

10.4 An AIA schedule is attached that relates to the trees affected by the proposals.

APPENDIX 5 – ARBORICULTURAL IMPACT ASSESSMENT SCHEDULE

10.5 The AIA schedule is an interpretation by an arboriculturist of the proposals in relation to the existing arboricultural constraints on site. The schedule provides a tree-by-tree/group-by-group assessment of the level of potential impacts of the proposals. This assessment is cross referenced against tree/group qualities in order to provide consistent evaluations of the degree of significance of the anticipated arboricultural impacts.

10.6 The AIA schedule subsequently sets out any preventative measures and other mitigation proposals to reduce, insofar as possible, the level of arboricultural impact and its corresponding significance. This 'adjusted' significance – which is an approximation - may be considered either in terms of an individual survey item, for example in the context of the use of tree protection barriers, or (where mitigation planting is concerned) in the wider context of the site's overall arboricultural resource.

10.7 Analysis of the AIA schedule relating to the development area is set out in table form below:

		A	B	C	U	Total
Groups	Remove	0	1	0	0	1
Trees	Remove	0	5	11	0	16
	Retain	0	1	0	0	1
Total		**0**	**7**	**11**	**0**	**18**

10.8 With reference to 10.7 it can be seen that out of an overall total of 18 survey items:

- One tree (Category B) shall be retained
- One group (Category B) will be removed
- 16 trees (five Category B and 11 Category C) will be removed.

10.9 It can be seen that the greater majority of arboricultural survey items shall be removed in order to enable the proposed development.

Discussion

10.10 An overarching development need for well-designed and functioning space shall require the removal of existing trees from within the site. Reference to the AIA schedule confirms that this arboricultural impact will be significant in the short and medium term. However, the loss of trees must be weighed in a wider planning context against the positive benefits that will accrue from well-designed, functional space.

10.11 From this standpoint, it is important to consider that the development proposals do incorporate a considerable amount of new tree planting that has been designed to harmonise and effectively juxtapose with the proposed new layout. Over time it is anticipated this will mature to provide mitigation for necessary tree removals.

10.12 However, if effective and meaningful arboricultural mitigation is to be achieved, all new tree planting must be suitably designed into the finished landscape. The new trees must effectively integrate and function as a sustainable part of the village centre into the long term.

10.13 For this reason, all new trees must be established in accordance with the principles of BS8545:2014 and 'Trees In Hard Landscapes – a guide for delivery'[1]. In brief summary, this will entail:

- Full consideration of the new trees' rooting environment and detailed design of planting pits, surfacing and protection measures.
- Collaboration between relevant disciplines
- Commitment to ongoing establishment and maintenance of all trees.

10.14 In demonstrating feasibility of this approach in a planning context and in anticipation of subsequent relevant planning conditions being applied, it is considered that new tree provision should incorporate the following key elements:

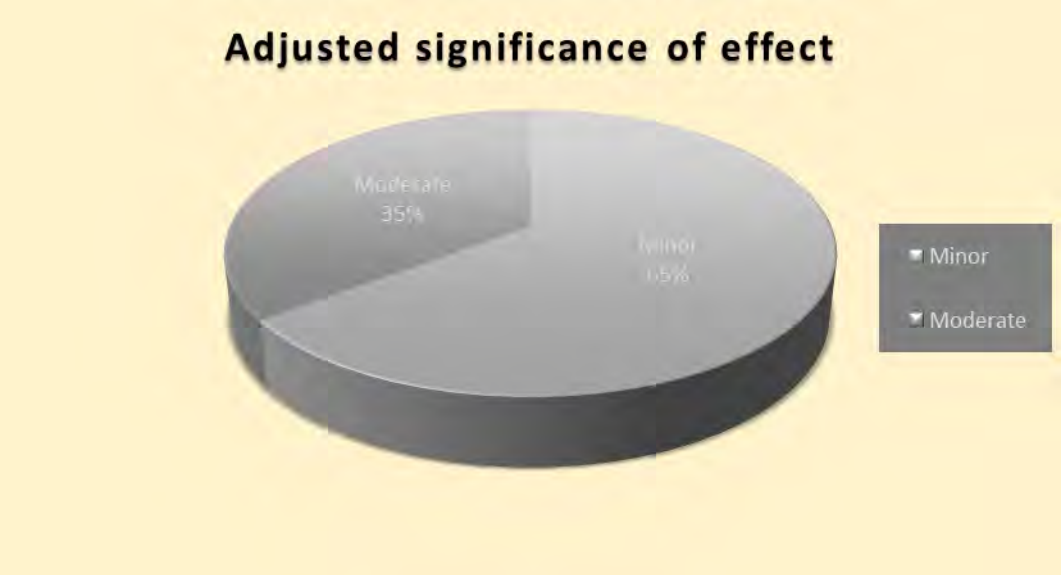
- Use of well-drained tree pits to incorporate appropriate soil volumes
- Use of structural soil that has been engineered to include good drainage and nutrient capacity
- Design of paved areas to encourage rainwater run-off into properly drained rooting areas
- Incorporation of ventilation
- Use of cellular systems, for example ArborRaft[2], to prevent future root damage to built surfaces
- A strategic management plan for establishment and maintenance.

10.15 With reference to the AIA schedule, the overall estimated adjusted significance (ie in the context of new tree planting) of the proposals is summarised in table and graphical form below:

	Adjusted significance of effect
Minor	11
Moderate	7
Total	**18**

[1] http://www.tdag.org.uk/trees-in-hard-landscapes.html

[2] http://www.green-tech.co.uk/ArboRaft-Urban-Tree-Planting/



10.16 With reference to the above table and definitions of significance of effect which are set out alongside the AIA Schedule, it can be seen that the greater majority of arboricultural impacts of the proposed development are considered to be:

- 65% 'minor' (Tree removals that can be mitigated in the short-term (10-20 years)
- 35% 'moderate' (Tree removals that can be effectively mitigated in the medium term (20-40 years)

10.17 Overall, it is therefore reasonable to conclude that when considered 'in the round' the proposals are generally acceptable from an arboricultural perspective for the following key reason:

- New trees can be incorporated into a new design in a way that will compliment all aspects of the new development in the long-term.

11. HEADS OF TERMS FOR AN ARBORICULTURAL METHOD STATEMENT

11.1 BS5837:2012 (Figure 1) recommends that detailed/technical design of tree protection and arboricultural methodologies should be resolved and finalised following on from the approval of the feasibility of a scheme by the relevant regulatory body.

11.2 Annex B and Table B.1 of BS5837:2012, an informative, advises that arboricultural method statement heads of terms are a sufficient level of information in order to deliver tree-related information into the planning system. The table also advises that a detailed arboricultural method statement might reasonably be required as a 'reserved matter' or planning condition.

11.3 In relation to the above site, it is anticipated that arboricultural working methods are likely to be quite straightforward. A draft, 'heads of terms' is set out below:

- Tree removals
- Erection of tree protection barriers
- Main construction phase
- Removal of tree protection barriers
- Final landscaping including tree planting.

12. SUMMARY

12.1 The development proposals apply to land the Village Centre (South) area of the former air base at Upper Heyford.

12.2 The two main existing buildings (Buildings 457 and 455) on the site shall be retained and restored to create a bistro and a members club respectively. The village centre proposals (which have undergone extensive urban and landscape design) shall also incorporate a market and village square with covered canopy area, along with outdoor eating space overlooking the village green area.

12.3 A BS5837:2012 compliant tree survey has identified that the principal arboricultural considerations for the site are:

- Majority numbers of low quality trees and groups
- Fewer numbers of moderate quality trees.

12.4 An Arboricultural Impact Assessment of the development proposals has identified that:

- All trees within the development red line shall be removed

12.5 The AIA has also systematically demonstrated that the significance of the development proposals is not substantial. Once tree protection measures and new tree planting have been taken into account, estimated impacts have been evaluated as:

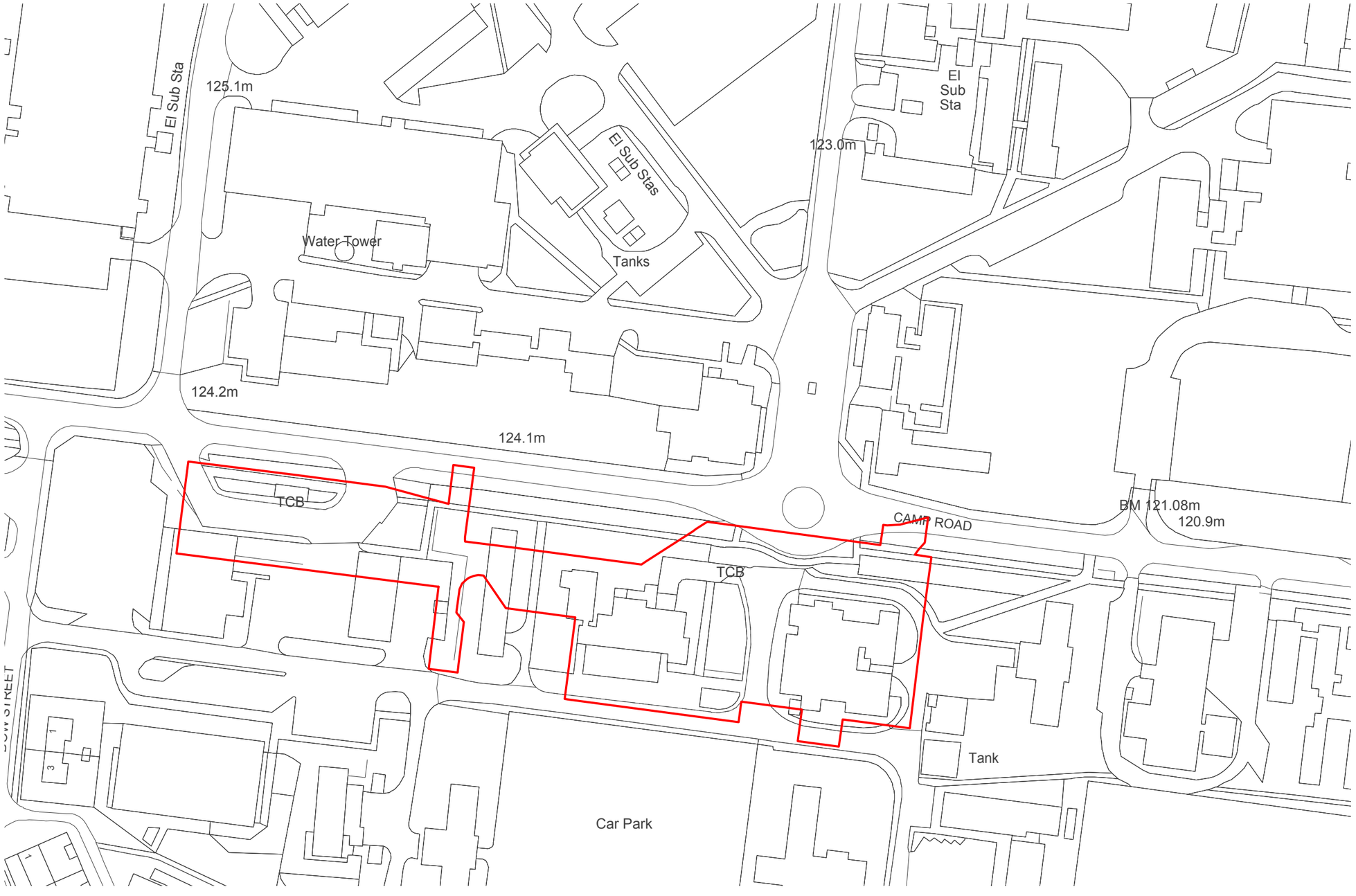
- 65% 'minor' (Tree removals that can be mitigated in the short-term (10-20 years)
- 35% 'moderate' (Tree removals that can be effectively mitigated in the medium term (20-40 years)

12.6 Overall, it is therefore reasonable to conclude that when considered 'in the round' the proposals are generally acceptable from an arboricultural perspective for the following key reasons:

- New trees can be incorporated into a new design in a way that will compliment all aspects of the new development in the long-term.

APPENDIX 1

SITE LOCATION PLAN



KEY

APPLICATION BOUNDARY

N
W E
S

0 10 50m

VILLAGE CENTRE, HEYFORD PARK - **APPLICATION BOUNDARY**

Pegasus Design

PLANNING | DESIGN | ENVIRONMENT | ECONOMICS | WWW.PEGASUSPG.CO.UK | TEAM/DRAWN BY: MP/AD | APPROVED BY P.M: MP | DATE: 20/05/16 | SCALE: 1:1250 @ A3 | DRWG: **D.0371_02** SHEET NO: __ REV: **A** | CLIENT: **DORCHESTER GROUP** |

APPENDIX 2

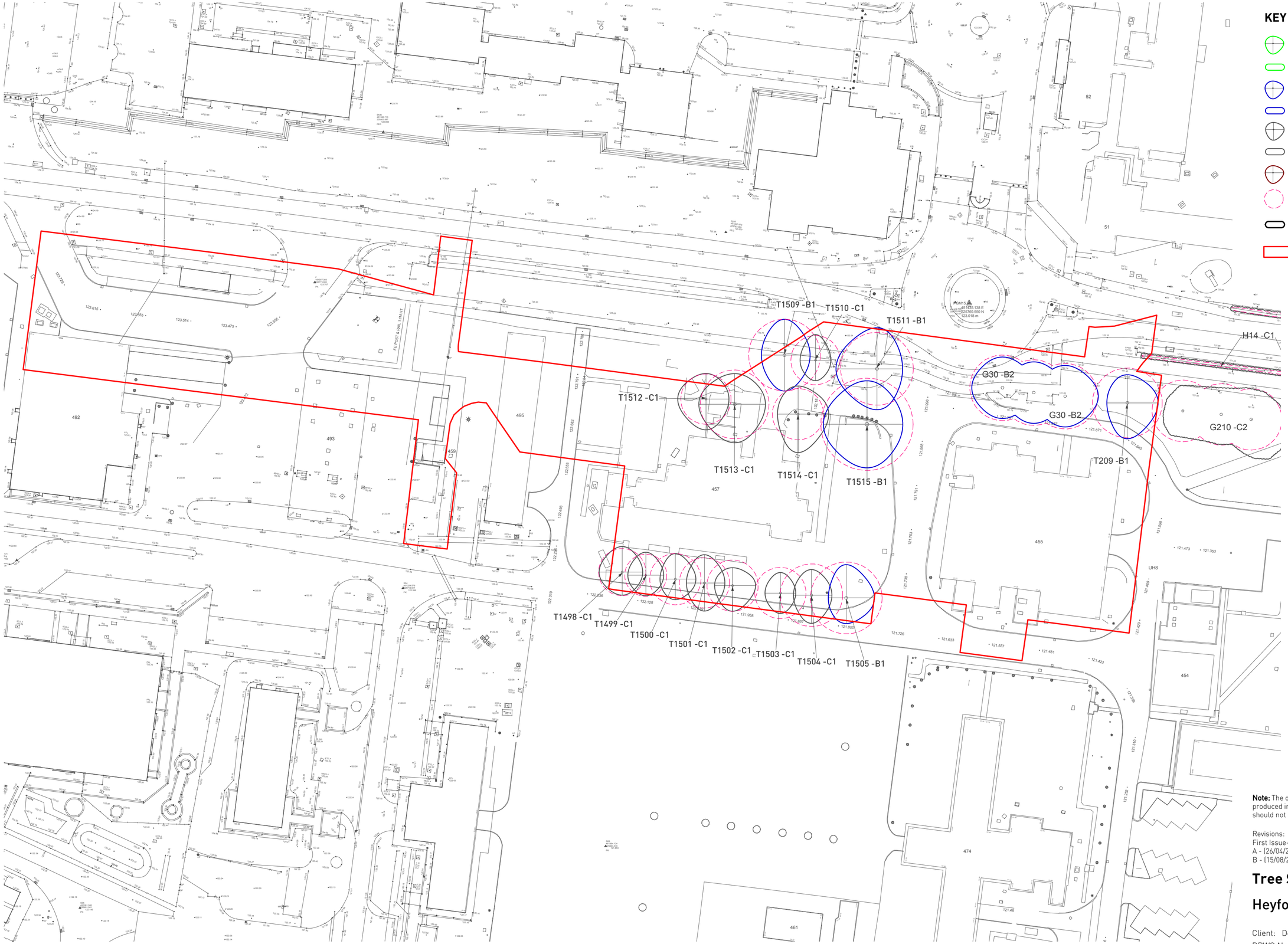
TREE SURVEY SCHEDULE

Date 3.12.15 Site: Upper Heyford Surveyor: MR Client: Dorchester Job no: D.0341

Number	Species	Height	Estimate	Stem dia	Estimate	Spread								Crown clearance height					Life stage	General observations	Structural condition	Physiological condition	ULE	Quality grading	RPA radius	RPA area
						N	Estimate	S	Estimate	E	Estimate	W	Estimate	1st branch	Estimate	1st branch direction	Canopy	Estimate								
G30	Maple (Norway)	12	-	530	-	6	-	6	-	6.5	-	6	-	N/A	-	N/A	3	-	M	Eastern tree rubbing branches at 6m east. Minor amounts minor deadwood.	Fair	Fair	20+	B2	6.4	127.0
T209	Sycamore	15	-	570	-	5.5	-	7	-	6	-	4	-	3	-	South	3	-	M	Minor amounts minor deadwood. Inspect fork at 3.5m.	Fair	Fair	20+	B1	6.8	147.0
T1498	Chestnut (Horse)	10	#	380	-	5	-	4.5	-	4	-	4.5	-	2.5	#	South east	4	#	EM	Decay in central limb 2m north	Fair	Good	10+	C1	4.6	65
T1499	Chestnut (Horse)	10	#	340	-	4.5	-	4	-	3.5	-	3.5	-	4	#	West	4	#	EM	Decay at two large flush cut pruning wounds on main stem	Fair	Good	10+	C1	4.1	52
T1500	Chestnut (Horse)	10	#	420	-	5	-	4	-	4	-	3	-	1.5	#	North	4	#	EM	Occluding bark wound 2m north on limb. Weak forks between limbs at 2m north	Fair	Good	10+	C1	5.0	80
T1501	Chestnut (Horse)	10	#	410	-	5.5	-	5.5	-	4	-	3.5	-	1.5	#	North	4	#	EM	Occluding bark wound 3m south on limb. Poor limb attachment to trunk at 2m	Fair	Good	10+	C1	4.9	76
T1502	Chestnut (Horse)	10	#	420	-	3.5	-	5	-	4.5	-	3.5	-	3	#	South west	4	#	EM	No comments	Good	Good	10+	C1	5.0	80
T1503	Chestnut (Horse)	10	#	420	-	4	-	4	-	3	-	3	-	1.5	#	North	4	#	EM	Decay formation within limbs at old pruning points 2m north	Good	Good	10+	C1	5.0	80
T1504	Chestnut (Horse)	10	#	510	-	5	-	5.5	-	4	-	3.5	-	5	#	North east	4	#	EM	Some bleeding canker on south at 4m. Part occlude old bark wound at 0.5m SE with slime flux exudate.	Poor	Fair	10+	C1	6.1	118
T1505	Chestnut (Horse)	11	#	580	-	6.5	-	5	-	5.5	-	3.5	-	4.5	#	South	4	#	EM	End tree of group	Good	Good	20+	B1	7.0	152
T1509	Sycamore	0	-	580	-	7	-	7	-	5	-	4.5	-	5	#	South	3	#	EM	Moderate amounts of major deadwood.m dominant tree in group.	Good	Good	20+	B1	7.0	152
T1510	Sycamore	0	-	400	-	5	-	4	-	3	-	3	-	5	#	North	3.5	#	EM	Weak fork at 4m. Recommend install brace system to reinforce union	Fair	Good	10+	C1	4.8	72
T1511	Sycamore	0	-	590	-	8	-	8	-	5	-	8	-	3	#	South	3	#	EM	Growing over concrete slab to north	Good	Good	20+	B1	7.1	157
T1512	Sycamore	12	-	410	-	5	-	6	-	4.5	-	5.5	-	3.5	#	South	4	#	EM	Decay associated with pruning wounds on two of tree limbs at 4m. Hard surface to north and east	Fair	Good	10+	C1	4.9	76
T1513	Maple (Norway)	12	-	560	-	6	-	7.5	-	6	-	7	-	4	#	South	2	#	M	No central leader. Hard surface to north and west	Fair	Good	10+	C1	6.7	142
T1514	Sycamore	13	-	420	-	5.5	-	7.5	-	6	-	4	-	4	#	South	3	#	EM	Base surrounded by concrete slab. Crown suppressed on west side by adjacent tree	Fair	Good	10+	C1	5.0	80
T1515	Sycamore	15	-	750	-	8.5	-	8.5	-	7	-	8.5	-	3.5	#	South	4	#	M	Base,surrounded by concrete hard surfacing. Largest tree in the linear group. Two,bat boxes at 5m	Good	Good	20+	B1	9.0	255

APPENDIX 3

TREE SURVEY AND CONSTRAINTS PLAN



KEY

BS 5837 : 2012 Categories

- Tree Category A - High Quality
- A Category - Hedgerow, Group, Woodland
- Tree Category B - Moderate Quality
- B Category - Hedgerow, Group, Woodland
- Tree Category C - Low Quality
- C Category - Hedgerow, Group, Woodland
- Tree Category U - Unsuitable for Retention
- Root Protection Area to BS:5837:2012
- Shrub Mass / Offsite Tree
- Site Boundary

Note: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

Revisions:
First Issue- 16/12/2015 AD
A - (26/04/2016 SHG) Adjustment to tree numbers
B - (15/08/2016 AD) Red line edit

Tree Survey & Constraints Plan

Heyford Park - Village Centre

Client: Dorchester Group
DRWG No: **D.0341_89** Sheet No:_ REV: **B**
Drawn by : AD Approved by: MR
Date: 15/08/2016
Scale: 1:500 @ A2

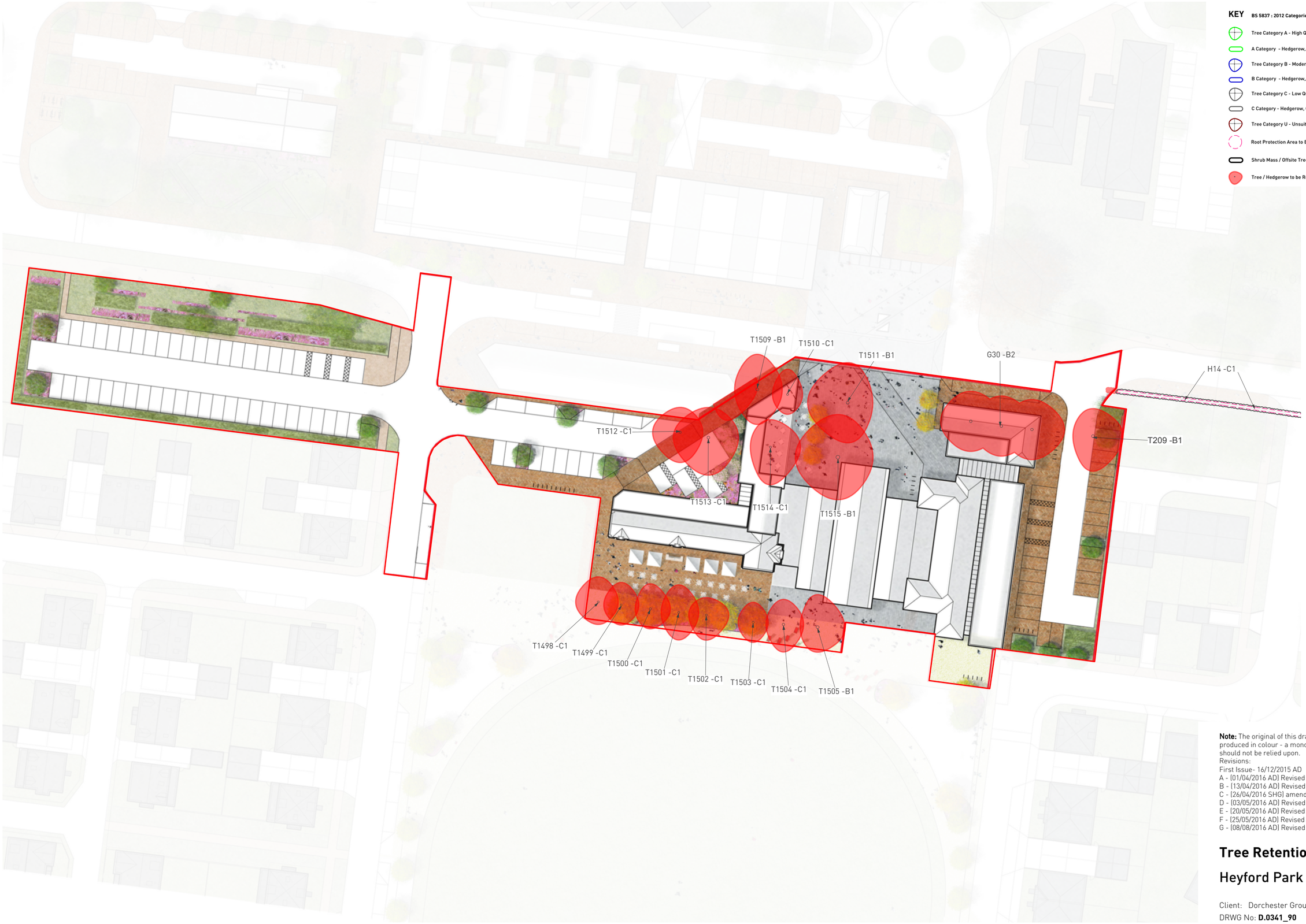
Pegasus Environment

0 25m

N

APPENDIX 4

TREE RETENTION AND LOSS PLAN



KEY **BS 5837 : 2012 Categories**

- Tree Category A - High Quality
- A Category - Hedgerow, Group, Woodland
- Tree Category B - Moderate Quality
- B Category - Hedgerow, Group, Woodland
- Tree Category C - Low Quality
- C Category - Hedgerow, Group, Woodland
- Tree Category U - Unsuitable for Retention
- Root Protection Area to BS:5837:2012
- Shrub Mass / Offsite Tree
- Tree / Hedgerow to be Removed

Note: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

Revisions:
First Issue- 16/12/2015 AD
A - (01/04/2016 AD) Revised layout
B - (13/04/2016 AD) Revised layout
C - (26/04/2016 SHG) amendment to tree numbers
D - (03/05/2016 AD) Revised layout
E - (20/05/2016 AD) Revised layout
F - (25/05/2016 AD) Revised layout
G - (08/08/2016 AD) Revised layout

Tree Retention & Loss Plan

Heyford Park - Village Centre

Client: Dorchester Group
DRWG No: **D.0341_90** Sheet No:_ REV: **G**
Drawn by : AD Approved by: MP
Date: 08/08/2016
Scale: 1:500 @ A3

0 25m

N

Pegasus Environment

APPENDIX 5

ARBORICULTURAL IMPACT ASSESSMENT SCHEDULE

		Arboricultural Impact Assessment Significance Matrix					
		Level of Impact					
		High	**Medium**	**Low**	**Slight**	**None**	
		e.g. removal required to facilitate development. Excessive root severance. Excessive above ground pruning. Hedgerows: >50% loss of overall length.	e.g root damage, soil compaction or above ground impacts tree management works unacceptable in terms of BS3998:2010. Hedgerows: >25% loss of overall length.	e.g. minor fine root loss, installation of no dig surfacing, temporary ground protection. Moderate tree works within the parameters of BS3998:2010. Hedgerows: 5-10% loss of overall length.	e.g.very minor works within root protection areas for example the installation of lightweight fencing or soft landscaping. Hedgerows: <5% loss of overall length.	E.g. trees located at a significant distance from development and construction activities.	
BS5837:2012 Quality Assessment Category	**A**	Major	Major	Moderate	Minor	None	**Significance of effect**
	B	Major	Moderate	Minor	Insignificant	None	
	C	Moderate	Minor	Insignificant	Insignificant	None	
	U	Minor	Minor	Insignificant	Insignificant	None	
		Significance of effect					

Significance of effect - definitions	
Major	Removal/acute damage to structural integrity/vitality/appearance of a high quality arboricultural feature. Depending on circumstances, may result in the loss of all/greater majority of public visual amenity value. Mitigation planting unlikely to be effective except in the long term (40+ years).
Moderate	In the case of damage: unlikely to give rise to tree death but likely to noticably reduce vitality and deterioration of appearance in the short and medium term, with corresponding reduction in public visual amenity value where relevant. Tree removals that can be effectively mitigated in the medium term (20-40 years). For example notable crown dieback, foliage discolouration, low leaf density, or tree management works unacceptable in terms of BS3998:2010.
Minor	Short-term damage with limited distribution that can be reasonably compensated for by new growth. Unlikely to result in observable symptoms of damage in relation to structural integrity/vitality/appearance. No obvious impact on public visual amenity. Tree removals that can be mitigated in the short-term (10-20 years)
Insignificant	Minimal damage in very small amounts. No obvious impact on public visual amenity.
None	No impact to above or below ground components of tree reasonably anticipated.

Arboricultural Impact Schedule				Site: Heyford Village Centre				Ref: D.0341	
No	Species	Quality	Arboricultural effects (direct and indirect) of proposed design - description	Unadjusted scale of effect	Unadjusted significance of effect (scale effects x quality)	Recommended mitigation	Adjusted scale of effect following mitigation	Adjusted significance of effect (adj .scale effects x quality)	Tree removal required
G30	Maple (Norway)	B2	• Root damage (including soil compaction) and impact damage to trunk and branches resulting from demolition of surrounding structures and from typical construction site activities • Root damage associated with construction of hard surfacing within RPA.	High	Major	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Moderate	Remove
T209	Sycamore	B1	• Root damage (including soil compaction) and impact damage to trunk and branches resulting from demolition of surrounding structures and from typical construction site activities • Root damage associated with construction of hard surfacing within RPA.	High	Major	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Moderate	Remove
T1498	Chestnut (Horse)	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1499	Chestnut (Horse)	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1500	Chestnut (Horse)	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove

Arboricultural Impact Schedule				Site: Heyford Village Centre				Ref: D.0341	
No	Species	Quality	Arboricultural effects (direct and indirect) of proposed design - description	Unadjusted scale of effect	Unadjusted significance of effect (scale effects x quality)	Recommended mitigation	Adjusted scale of effect following mitigation	Adjusted significance of effect (adj .scale effects x quality)	Tree removal required
T1501	Chestnut (Horse)	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1502	Chestnut (Horse)	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1503	Chestnut (Horse)	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1504	Chestnut (Horse)	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1505	Chestnut (Horse)	B1	Remove to enable development	High	Major	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Moderate	Remove

Arboricultural Impact Schedule				Site: Heyford Village Centre				Ref: D.0341	
No	Species	Quality	Arboricultural effects (direct and indirect) of proposed design - description	Unadjusted scale of effect	Unadjusted significance of effect (scale effects x quality)	Recommended mitigation	Adjusted scale of effect following mitigation	Adjusted significance of effect (adj .scale effects x quality)	Tree removal required
T1509	Sycamore	B1	• Root damage (including soil compaction) and impact damage to trunk and branches resulting from demolition of surrounding structures and from typical construction site activities • Root damage associated with construction of hard surfacing within RPA.	High	Major	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Moderate	Remove
T1510	Sycamore	C1	• Root damage (including soil compaction) and impact damage to trunk and branches resulting from demolition of surrounding structures and from typical construction site activities • Root damage associated with construction of hard surfacing within RPA.	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1511	Sycamore	B1	Remove to enable development	High	Major	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Moderate	Remove
T1512	Sycamore	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1513	Maple (Norway)	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove

Arboricultural Impact Schedule				Site: Heyford Village Centre				Ref: D.0341	
No	Species	Quality	Arboricultural effects (direct and indirect) of proposed design - description	Unadjusted scale of effect	Unadjusted significance of effect (scale effects x quality)	Recommended mitigation	Adjusted scale of effect following mitigation	Adjusted significance of effect (adj .scale effects x quality)	Tree removal required
T1514	Sycamore	C1	Remove to enable development	High	Moderate	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Minor	Remove
T1515	Sycamore	B1	Remove to enable development	High	Major	• Replacement of trees as part of landscaping scheme • New trees planted into engineered ground conditions to ensure effective establishment. • Details to be confirmed as part of an approved Arboricultural Method Statement (AMS) secured by planning condition • Short term visual impact mitigated by longer term arboricultural gain anticipated as replacement trees mature.	Medium	Moderate	Remove