



EnviroArb Solutions Ltd



ARBORICULTURAL IMPACT ASSESSMENT

Site:	700 St Johns Road, St Johns Nursery Site Earls Hall Drive, Clacton-On-Sea, Essex, CO16 8BJ
Client:	Kelsworth Ltd
Date	3rd June 2021
Our Ref:	EAS-004v4
Planning Ref:	18/01779/FUL

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1.0 EXECUTIVE SUMMARY

- 1.1 The site is currently located close to the western edge of Clacton-on-Sea the site is roughly rectangular in shape and comprises a horticultural nursery site within a landscape of flat agricultural fields to the north and east, ribbon residential development to the south (St John's Road) and mixed residential and agricultural land to the west. Boundaries of the site are defined by hedgerows to the north and east, Earls Hall Drive to the west and the rear garden boundaries of homes to the south.
- 1.2 The trees on the site surround the northern eastern and western site boundaries and mainly consist of windbreak screening Poplar and Cypress trees. The exception are the trees along the eastern site boundary which are mainly Oak trees of modest amenity value with younger trees located within the site amongst the existing buildings to the west of self-sown or ornamental planted specimens, most of which are of lower quality and landscape value.
- 1.3 The development proposal is for the; *"Demolition of nursery buildings and dwelling house. Erection 195 residential units (comprising 6 two bed houses, 87 three bed houses, 33 four bed houses, 25 five bed houses, 12 one bedroom apartments and 24 two bedroom apartments), and 8 live work units (mixed commercial units measuring 1064 square metres in total with flats above). Associated roads, open space, drainage, landscaping, and other infrastructure"*.
- 1.4 The primary tree related issues in relation to the development proposals are:
 - 1.4.1 The retention and protection of as many of the group of trees on the western site boundary T1-T14 which provide screening and visual amenity to Earls Hall Drive.
 - 1.4.2 The removal and replacement of the tired and poor condition leyland hedge / screen along Earls Hall Drive, TG2 & TG3, which have been heavily cut back on the road side leaving that side of the screen brown and given the species unlikely to grow back. Several of the trees in this screen are suppressed and have died.
 - 1.4.3 The retention and protection of the Hybrid Poplar & Cypress linear group of trees along the northern site boundary, T18-T56 & TG4, the Council Tree Officer originally agreed with the arboricultural consultant from Enviroarb-Solutions Ltd that, on balance, were to be removed and replaced. However, following consultations with planners and the design team it was felt that at this stage that the northern boundary linear Poplar tree belt should remain. The retention and maintenance of these trees is therefore reinstated on the recommendation that they are regularly inspected and maintained, especially given their close proximity to the proposed development and children's play area.

1.4.4 Hybrid Poplar trees are also known to sucker from their roots, have basal epicormic growth and moderate to high amounts of crown deadwood. They are also susceptible to limb failure as they mature and reach the end of their safe useful life expectancy. Currently basic crown maintenance is recommended only as crown reduction once started requires repeated works every 2-3 years.

1.4.5 The area of the northern and eastern boundary is now recommend to be subject to regular monitoring and inspection, especially as a section is now proximal to a proposed new children's play area.

1.5 A summary of the affected trees is detailed in the table below:

Arboricultural Impact	Reason for Impact	A	B	C	U
Trees to be removed: - Development - Poor Condition	To facilitate the development & due to their condition (U cat)	/	/	T11, T12, T15, TG2, TG3,	T16, T17, T18, T24, T45, T48, T51, TG5
Trees with RPA encroachment	To facilitate construction	/	T10	T1, T7, T9	/
Retained trees to be pruned	To address identified defects / facilitate construction	/	T2, T10, T13, T14, T19, T20, T22, T23, T27, T30, T31, T32, T33, T34, T35, T36, T37, T39, T40, T42, T43, T44, T46, T47, T49, T57, T58, T60, T61, T62	T1, T9, T38, T41, T50, T52, T53, T54, T55, T56, TG4, T59, TG6, T74	/

Project Team Contacts List

CONTACTS	Company	Position	Contact No.
Paul Allen DipArb (RFS) MICFor MAE [REDACTED]	EnviroArb Solutions Ltd	Principal Arboricultural Consultant	M: 0773471537
Michael Robinson [REDACTED]	E3 Design	Senior Planning Consultant	/
Dominic Thomas [REDACTED]	Chetwoods	Architect - director	/
Clive Dawson [REDACTED]	Tendring District Council	Tree Officer	

2.0 REPORT METHODOLOGY

- 2.1 EnviroArb Solutions Ltd (EAS) aim is to provide “fit for purpose” field survey, data capture and report based on the client brief. EAS approach broadly follows the guidance contained in “Trees in relation to demolition, design and construction – Recommendations” (BS5837:2012); however, the use of any terms or concepts contained within it does not imply EnviroArb Solutions Ltd acceptance of their validity or accuracy and the use of any section or concept contained within the standard is on the principle of its advisory status as guidance.

3.0 SCOPE


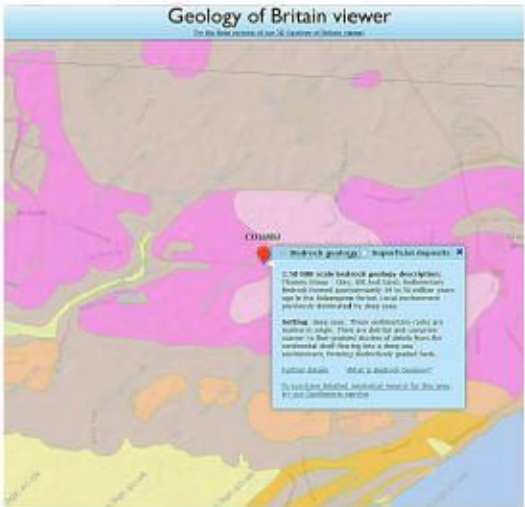
- 3.1 EnviroArb Solutions Ltd. has surveyed the key trees on and adjacent to the site and has provided guidance within this report on the measures necessary to ensure successful tree retention during any development, with recommendations for tree removal and / or tree works as necessary. The scope was as follows:
- 3.2 To visit the site and complete a survey of trees, shrubs, hedgerows and other vegetation that may materially be of interest relative to development proposals.
- 3.3 To assess the likely impacts of the development on the trees and make 'in principle' recommendations relating to tree removals, tree retention and tree protection during development.
- 3.4 To carry out an arboricultural impact assessment on the effect of the new development at the site, identifying the Construction Exclusion Zones (CEZ) that are shown on the Tree Protection Plan (TPP). This plan will also show the locations for tree protective fencing and any temporary ground protection required, as well as identifying 'No-Dig' zones for any RPAs shown to be outside of CEZs.
- 3.5 To produce a Tree Constraints Plan (TCP), showing the locations of surveyed trees, their BS5837:2012 categorisation and the theoretical Root Protection Areas (RPAs).
- 3.6 To make any other observations or recommendations required based on the survey.

4.0 PLANS AND REFERENCE DOCUMENTS

- 4.1 BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'
- 4.2 BS3998:2010 'Tree work – recommendations'
- 4.3 NJUG 4 – National Joint Utilities Group "Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Volume 4, issue 2. London: NJUG 2007"
- 4.4 Information from the Tendring District Council local plan and website
- 4.5 BGS Open Source Soil Data <http://www.bgs.ac.uk/nercsoilportal/maps.html>
- 4.6 We understand that the scheme is currently at the application submission stage.

5.0 DESCRIPTION OF SITE GEOLOGY

- 5.1 The site is located close to the western edge of Clacton-on-Sea. The site is roughly rectangular in shape and comprises a horticultural nursery site within a landscape of flat agricultural fields to the north and east, ribbon residential development to the south (St John's Road) and mixed residential and agricultural land to the west. Boundaries of the site are defined by hedgerows to the north and east, Earls Hall Drive to the west and the rear garden boundaries of homes to the south.
- 5.2 The immediate and distant landscape character is rural at present.
- 5.3 The topography of the site is mainly level.

10. Site Location (OS)	11. Site Location (BGS Soil)
	
<p>British Geology Survey (Online) – Soils Summary</p> <p>Thames Group - Clay, Silt and Sand with superficial (Drift) deposits of Kesgrave Catchment Subgroup - Sand and Gravel.</p> <p>http://mapapps.bgs.ac.uk/geologyofbritain/home.html</p>	

- 5.4 The underlying site soil has been identified as sand and gravel. This decreases the risk of damage to the trees by way of site compaction, as this soil type is less prone to compaction. Trees in this soil type generally explore a greater depth of soil horizons, etc. The underlying site soil has, however, also been identified as CLAY, and great care should therefore be taken to ensure no compaction of the soils occurs within the identified RPAs, as this soil type is less favourable to tree root growth / moisture movement and aeration.

5.5 All comments regarding soils should be verified with on-site geotechnical investigations and laboratory testing, with foundation depth and design determined by a structural engineer in accordance with the requirements of NHBC Chapter 4.2.

6.0 THE TREES

6.1 There were 74 individual trees, 6 tree groups and 1 shrub group surveyed on-site or immediately adjacent to the site boundary.

6.2 By BS5837:2012 Categorisation, the trees can be summarised as follows:

BS 5837 Cat	A	B	C	U
Specific Trees	None	1 tree group 40 trees	4 tree groups 1 shrub group 27 trees	1 tree group 7 trees
Total Number	0	41	32	8

6.3 In total, there were 7 'U' category individual trees and 1 'U' category tree group that were identified as being in poor condition or dead / in decline with less than ten years' useful life expectancy. These should be felled and replaced, regardless of any impact of the development proposal. These trees' locations and a summary of their visual contributions can be summarised as follows:

BS 5837 Cat	A	B	C
Northern Boundary - Contributing as a visual screen / windbreak only to / from farmland	/	40 trees (mainly Poplar)	13 trees & 1 tree group
Western Boundary - Contributing to the street scene from Earls Hall Drive	/	5 trees & 1 tree group	10 trees, 2 tree groups and 1 shrub group
Eastern Boundary - Contributing to visual screening from / to adjacent farmland.	/	12 trees	4 trees & 1 tree group

- 6.4 There are no trees within the centre of the site except for T1-T15 within the south western corner close to the existing entrance to the plant centre. These are generally poor individually although a large majority should be retained and protected. The remaining trees are located around the site northern and eastern boundaries consisting of predominantly Poplar and Oak / Ash.
- 6.5 Our detailed check with the Local Planning Authority has confirmed that no trees on site are protected by Tree Preservation Orders, neither is the site located within a conservation area.

7.0 ARBORICULTURAL IMPACT ASSESSMENT

7.1 Tree Removals

7.1.1 The following trees will be removed to facilitate the development:

Arboricultural Impact	Reason for Impact	A	B	C	U
Trees to be removed: <ul style="list-style-type: none"> - Development - Poor Condition 	To facilitate the development & due to their condition (U cat)		/	T11, T12, T15, TG2, TG3,	T16, T17, T18, T24, T45, T48, T51, TG5

7.1.2 Every effort has been made to reduce the number of trees removed from the site. The majority of works are, however, of low landscape significance and can be adequately mitigated as part of the overall landscaping of the site. Significant impacts requiring specific mitigation are as follows:

7.1.3 Recommended tree works are detailed within the Tree Works Schedule at Appendix 5.

7.2 ROOT PROTECTION AREA (RPA) INCURSIONS

7.2.1 The following incursions into the RPAs of trees to be retained have been identified:

Arboricultural Impact	Reason for Impact	A	B	C	U
Trees with RPA encroachment	To facilitate construction	/	T10	T1, T7, T9	/

7.2.2 The most significant RPA incursions are for proposed new pedestrian footpaths and new car parking within the theoretical RPA of retained trees along the south western boundary; T1, T7, T9 & T10. Surfaces within these RPAs should be 'no / reduced-dig' and any works within these RPAs supervised by an arboricultural consultant.

7.3 FOUNDATIONS

7.3.1 No foundations of the proposal will encroach into the RPA of retained trees.

7.4 HARD SURFACES

7.4.1 The development requires the installation of new surfaces within the RPA of T1, T7, T9 & T10.

7.4.2 To minimise the disruption on the retained trees, it is proposed that a 'reduced / no-dig' surface is installed in the areas indicated on the Tree Protection Plan. These surfaces sit above ground level after surface vegetation removal and ensure that no tree roots are severed during their installation.

7.4.3 Ideally, the profile of new surfaces within the RPAs of trees to be retained should be kept within the depth of profile for existing surfaces. Where existing profile depths are insufficient or there is no existing hard surface, the depth of sub-base to hard surfaces might be minimised by use of a 3D cellular confinement system, details of which are included at Appendix 9.

7.4.4 Please refer to a Site Specific Arboricultural Method Statement (SSAMS), for full details on the proposed installation.



Photographs of 'Reduced-dig' 3D webbing system ground protection

7.5 SERVICES

7.5.1 The route of any services needs to be carefully considered so as to avoid unnecessary encroachment into retained trees' RPAs. These should, where possible, not encroach within the RPAs of retained trees. Where excavations slightly encroach into adjacent trees' RPAs, the excavation should only be considered when supervised by the consultant arboriculturist from EnviroArb Solutions Ltd. and may need to be undertaken using an 'Airsfade' / hand tools.

7.6 GROUND LEVELS

7.6.1 No significant changes to existing ground levels are proposed within the RPAs of retained trees. Where changes in levels, mounding, retaining walls, slopes and hard landscaping features apply close to retained tree RPAs the impact of any alterations to levels and protection methods to be employed should be detailed within the SSAMS.

7.7 SHADING

7.7.1 No shading issues have been identified with the proposal on the basis of the orientation of the tree resource relative to the proposal.

7.8 SITE SUPERVISION / MONITORING

7.8.1 Most damage to trees on development sites is caused inadvertently, and to ensure continued protection during development, a system of site monitoring is proposed.

7.8.2 Basic checks will ensure that protective fencing remains intact. Any unforeseen issues can also be identified and discussed before damage to the tree(s) occurs.

7.8.3 The number of proposed visits is driven by the scale of the proposal. A more detailed explanation of what will be assessed during the proposed monitoring visits is contained in Appendix 6.

7.9 DEMOLITION

7.9.1 No Demolition of existing structures are within proximity to retained trees. should take care not to cause damage to adjacent trees.

8.0 RECOMMENDATIONS

8.1 The preliminary tree works we have recommended are contained within the tree works schedule at Appendix 5.

8.2 Our additional recommendations are as follows:

8.2.1 That during the construction build phase, following current consultation with the arboriculturist from EnviroArb Solutions Ltd, adequate provision is made for the protection of existing trees on site and the areas to be planted with new trees and shrubs.

8.2.2 That by liaison with the council tree officer, formal agreement should be sought regarding the tree pruning required and tree protection methods employed to protect retained trees. These will be via the production of an SSAMS and will include:

- Tree protective fencing as shown on the tree protection plan.
- No ground excavations within tree RPAs, unless approved by the tree officer.
- Any anti-compaction measures required to be taken.
- The specific locating of services trenches to avoid excavations within RPAs where possible, or if necessary being undertaken by hand dig only.
- Specific methods for construction of site access routes close to or within retained trees' RPAs.

8.2.3 That pre-commencement site meetings should be arranged to discuss the recommendations in this and subsequent reports and method statements, and that copies of all relevant arboricultural reports should be available on site.

8.2.4 That the SSAMS should be developed further with the contractor through the development process to include comments made by them, the client and the design team, as well as council officers. A copy of the tree report, including the SSAMS and tree protection plan, should always be kept on site.

8.2.5 That details of site inspection / supervision visits by the consultant arboriculturist are recorded and sent to the council tree officer, with copies retained by the site manager.

9.0 CONCLUSIONS

9.1 The site is located within a rural landscape setting. There are some trees of modest to high amenity value on site, most of which are 'B' and 'C' category standard trees. The dominant individual tree species on this site is Poplar, Oak, Ash and some Conifer species of Leyland / Lawson Cypress and Cedar. None of these trees are protected by Tree Preservation Orders, neither is the site located within a conservation area. Most of the trees are in need of some basic crown pruning works due to their lack of recent management.

9.2 The number of trees identified to fell in light of the development proposal are mostly 'C' & 'U' category trees. Seven individual trees are 'U' category and should be felled regardless of the constraining development. Any trees or groups felled as a result of the development proposal will be mitigated by replacement planting to at the least the same percentage canopy cover as that removed (see below):

Arboricultural Impact	Reason for Impact	A	B	C	U
Trees to be removed: - Development - Poor Condition	To facilitate the development & due to their condition (U cat)	/	/	T11, T12, T15, TG2, TG3,	T16, T17, T18, T24, T45, T48, T51, TG5

9.3 Retained trees will be fully protected by at least sturdy tree protection fencing, as described at Appendix 8. Where encroachment into theoretical RPA is unavoidable temporary ground protection measures will be used which can utilise 3D 'Reduced-Dig' cellular confinement sub-base systems. All tree protection measures are detailed according to construction drawings as part of an SSAMS which will include protection methods and supervision by a consultant arboriculturist from EnviroArb Solutions Ltd. Sufficient development room will be available after protection measures are instigated as described within this report.

- 9.4 The proposal includes the retention of a number of existing Poplar trees and hedgerows which are principally on the perimeter of the site. This planting will be enhanced and strengthened and throughout the site there will be opportunity for substantial landscaping which will improve both the appearance of the development and the wider area, and it also provides the opportunity to significantly improve the ecological value of the site by enhancing its biodiversity value.
- 9.5 The retention and protection of the Hybrid Poplar & Cypress linear group of trees along the northern site boundary, T18-T56 & TG4, the Council Tree Officer originally agreed with the arboricultural consultant from Enviroarb-Solutions Ltd that, on balance, were to be removed and replaced. However, following consultations with planners and the design team it was felt that at this stage that the northern boundary linear Poplar tree belt should remain. The retention and maintenance of these trees is therefore re-instated on the recommendation that they are regularly inspected and maintained, especially given their close proximity to the proposed development and children's play area.
- 9.6 Overall, it is concluded that, subject to appropriate controls, the development can be implemented without undue impact on retained trees. These should be detailed within the SSAMS that should be submitted to and agreed in writing by the Local Planning Authority prior to the commencement of the development, as a condition of any consent.



Paul Allen MICFor Dip Arb (RFS) MAE
Consultant Arboriculturist
03rd June 2021

10.0 APPENDICES

APPENDIX 1	Key To Tree Tables
APPENDIX 2	Tree Survey Tables
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APPENDIX 1

KEY TO TREE TABLES

Key

BS 5837 Cat	Description
A	Those of high quality and value: in such a condition as to be able to make a substantial contribution (> 40 years)
B	Those trees of moderate quality and value: those in such a condition as to make a significant contribution (> 20 years)
C	Those trees of low quality and value: currently in adequate condition to remain until new planting could be established (> 10 years)
U	Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed regardless of development

Note: Sub categories are denoted in the tree survey data (A1, B1, C2 etc.). You are referred to the BS for further detail if required.

Tree No.	T (tree), G (group), H (hedge), W (woodland) + Ref No.
Species	Common Name
Ht (m)	Measured height in metres
DBH (m)	Diameter at 1.5m above ground level
Branch Spread	In m to cardinal points
Cr Ht Clearance (m)	Overall height of lowest branches from the ground level on side of proposed development
Life Stage	Young, Semi-Mature, Early-Mature, Mature, Over-Mature
General Observations	Observations on the condition of the tree(s)
Tree Work Specification	Proposed tree works in accordance with BS3998
BS Cat	See above
Life Exp	Estimated remaining contribution in years.
RPA Radius(m)	Radius of the trees Root Protection Area measured from the trunk to the edge of the RPA circle in metres
RPA (m2)	Overall Root Protection Area in m2
*	Indicates where tree data may have been estimated as tree was offsite / restricted access / dense vegetation hindering full inspection

APPENDIX 2
TREE SURVEY TABLES

ARBORICULTURAL IMPACT ASSESSMENT

TREE SURVEY TABLES

Surveyor: Paul Allen

Date Surveyed: 14th March 2019

St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T1	Cedar (Blue Atlas)	11	8	8	7	5	500	1	113.1	6.0	C2	Mature	20-39	Poor form (asymmetric canopy), shape and condition. Subject to historic crown management, reduced from power cables. Dense crown, minor dead wood throughout crown.	Crown reduce and reshape by 1.5m to reshape to no more than 30% by crown volume.
T2	Cedar of Lebanon	11	5	5	5	5	330	1	49.3	4.0	B2	Early Mature	40+	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Hanging snapped branch in lower crown.	Remove dead wood >5cm diameter throughout the crown and snapped branches overhanging the site.
T3	Birch (Silver)	12	4	4	4	4	350	1	55.4	4.2	B2	Early Mature	20-39	Average form, shape and condition. No significant recent crown management. Dense crown, minor dead wood throughout crown. Lower limbs pruned to stubs over car park.	No works.

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Date Surveyed: 14th March 2019

St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T4	Cypress (Lawson)	6	3	3	3	3	400	10	72.4	4.8	C2	Early Mature	10-19	Poor multiple stemmed form, shape and condition. No significant recent crown management. Dense crown, minor dead wood throughout crown.	No works.
T5	Hawthorn	4	3	3	3	3	100	1	4.5	1.2	C2	Semi-Mature	20-39	Average form, shape and condition. No significant recent crown management. Dense crown, minor dead wood.	No works.
T6	Cypress (Golden Monterey)	12	4	4	4	4	450	2	91.6	5.4	C2	Mature	10-19	Average form, shape and condition. No significant recent crown management - previously cut back from power cables. Dense crown, minor dead wood throughout lower crown.	No works.
T7	Cherry	5	2.5	2.5	2.5	2.5	100	1	4.5	1.2	C2	Semi-Mature	10-19	Poor suppressed form, shape and condition. No significant recent crown management. Open crown, minor dead wood throughout crown.	No works.

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TREE SURVEY TABLES

Surveyor: Paul Allen

Date Surveyed: 14th March 2019

St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T8	Cherry	5	3	3	3	3	200	5	18.1	2.4	C2	Semi-Mature	10-19	Poor suppressed multi stemmed form, shape and condition. No significant recent crown management. Open crown, minor dead wood throughout crown.	No works.
T9	Cherry	8	4	4	4	4	300	1	40.7	3.6	C2	Semi-Mature	10-19	Average form, shape and condition. No significant recent crown management. Open crown, minor dead wood throughout crown. Ivy clad crown and stem, unable to fully inspect.	Sever Ivy at 2m from ground level and remove section. Re-inspect.
T10	Cedar of Lebanon	12	6	6	6	6	500	1	113.1	6.0	B2	Early Mature	40+	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Ivy clad crown and stem, unable to fully inspect. Adjacent to power lines.	Remove dead wood >5cm diameter throughout the Crown. Sever Ivy at 2m from ground level and remove section. Re-inspect.
T11	Cypress (Lawson)	9	4	4	4	4	360	5	58.6	4.3	C2	Early Mature	10-19	Poor multiple stemmed form, shape and condition. No significant recent crown management. Dense low crown, minor dead wood throughout crown.	No works.

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TREE SURVEY TABLES

Surveyor: Paul Allen

Date Surveyed: 14th March 2019

St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
TG1	Cypress (Lawson)	14	6	6	6	6	350	4	55.4	4.2	B2	Early Mature	20-39	Average form, shape and condition. No significant recent crown management. Dense crowns, minor dead wood throughout crowns. X 4 trees growing close together in group.	No works.
SG1	Mixed species shrubs: Elaeagnus, Cypress	6	3	3	3	3	100	10	4.5	1.2	C2	Early Mature	20-39	Average form, shape and condition. No significant recent crown management. Dense crowns, minor dead wood throughout crowns.	No works.
T12	Elder	6	3	3	3	3	200	4	18.1	2.4	C2	Mature	10-19	Poor form, shape and suppressed condition. No significant recent crown management. Open crown, moderate dead wood throughout.	No works.
T13	Cherry	11	6	6	6	6	500	1	113.1	6.0	B2	Mature	10-19	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Sever Ivy at 2m from ground level and remove section. Re-inspect.

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St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T14	Plum (Purple leafed)	10	4	4	4	4	250	1	28.3	3.0	B2	Mature	10-19	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Trunk epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T15	Cypress (Lawson)	6	2.5	2.5	2.5	2.5	300	5	40.7	3.6	C2	Early Mature	10-19	Poor multi stemmed form, shape and condition. No significant recent crown management. Dense low crown, minor dead wood throughout crown.	No works.
T16	Cypress (Lawson)	5	1.5	1.5	1.5	1.5	150	4	10.2	1.8	U	Early Mature	10-19	Dead tree	Fell to ground level and remove completely
T17	Cypress (Lawson)	10	4	4	4	4	350	1	55.4	4.2	U	Mature	<10	Sparse crown showing signs of stress with upper crown retrenchment. Dead dying tree.	Fell to ground level
TG2	Cypress (Lawson)	12	3	3	3	3	300	35	40.7	3.6	C2	Mature	10-19	Poor form, shape and condition linear boundary screen. Subject to historic crown management: lifted & cut back from farm access road. Sparse crowns showing signs of stress with crown retrenchment.	No works.

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TREE SURVEY TABLES

Surveyor: Paul Allen

Date Surveyed: 14th March 2019

St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
TG3	Cypress (Lawson)	12	3	3	3	3	300	11	40.7	3.6	C2	Mature	10-19	Poor form, shape and condition linear boundary screen. Subject to historic crown management: lifted & cut back from farm access road. Sparse crowns showing signs of stress with crown retrenchment.	No works.
T18	Poplar (Hybrid Black)	19	6	6	6	6	600	1	162.9	7.2	U	Mature	<10	Poor form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with major crown deadwood. Tree subject to previous history of limb failures. Large trunk wound with blunt nosed reaction wood. Basal epicormic growth.	Fell to ground level and treat.

ARBORICULTURAL IMPACT ASSESSMENT

TREE SURVEY TABLES

Surveyor: Paul Allen

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St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T19	Poplar (Hybrid Black)	19	6	6	6	6	450	1	91.6	5.4	B2	Mature	<10	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Basal epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Sever Ivy at 2m from ground level and remove section. Re-inspect. Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T20	Poplar (Hybrid Black)	19	6	6	6	6	400	1	72.4	4.8	B2	Mature	<10	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Basal epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T21	Cypress (Leyland)	10	4	4	4	4	450	1	91.6	5.4	C2	Mature	10-19	Average form, shape and condition. No significant recent crown management - cut back on field side crown. Dense crown, moderate dead wood throughout crown.	No works.

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St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T22	Poplar (Hybrid Black)	20	8	8	8	8	450	1	91.6	5.4	B2	Mature	<10	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Basal epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Sever Ivy at 2m from ground level and remove section. Re-inspect. Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T23	Poplar (Hybrid Black)	20	8	8	8	8	450	1	91.6	5.4	B2	Mature	<10	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Basal / trunk epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T24	Poplar (Hybrid Black)	20	6	6	6	6	400	1	72.4	4.8	U	Mature	<10	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk epicormic growth. Fresh and open helical trunk split for 6m on main trunk to crown break.	Fell to ground level and treat.

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St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T25	Cypress (Leyland)	16	4	4	4	4	450	1	91.6	5.4	C2	Mature	10-19	Average form, shape and condition. No significant recent crown management - cut back on field side crown. Dense crown, moderate dead wood throughout crown.	No works.
T26	Cypress (Leyland)	13	4	4	4	4	450	1	91.6	5.4	C2	Mature	10-19	Average form, shape and condition. No significant recent crown management - cut back on field side crown. Dense crown, moderate dead wood throughout crown.	No works.
T27	Poplar (Hybrid Black)	20	6	6	6	6	400	1	72.4	4.8	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood.	Remove dead wood >5cm diameter throughout the crown.
T28	Cypress (Leyland)	9	3	3	3	3	300	1	40.7	3.6	C2	Mature	10-19	Suppressed form, shape and condition. No significant recent crown management - cut back on field side crown. Dense crown, moderate dead wood throughout crown.	No works.

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TREE SURVEY TABLES

Surveyor: Paul Allen

Date Surveyed: 14th March 2019

St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T29	Cypress (Leyland)	14	4	4	4	4	450	1	91.6	5.4	C2	Mature	10-19	Average form, shape and condition. No significant recent crown management - cut back on field side crown. Dense crown, moderate dead wood throughout crown.	No works.
T30	Poplar (Hybrid Black)	20	6	6	6	6	400	1	72.4	4.8	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood.	Remove dead wood >5cm diameter throughout the crown.
T31	Poplar (Hybrid Black)	20	6	6	6	6	400	1	72.4	4.8	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

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TREE SURVEY TABLES

Surveyor: Paul Allen

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St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T32	Poplar (Hybrid Black)	20	6	6	6	6	400	1	72.4	4.8	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T33	Poplar (Hybrid Black)	20	6	6	6	6	450	1	91.6	5.4	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m. Sever Ivy at 2m from ground level and remove section. Re-inspect.
T34	Poplar (Hybrid Black)	20	8	8	8	8	500	1	113.1	6.0	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m. Sever Ivy at 2m from ground level and remove section. Re-inspect.

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TREE SURVEY TABLES

Surveyor: Paul Allen

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St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T35	Poplar (Hybrid Black)	20	6	6	6	6	450	1	91.6	5.4	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T36	Poplar (Hybrid Black)	20	8	8	8	8	450	1	91.6	5.4	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T37	Poplar (Hybrid Black)	20	8	8	8	8	450	1	91.6	5.4	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T38	Poplar (Hybrid Black)	21	8	8	8	8	650	2	191.1	7.8	C2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Co dominant tree with moderate included unions.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m. Remove secondary stem over site
T39	Poplar (Hybrid Black)	20	6	3	2	3	450	1	91.6	5.4	B2	Mature	10-19	Suppressed form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with major crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T40	Poplar (Hybrid Black)	20	5	5	5	5	400	1	72.4	4.8	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m ²)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T41	Poplar (Hybrid Black)	10	3	3	3	3	250	1	28.3	3.0	C2	Early Mature	10-19	Poor suppressed form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T42	Poplar (Hybrid Black)	21	8	8	8	8	500	1	113.1	6.0	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T43	Poplar (Hybrid Black)	22	8	8	8	8	500	2	113.1	6.0	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Co dominant tree with moderate included unions.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T44	Poplar (Hybrid Black)	21	8	8	8	8	500	1	113.1	6.0	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m. Sever Ivy at 2m from ground level and remove section. Re-inspect.
T45	Poplar (Hybrid Black)	6	2	2	2	2	200	1	18.1	2.4	U	Semi-Mature	<10	Dead tree	Fell to ground level and treat.
T46	Poplar (Hybrid Black)	20	8	8	8	8	500	1	113.1	6.0	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T47	Poplar (Hybrid Black)	20	8	8	8	8	500	1	113.1	6.0	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T48	Poplar (Hybrid Black)	8	1	3	5	3	200	1	18.1	2.4	U	Early Mature	<10	Poor form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Leaning heavily to south.	Fell to ground level and treat.
T49	Poplar (Hybrid Black)	20	8	8	8	8	500	1	113.1	6.0	B2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T50	Cypress (Leyland)	16	6	6	6	6	600	1	162.9	7.2	C2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Cut back on field side crown.	Remove dead wood >5cm diameter throughout the crown.
T51	Poplar (Hybrid Black)	15	5	5	5	5	300	1	40.7	3.6	U	Early Mature	<10	Dead tree	Fell to ground level and treat.
T52	Poplar (Hybrid Black)	15	6	6	6	6	400	1	72.4	4.8	C2	Mature	10-19	Suppressed form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T53	Cypress (Leyland)	8	3	3	3	3	200	1	18.1	2.4	C2	Early Mature	10-19	Poor suppressed form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management.	Remove dead wood >5cm diameter throughout the crown.

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St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T54	Cypress (Leyland)	15	5	5	5	5	400	1	72.4	4.8	C2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Cut back on field side.	Remove dead wood >5cm diameter throughout the crown.
T55	Cypress (Leyland)	15	5	5	5	5	500	1	113.1	6.0	C2	Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Cut back on field side.	Remove dead wood >5cm diameter throughout the crown.
T56	Poplar (Hybrid Black)	15	6	6	6	6	400	1	72.4	4.8	C2	Early Mature	10-19	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
TG4	Cypress (Leyland)	16	4	4	4	4	450	8	91.6	5.4	C2	Mature	10-19	Average form linear shape and condition boundary screening group. No significant recent crown management - cut back on field side. Dense crowns, moderate dead wood.	Remove dead wood >5cm diameter throughout the crown.

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St Johns Plant Centre, Clacton-On-Sea



Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T57	Oak (English)	18	10	10	10	10	850	1	326.9	10.2	B1	Mature	40+	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access.	Remove dead wood >5cm diameter throughout the crown.
TG5	Cypress (Leyland)	6	1	1	1	1	100	10	4.5	1.2	U	Semi-Mature	<10	Dead ivy covered trees with some windblown.	Fell to ground level and treat.
T58	Oak (English)	18	10	10	10	10	500	1	113.1	6.0	B1	Mature	40+	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access.	Remove dead wood >5cm diameter throughout the crown.
T59	Oak (English)	18	1	6	8	7	400	1	72.4	4.8	C2	Early Mature	40+	Poor suppressed form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access.	Remove dead wood >5cm diameter throughout the crown.

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T60	Oak (English)	10	5	5	5	5	950	1	408.3	11.4	B1	Mature	40+	Hedgerow pollard form, shape and condition. No significant recent crown management. Dense low crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Sever Ivy at 2m from ground level and remove section. Re-inspect.
T61	Poplar (Hybrid Black)	22	5	5	5	5	950	2	408.3	11.4	B1	Mature	40+	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access. Co dominant tree with moderate included unions. Basal & Trunk limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 4m.
TG6	Poplar (Hybrid Black)	15	4	4	4	4	200	5	18.1	2.4	C2	Early Mature	10-19	Average form, shape and condition roor suckers. No significant recent crown management. Dense crown, minor dead wood	Fell to ground level and treat.

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T62	Oak (English)	18	10	10	10	10	2000	5	707.0	15.0	B1	Over Mature	40+	Veteran, lapse pollard form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access.	Remove dead wood >5cm diameter throughout the crown.
T63	Hawthorn	6	3	3	3	3	250	1	28.3	3.0	C2	Mature	10-19	Average hedge form , shape and condition. No significant recent crown management. Dense crown, low dead wood	No works.
T64	Hawthorn	6	3	3	3	3	250	1	28.3	3.0	C2	Mature	10-19	Average hedge form , shape and condition. No significant recent crown management. Dense crown, low dead wood	No works.
T65	Oak (English)	8	4	4	4	4	350	1	55.4	4.2	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown.	No works.
T66	Oak (English)	9	4	4	4	4	350	1	55.4	4.2	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown.	No works.

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T67	Oak (English)	9	6	6	6	6	480	1	104.2	5.8	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown.	No works.
T68	Oak (English)	9	6	6	6	6	400	1	72.4	4.8	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown.	No works.
T69	Oak (English)	12	8	8	8	8	600	2	162.9	7.2	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown. Co dominant tree with normal unions.	No works.
T70	Oak (English)	10	6	6	6	6	500	1	113.1	6.0	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown.	No works.
T71	Oak (English)	8	5	5	5	5	400	2	72.4	4.8	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown.	No works.

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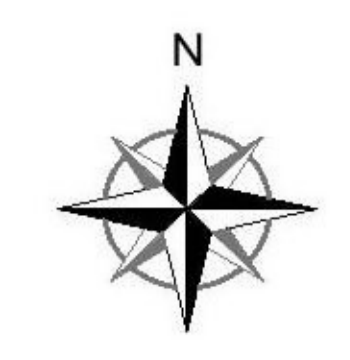
Date Surveyed: 14th March 2019

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Tree No.	Species	Ht (m)	CS N	CS E	CS S	CS W	DBH (mm)	No of Stems	RPA (m2)	RPR (m)	BS Cat	Age Class	Life Expect.	Observations	Recommendations
T72	Oak (English)	7	4	4	4	4	300	1	40.7	3.6	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown.	No works.
T73	Sycamore	10	6	6	6	6	350	1	55.4	4.2	B2	Early Mature	40+	Good form, shape and condition. No significant recent crown management. Dense crown, low dead wood throughout crown.	No works.
T74	Ash (Common)	12	6	6	6	6	1500	4	707.0	15.0	C2	Over Mature	10-19	Poor old pollard / coppice form, shape and condition. No significant recent crown management. Open crown, major dead wood throughout crown. Basal & Trunk epicormic growth.	Remove dead wood >5cm diameter throughout the crown / overhanging the site. Remove epicormic growth to a height of 3m.

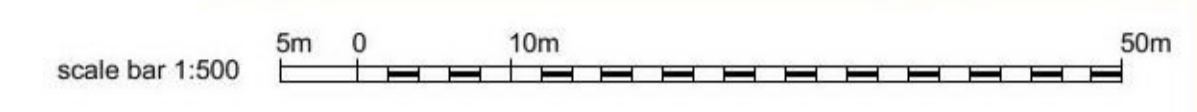
APPENDIX 3
TREE CONSTRAINTS PLAN



Drawing Title	Tree Constraints Plan (TCP)		This drawing, its contents and associated properties are the property of EnviroArb-Solutions Ltd. No unauthorised reproduction is permitted without prior written consent by the management.
Client	Kelsworth Limited		
Site Address	St Johns Plant Centre Earls Hall Drive Clacton-on-Sea CO16 8BP		

Project No.	EAS-004	Drawing No.	EAS-004 TCP	Sheet 1 of 1
Drawn	S Blackwell	Checked	P Allen	Approved
				P Allen
			Date	16/03/19
			Scale	1:500

REVISIONS				
No	Description	By	Date	Chkd



Tree Survey Drawing Key

- Root Protection Area m²
- Tree Canopy Extent
- Stem Location / Coloured disc denotes BS: 5637 Category
- Tree Number
- See EnviroArb Tree Survey for Individual Tree Details

KEY
 Please refer to EnviroArb arboricultural report for details

- Category A - high quality and value
- Category B - moderate quality and value
- Category C - low quality and value
- Category U - removal

RPA - root protection area as defined by Table 2 BS 5837:2012

Category U - removal

APPENDIX 4
TREE PROTECTION PLAN



Drawing Title	Tree Protection Plan (TPP)	This drawing, its contents and associated properties are the property of EnviroArb-Solutions Ltd. No unauthorised reproduction is permitted without prior written consent by the management.									
Client	Kelsworth Limited										
Site Address	St Johns Plant Centre Earls Hall Drive Clacton-on-Sea CO16 8BP										
Project No.	EAS-004										
Drawn	S Blackwell	Checked	P Allen	Approved	P Allen	Date	16/03/19	Scale	1:500	Sheet 1 of 1	A1

REVISIONS

No	Description	By	Date	Chkd
A	New Baseplan, Tree Protection Measures Updates	SPB	13-06-19	PA
B	Tree Protection Measures Updated	LB	19-06-19	PA
C	New Baseplan, Tree Protection Measures Updates	SPB	28-11-19	PA
D	New Baseplan, Tree Protection Measures Updates	SPB	06-05-21	PA

Tree Survey Drawing Key

- Root Protection Area m2
- Tree Canopy Extent
- Stem Location / Coloured disc denotes BS:5837 Category
- Tree Number
- See EnviroArb Tree Survey for Individual Tree Details

KEY

- Tree to be retained
- Tree to be Pruned
- Tree to be removed
- Tree protective fencing
- Tree protective box hoarding
- No Dig Surface
- Supervised Excavations
- Construction Exclusion Zone
- Temporary Ground Protection
- Ultimate Tree Height (Dia)
- Tree Shading Arc
- Existing Tree Height (Dia)



Dutchess Farm

APPENDIX 5
TREE WORKS SCHEDULE

NOTE: All tree works to be undertaken in accordance with BS 3998:2010 'Tree work - Recommendations'. All pruning cuts to be made at suitable growing points, in line with the principles of natural target pruning.

Trees To Be Pruned

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
T1	Cedar (Blue Atlas)	11	500	1	C2	Mature	Poor form (asymmetric canopy), shape and condition. Subject to historic crown management, reduced from power cables. Dense crown, minor dead wood throughout crown.	Crown reduce and reshape by 1.5m to reshape to no more than 30% by crown volume.
T2	Cedar of Lebanon	11	330	1	B2	Early Mature	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Hanging snapped branch in lower crown.	Remove dead wood >5cm diameter throughout the crown and snapped branches overhanging the site.
T9	Cherry	8	300	1	C2	Semi-Mature	Average form, shape and condition. No significant recent crown management. Open crown, minor dead wood throughout crown. Ivy clad crown and stem, unable to fully inspect.	Sever Ivy at 2m from ground level and remove section. Re-inspect.
T10	Cedar of Lebanon	12	500	1	B2	Early Mature	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Ivy clad crown and stem, unable to fully inspect. Adjacent to power lines.	Remove dead wood >5cm diameter throughout the Crown. Sever Ivy at 2m from ground level and remove section. Re-inspect.
T13	Cherry	11	500	1	B2	Mature	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Sever Ivy at 2m from ground level and remove section. Re-inspect.

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
T14	Plum (Purple leafed)	10	250	1	B2	Mature	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Trunk epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T19	Poplar (Hybrid Black)	19	450	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Basal epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Sever Ivy at 2m from ground level and remove section. Re-inspect. Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T20	Poplar (Hybrid Black)	19	400	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Basal epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T22	Poplar (Hybrid Black)	20	450	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Basal epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Sever Ivy at 2m from ground level and remove section. Re-inspect. Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T23	Poplar (Hybrid Black)	20	450	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Basal / trunk epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
T27	Poplar (Hybrid Black)	20	400	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood.	Remove dead wood >5cm diameter throughout the crown.
T30	Poplar (Hybrid Black)	20	400	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood.	Remove dead wood >5cm diameter throughout the crown.
T31	Poplar (Hybrid Black)	20	400	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T32	Poplar (Hybrid Black)	20	400	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T33	Poplar (Hybrid Black)	20	450	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m. Sever Ivy at 2m from ground level and remove section. Re-inspect.

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
T34	Poplar (Hybrid Black)	20	500	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m. Sever Ivy at 2m from ground level and remove section. Re-inspect.
T35	Poplar (Hybrid Black)	20	450	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T36	Poplar (Hybrid Black)	20	450	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T37	Poplar (Hybrid Black)	20	450	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T38	Poplar (Hybrid Black)	21	650	2	C2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m. Remove secondary stem over site

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
							growth. Co dominant tree with moderate included unions.	
T39	Poplar (Hybrid Black)	20	450	1	B2	Mature	Suppressed form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with major crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T40	Poplar (Hybrid Black)	20	400	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T41	Poplar (Hybrid Black)	10	250	1	C2	Early Mature	Poor suppressed form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T42	Poplar (Hybrid Black)	21	500	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
T43	Poplar (Hybrid Black)	22	500	2	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Co dominant tree with moderate included unions.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T44	Poplar (Hybrid Black)	21	500	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m. Sever Ivy at 2m from ground level and remove section. Re-inspect.
T46	Poplar (Hybrid Black)	20	500	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T47	Poplar (Hybrid Black)	20	500	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
T49	Poplar (Hybrid Black)	20	500	1	B2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T50	Cypress (Leyland)	16	600	1	C2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Cut back on field side crown.	Remove dead wood >5cm diameter throughout the crown.
T52	Poplar (Hybrid Black)	15	400	1	C2	Mature	Suppressed form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
T53	Cypress (Leyland)	8	200	1	C2	Early Mature	Poor suppressed form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management.	Remove dead wood >5cm diameter throughout the crown.
T54	Cypress (Leyland)	15	400	1	C2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Cut back on field side.	Remove dead wood >5cm diameter throughout the crown.
T55	Cypress (Leyland)	15	500	1	C2	Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Cut back on field side.	Remove dead wood >5cm diameter throughout the crown.

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
T56	Poplar (Hybrid Black)	15	400	1	C2	Early Mature	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk scaffold limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 3m.
TG4	Cypress (Leyland)	16	450	8	C2	Mature	Average form linear shape and condition boundary screening group. No significant recent crown management - cut back on field side. Dense crowns, moderate dead wood.	Remove dead wood >5cm diameter throughout the crown.
T57	Oak (English)	18	850	1	B1	Mature	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access.	Remove dead wood >5cm diameter throughout the crown.
T58	Oak (English)	18	500	1	B1	Mature	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access.	Remove dead wood >5cm diameter throughout the crown.
T59	Oak (English)	18	400	1	C2	Early Mature	Poor suppressed form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access.	Remove dead wood >5cm diameter throughout the crown.

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Age Class	Observations	Recommendations
T60	Oak (English)	10	950	1	B1	Mature	Hedgerow pollard form, shape and condition. No significant recent crown management. Dense low crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access. Ivy clad crown and stem, unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown. Sever Ivy at 2m from ground level and remove section. Re-inspect.
T61	Poplar (Hybrid Black)	22	950	2	B1	Mature	Average form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access. Co dominant tree with moderate included unions. Basal & Trunk limb epicormic growth.	Remove dead wood >5cm diameter throughout the crown. Remove epicormic growth to a height of 4m.
TG6	Poplar (Hybrid Black)	15	200	5	C2	Early Mature	Average form, shape and condition root suckers. No significant recent crown management. Dense crown, minor dead wood	Thin / prune to ground level.
T62	Oak (English)	18	2000	5	B1	Over Mature	Veteran, lapse pollard form, shape and condition. No significant recent crown management. Dense crown, moderate dead wood throughout crown. Unable to fully inspect due to restricted access.	Remove dead wood >5cm diameter throughout the crown.
T74	Ash (Common)	12	1500	4	C2	Over Mature	Poor old pollard / coppice form, shape and condition. No significant recent crown management. Open crown, major dead wood throughout crown. Basal & Trunk epicormic growth.	Remove dead wood >5cm diameter throughout the crown / overhanging the site. Remove epicormic growth to a height of 3m.

Trees To Be Removed

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Observations	Recommendations
T11	Cypress (Lawson)	9	360	5	C2	Poor mutli stemmed form, shape and condition. No significant recent crown management. Dense low crown, minor dead wood throughout crown.	Fell to ground level. Remove completely by grinding.
T12	Elder	6	200	4	C2	Poor form, shape and suppressed condition. No significant recent crown management. Open crown, moderate dead wood throughout.	Fell to ground level. Remove completely by grinding.
T15	Cypress (Lawson)	6	300	5	C2	Poor multi stemmed form, shape and condition. No significant recent crown management. Dense low crown, minor dead wood throughout crown.	Fell to ground level. Remove completely by grinding.
T16	Cypress (Lawson)	5	150	4	U	Dead tree	Fell to ground level. Remove completely by grinding.
T17	Cypress (Lawson)	10	350	1	U	Sparse crown showing signs of stress with upper crown retrenchment. Dead dying tree.	Fell to ground level. Remove completely by grinding.
TG2	Cypress (Lawson)	12	300	35	C2	Poor form, shape and condition linear boundary screen. Subject to historic crown management: lifted & cut back from farm access road. Sparse crowns showing signs of stress with crown retrenchment.	Fell to ground level. Remove completely by grinding.
TG3	Cypress (Lawson)	12	300	11	C2	Poor form, shape and condition linear boundary screen. Subject to historic crown management: lifted & cut back from farm access road. Sparse crowns showing signs of stress with crown retrenchment.	Fell to ground level. Remove completely by grinding.

Tree No.	Species	Ht (m)	DBH (mm)	No of Stems	BS Cat	Observations	Recommendations
T18	Poplar (Hybrid Black)	19	600	1	U	Poor form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with major crown deadwood. Tree subject to previous history of limb failures. Large trunk wound with blunt nosed reaction wood. Basal epicormic growth.	Fell to ground level and treat.
T24	Poplar (Hybrid Black)	20	400	1	U	Average form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Open crown with moderate crown deadwood. Trunk epicormic growth. Fresh and open helical trunk split for 6m on main trunk to crown break.	Fell to ground level and treat.
T45	Poplar (Hybrid Black)	6	200	1	U	Dead tree	Fell to ground level and treat.
T48	Poplar (Hybrid Black)	8	200	1	U	Poor form, shape and condition. Unable to fully inspect due to restricted access. No significant recent crown management. Leaning heavily to south.	Fell to ground level and treat.
T51	Poplar (Hybrid Black)	15	300	1	U	Dead tree	Fell to ground level and treat.
TG5	Cypress (Leyland)	6	100	10	U	Dead ivy covered trees with some windblown.	Fell to ground level. Remove completely by grinding.

APPENDIX 6

SITE INSPECTION & MONITORING SCHEDULE

General Tree Protection Methods

1. Site Inspections and Supervision of construction works close to, within of adjacent to retained tree RPAS will avoid potentially costly breach of tree protection conditions.
2. We recommend the arboricultural consultant from EnviroArb Solutions Ltd is retained to undertake inspections and supervision and work with the site manager to ensure compliance with tree protection conditions and advise where appropriate.
3. Both scheduled and unannounced site visits is often the most effective as these will serve to identify any damage to the Tree Protection Fencing, poor working practices, potential problems and points of conflict between the construction process and the health of the trees. The associated reports will include recommendations for remedial action.
4. During these instructed visits, any changes to the proposed works will be discussed, their impact assessed and recommendations for best practice will be outlined. After each of these visits, a copy of the report should be sent to the Site Agent, Local Authority Tree Officer and Client. The remedial action undertaken will be recorded on the next visit.
5. It is essential to the successful implementation of the principles set out in this report that effective supervision and remedial actions are implemented from the outset, as detailed in the site supervision schedule below:

Constraints Item	Site Monitoring Required?	Visits No.	Timing of Site Visits	Actual Visit Date
Approved Tree works tree mark up	Yes	Visit 1	Prior to construction	
Pre-commencement meeting with site manager to discuss CEZ, tree protection methods etc.	Yes	Visit 1	Prior to site clearance	
Establishment and protection of Root Protection Areas (RPAs) for retained trees, to 'sign off' installed tree protection fencing and temporary ground protection	Yes	Visit 1	Prior to site clearance	
Supervision of any changes in soil levels near retained trees	Yes	Visit 2	During site clearance phase	
Location of temporary access route through / adjacent to the retained trees and for access for construction vehicles and avoidance of compaction to the RPAs of retained trees	Yes	Visit 2	During construction phase	
Protection and prevention of damage to retained tree canopies during construction	Yes	Visit 2	During construction phase	
Supervision of the Installation of any 'Reduced-dig' special surfacing within / through retained tree RPAs	Yes	Visit 3	During construction phase	
Supervision of the excavation of services trenches near retained trees	Possible	Visit 4	During construction phase	
Generic construction site constraints: 1 Site office / welfare unit location 2 Temporary toilets 3 Siting of fuel tanks / mortar silos 4 Location of contaminant storage and washout areas 5 Location of stripped topsoil	Yes	Visits 1-5	During construction phase	
Post construction site assessment for any required remedial tree works operations recommendations	Yes	Visit 5	Post construction	

APPENDIX 7

BS5837: 2012 TREE CONSTRAINTS & PROTECTION METHODS

1 Pre-Construction / Tool-Box Talk Meeting

Prior to commencement of demolition / construction, an onsite meeting will be held with all relevant parties, including the site manager and appointed arboricultural consultant from EnviroArb Solutions Ltd. The purpose of this meeting is to ensure features on site match those in the approved Tree Protection Plan and CMS.

2 Installation of Tree Protection Measures

Usually in conjunction with 1. Above the tree protection fencing should be inspected to ensure it is installed at the correct locations prior to any demolition or ground-works commencing and remain in place throughout construction and be removed only after completion of construction works on the site. The demolition and construction process should not be commenced until the tree surgery works have been completed and the protective areas have been fenced off. Clear notices are to be fixed to the outside of the fencing with words such as 'TREE PROTECTION AREA – NO ACCESS OR WORKING WITHIN THIS AREA'.

3 Installation of Temporary Ground Protection

Within the fenced off area (or Construction Exclusion Zone – CEZ), no materials or chemicals should be stored at any time, no fires should be lit and no pedestrian or vehicle traffic should be allowed. Level changes within these areas should be kept to an absolute minimum. Every effort should be taken to protect a maximum possible area of the root system. No level changes or excavation within the RPAs should be undertaken without the consent of the LPA Tree Officer. Where ingress is unavoidably required suitable temporary ground protection may be laid as approved in writing by the LPA council tree officer, as described at Appendix 9.

The site manager, all contractors and other relevant personnel are to be informed of the role of all the tree protection measures installed and their importance. A copy of the approved Tree Protection Plan will be displayed on site at all times during construction.

4 - Locations of Site Offices Compound and Storage Area

The site office, welfare facilities, storage yard and contractors' parking area need to be located within an area of the site that is outside the Root Protection Areas (RPAs). The compound will remain at least 1 metre outside the RPAs, with access from the main access road. All fuel storage and Mortar silos are stored in the designated compound area and bunded to prevent overspill into protected CEZ's.

5 - Groundworks, Level Changes and Foundations

With regard to the approved drawings provided, the construction of foundations for the new build is ideally located beyond the Root Protection Areas (RPAs) of retained trees. Where close to or slightly within RPA's specialised low impact foundation design should be used as recommended by a structural engineer and approved by the council tree officer. If the subsoil is found to be plastic, the foundations will be specified to take into account the potential influence of the vegetation on the moisture content and volume of the subsoil.

6 - Services

We recommend that all drainage and underground service routes are located beyond the RPAs of all the retained trees. If the service runs are to be located within an RPA, we recommend that this matter is dealt with by the approved SSAMS secured by planning condition. If services are located within an RPA, special implementation techniques such as moling, airspade, or hand digging may be required by the LPA. In the majority of cases, however, careful excavation with a low tonnage mechanical excavator, supervised by the consultant arboriculturist from EnviroArb Solutions Ltd, can adequately undertake services excavations. When tree roots are encountered, hand digging and root protection can then be undertaken as and when they are observed.

7 - Dismantling Protection Barriers & Post Construction Site 'Sign Off'

Dismantling the protection barriers around retained trees may be required to allow completion of final surface treatments and landscaping. Supervision of this exercise and control of the landscaping thereafter will be administered by the appointed arboricultural consultant from EnviroArb Solutions Ltd. The removal of the Tree Protection Fencing is not an opportunity for machinery to access the previously fenced off area.

No further excavation will be carried out during this process and soils levels will not be raised above that existing by greater than 100mm and not within 4m of the trunk. Any removal of existing structures within the Root Protection Areas, including gardens type walls or paths, will be carried out by hand.

APPENDIX 8

TREE PROTECTION FENCING SPECIFICATION

on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (Figure 3b).

NOTE 1 Examples of configurations for steel mesh perimeter fencing systems are given in BS 1722-18.

NOTE 2 It might be feasible on some sites to use temporary site office buildings as components of the tree protection barriers, provided these can be installed and removed without damaging the retained trees or their rooting environment.

6.2.2.4 All-weather notices should be attached to the barrier with words such as: "CONSTRUCTION EXCLUSION ZONE – NO ACCESS".

Figure 2 Default specification for protective barrier

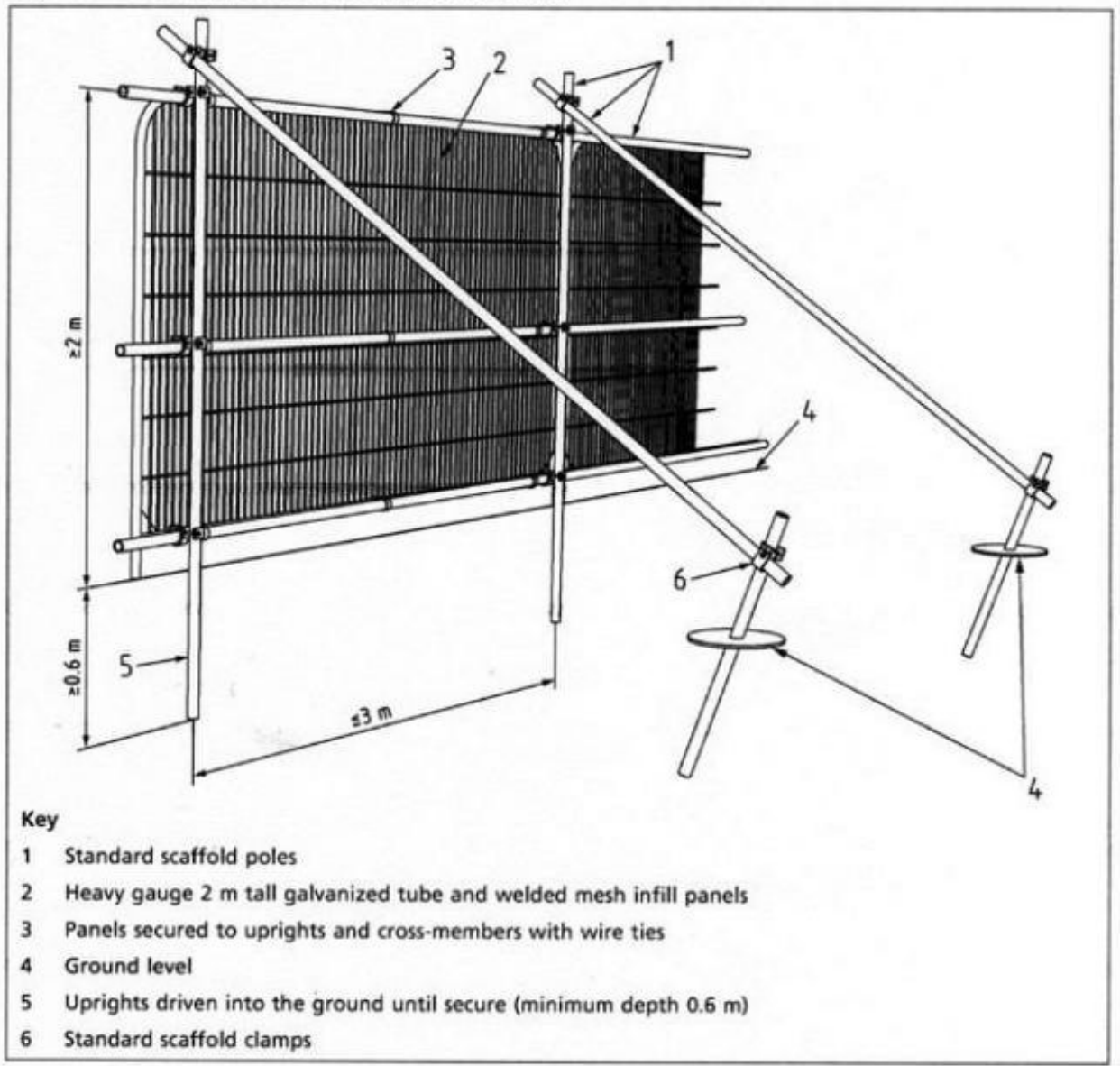
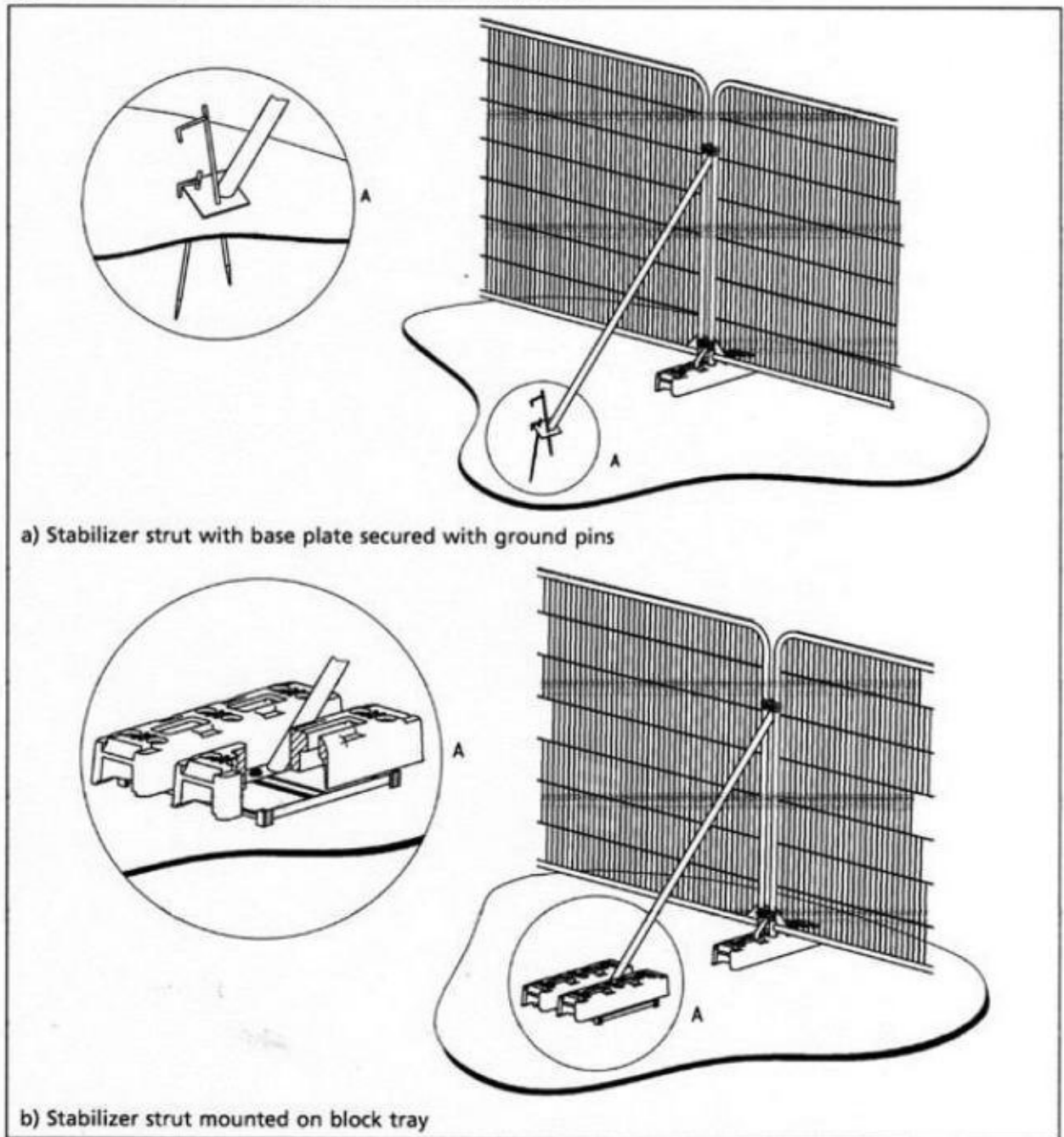


Figure 3 Examples of above-ground stabilizing systems



6.2.3 Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

SUGGESTED TREE PROTECTION SIGN



TREE PROTECTION AREA
KEEP OUT

(TOWN & COUNTRY PLANNING ACT 1990)

**THE VEGETATION PROTECTED BY THIS FENCE IS
PROTECTED BY PLANNING CONDITIONS AND/OR IS
THE SUBJECT OF A TREE PRESERVATION ORDER.**

**IF YOU REQUIRE ACCESS INTO THIS AREA PLEASE
CONTACT THE SITE MANAGER AND CONSULTANT FROM**

ENVIROARB SOLUTIONS LTD FOR ADVICE ON:



APPENDIX 9

PROPRIETARY INFORMATION FOR 'REDUCED-DIG' SUB-BASE

ProtectaWeb Method Statement

For the Installation of ProtectaWeb Tree Root Protection System

Introduction

The Wrekin Tree Root Protection System is available in 4 different depths for varied traffic loadings, each site should have a specific design detailed to ensure the correct depth of product is used.

However, unless the existing ground conditions contain very weak soils and have a low CBR the the following can apply:

- Footpath System- Geogrid and Geotextile combination with Asphalt/Resin- for Pedestrains and Cycleways, no vehicular traffic.
- 75mm- For Pedestrains Cycleways and Vehicles up to 1.Stons
- 100mm- For Cars, 4 wheel drives, vans etc up to 6tons
- 150mm- For Fire engines, removal vehicles and dust carts up to 20-30tons
- 200mm- For Construction vehicles, cranes etc 40tons and all above.

No dig System

Material List

- ProtectaWeb 3 Dimensional Cellular Confinement System
- Root-Tex 30 minimum separation and protection fleece
- Root-Tex 10 minimum separation geotextile
- Steel 700mm staking pins
- Stapler and Staples/heavy cable ties
- 4/20mm or 40/20mm Clean Angular Stone to Bs EN 13242 and 12620
- Finish porous surfacing materials are preferable

Stage 1-Ground Preparation

- Remove surface vegetation to treat with suitable herbicide to level-under the supervision of the project Arboriculturist.
- Fill any hollows that may be in the exposed ground with no fines 4/20mm clean angular stone.
- Place Root-Tex 30 Geotextile over the area to be protected ensuring laps with a minimum of 300mm.
- Mark out the area to be protected with edging detail. For Example: Timber boards.

Stage 2-Installation of ProtectaWeb TRP

- Roll out Root-Tex 30 Geotextile to cover the area to be protected.
- Insert 4 equally spaced steel pins along the the width of the panel.
- Expand the panel over the Root-Tex 30 and the pins, extend to the required length, then pin across the opposite panel end.
- Pin along the length of the panel each side.
- If full panels are not being used then ensure the cells have been expanded to their full dimension.
- Staple or cable tie any adjacent panels together.

The ProtectaWeb panels can be cut to shape if required with a heavy duty Stanley Knife.



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2. It is the responsibility of all users to satisfy themselves that the above data is current.
3. Wrekin cannot be held responsible for the performance of these products as conditions of use are beyond our control.

Stage 3-Filling the ProtectaWeb

Using 4/20mm or 40/20mm clean angular stone to Bs EN 12620 and 12620 (depending on the cell depth being used)

- Fill the cells of the ProtectaWeb with a 4/20mm or 40/20mm clean angular stone.
- Allow 25mm overfill for any settlement of the stone into the cells.
- If the area is to be trafficked immediately, slightly increase the amount of surcharge overfill to a maximum of 50mm over the ProtectaWeb with 4/20mm or 40/20mm clean angular stone.

Stage 4-Finish Surfacing Details

The ProtectaWeb TRP system can be surfaced with the materials listed below:

Finish 1- Block Paving

- Place Root-Tex 10 separation fabric over the filled ProtectaWeb
- Lay sand/gravel bedding material as per to manufacturers recommendations
- Place porous/standard blocks as per manufacturers instructions

Finish 2-Porous and standard Asphalt

- Slightly surcharge the ProtectaWeb with 25mm of 4/20mm or 40/20mm clean angular stone
- Place hot Asphalt as per to manufacturers instructions

Finish 3- Resin Bound Gravels

- Place Root-Tex 20 separation fabric over the filled ProtectaWeb
- Lay Asphalt carpet and resin bound gravel to the required thickness and as per the manufacturers instructions

Finish 4-Loose Gravel

- Option 1- Slightly overfill the ProtectaWeb with the clean angular stone
- Option 2- Place a 25mm thick decorative stone on top of the filled ProtectaWeb

Finish 5- CellTrack Gravel Retention System

- Place Root-Tex 10 separation geotextile over the filled ProtectaWeb
- 20mm bedding layer of 5mm single sized stone and lightly tamp
- Lay CellTrack porous pavers and fill with a 6-10mm decorative stone

Finish 6- CellTrack Grass Protection System

- Place Root-Tex 10 separation geotextile over the filled ProtectaWeb
- 70mm of Rootzone bedding layer (60% sand/40% soil) and lightly tamp
- Lay CellTrack porous pavers and fill with Rootzone mix, seed accordingly (please allow 4-6 weeks for the seed to germinate before trafficking)

NEW Finish 7- Trial-Flex

- Place Root-Tex 10 separation geotextile over the area for pedestrian protection.
- Roll over Egrid on top of the Geotextile (strength based per application)
- Cover to a depth of 50mm of TrialFlex porous flexible resin bound finish.

Finish 8- Concrete

- Place Root-Tex 10 separation Geotextile over the filled ProtectaWeb
- Cast the concrete slab over the Geotextile



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APPENDIX 10

PHOTOGRAPHS



T1 - Cedar (Blue Atlas)



T2 - Cedar of Lebanon



T3 - Birch (Silver)



T4 - Cypress (Lawson)



T6 - Cypress (Golden Monterey)



T7 - Cherry



T9 - Cherry



T10 - Cedar of Lebanon



TG1 - Cypress (Lawson)



T13 - Cherry



T16 - Cypress (Lawson)



T17 - Cypress (Lawson)



TG2 - Cypress (Lawson)



T18 - Poplar (Hybrid Black)



T18 - Poplar (Hybrid Black) (1)



T21 - Cypress (Leyland)



T24 - Poplar (Hybrid Black)



T24 - Poplar (Hybrid Black) (1)



T45 - Poplar (Hybrid Black)



T48 - Poplar (Hybrid Black)



T51 - Poplar (Hybrid Black)



TG4 - Cypress (Leyland)



T57 - Oak (English)



TG5 - Cypress (Leyland)



T60 - Oak (English)



T61 - Poplar (Hybrid Black)



TG6 - Poplar (Hybrid Black)



T62 - Oak (English)



T66 - Oak (English)



T74 - Ash (Common)

APPENDIX 11

REPORT CAVEATS

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Specific - Trees

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Any comment relating to 3rd party trees has been made without full access to the tree(s). Should these trees have any impact on the proposed development we would advise you to instruct us to contact the 3rd party and undertake further inspection work.



EnviroArb Solutions Ltd

**EnviroArb Solutions Ltd
16 Compton Road,
Colchester,
Essex**

