



## ARBORICULTURAL REPORT

### Formal Arboricultural Report/Survey

(in accordance with BS 5837:2012 - *Trees in relation to design, demolition, and construction – Recommendations*)

Site: **land adj. A17 - A151 junction, Holbeach Food Enterprise Zone, Holbeach, Spalding**

Prepared for: **South Holland District Council**

Date: **20<sup>th</sup> January 2023**

Reference: **QU-851-23-EQUANS**

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Appendix "A"	Tree Survey Schedule
Appendix "B"	Tree Constraints Plan

*Note: This report should be read in conjunction with the attached plan/s*



## 1.0 INTRODUCTION

### 1.1 *Purpose of Report*

The purpose of this report is to provide a balanced approach with an assessment of trees associated with land adj. A17 - A151 junction, Holbeach Food Enterprise Zone, Holbeach in relation to a proposed commercial development. This report is in accordance with BS 5837:2012 Trees in Relation to Design, Demolition and Construction.

### 1.2 *Terms of Reference*

EQUANS Arboricultural Consultancy have been instructed by agent Robert Doughty Planning Consultancy on behalf of client South Holland District Council, to prepare a formal Arboricultural Report and Tree Constraints Plan. The survey and report will comply with the recommendations and guidance set out within the BS 5837:2012 - Trees in Relation to Design, Demolition and Construction and should be used to assist with site layout/design.

### 1.3 *Timing*

This tree survey has been completed prior to and independently of any specific proposals for development. This report will identify significant conflicts, of which should be set against the quality and value of affected trees. The results of this survey should be used, along with any other relevant baseline data, to inform feasibility studies and design options.

### 1.4 *Description of Development*

The Food Enterprise Zone and Local Development Order - Delivery of the Holbeach Food Enterprise Zone (FEZ). The Holbeach FEZ is expected to deliver accommodation for new, relocated and expanding companies. The Local Development Order (LDO) will facilitate the delivery of new development by granting outline planning permission for a range of appropriate uses, subject to planning conditions. The FEZ site lies to the southwest of the A151/A17 junction, known as Peppermint Junction to the west of Holbeach.

### 1.5 *Site Description*

The site is located along the eastern fringes of the town of Holbeach. Holbeach is a market town and civil parish in the South Holland District in Lincolnshire. The town lies 8 miles (13 km) from Spalding; 17 miles (27 km) from Boston; 20 miles (32 km) from King's Lynn; 23 miles (37 km) from Peterborough; and 43 miles (69 km) by road from Lincoln. Holbeach is on the junction of the A151 and A17. The proposed development site lies to the southwest of the A151/A17 junction, known as Peppermint Junction to the west of Holbeach.



#### 1.6 **Site Description (cont.)**

The sites development 'red edge' consists of 3 compartments, one that extends to approximately 12ha and others approx.0.6ha each. The northern boundary of the site runs to the south of the A17, and the eastern boundary follows a ditch line behind the footway along the A151. The southern boundary follows the southern line of a track along the field boundary, beyond which is a residential caravan site. The western boundary runs along the field boundary to a further field boundary, running eastwards towards the A17. The north-east corner of the site is occupied by the Distillery Farm buildings, part of which are now occupied by Frontier, an agricultural supply firm. The rest of the site is in agricultural use, characterised by fields, dykes, hedge lines, trees and small wooded copses.

#### 1.7 **Limitations**

Trees that have a stem diameter of 150mm or less, measured at 1.5m from ground level have not been included in this survey, unless there is a clear definition for classification, such as 'woodland'. It may be considered acceptable and relatively straightforward to mitigate the loss of such trees, if necessary, with similar new tree planting. Whilst the presence of smaller trees, with good form and vitality, is generally desirable they should not necessarily be a significant constraint on the site's potential.

1.8 This survey has been undertaken in accordance with the recommendations and guidance of the BS 5837:2012; it is not intended to be a tree hazard assessment. Incidental notes may be made on a tree's structural integrity, though where trees are considered to represent an immediate hazard, recommendations will be given for intervention. It will be the landowner's responsibility to make the necessary arrangements.



## 2.0 STATUS OF THE SITE

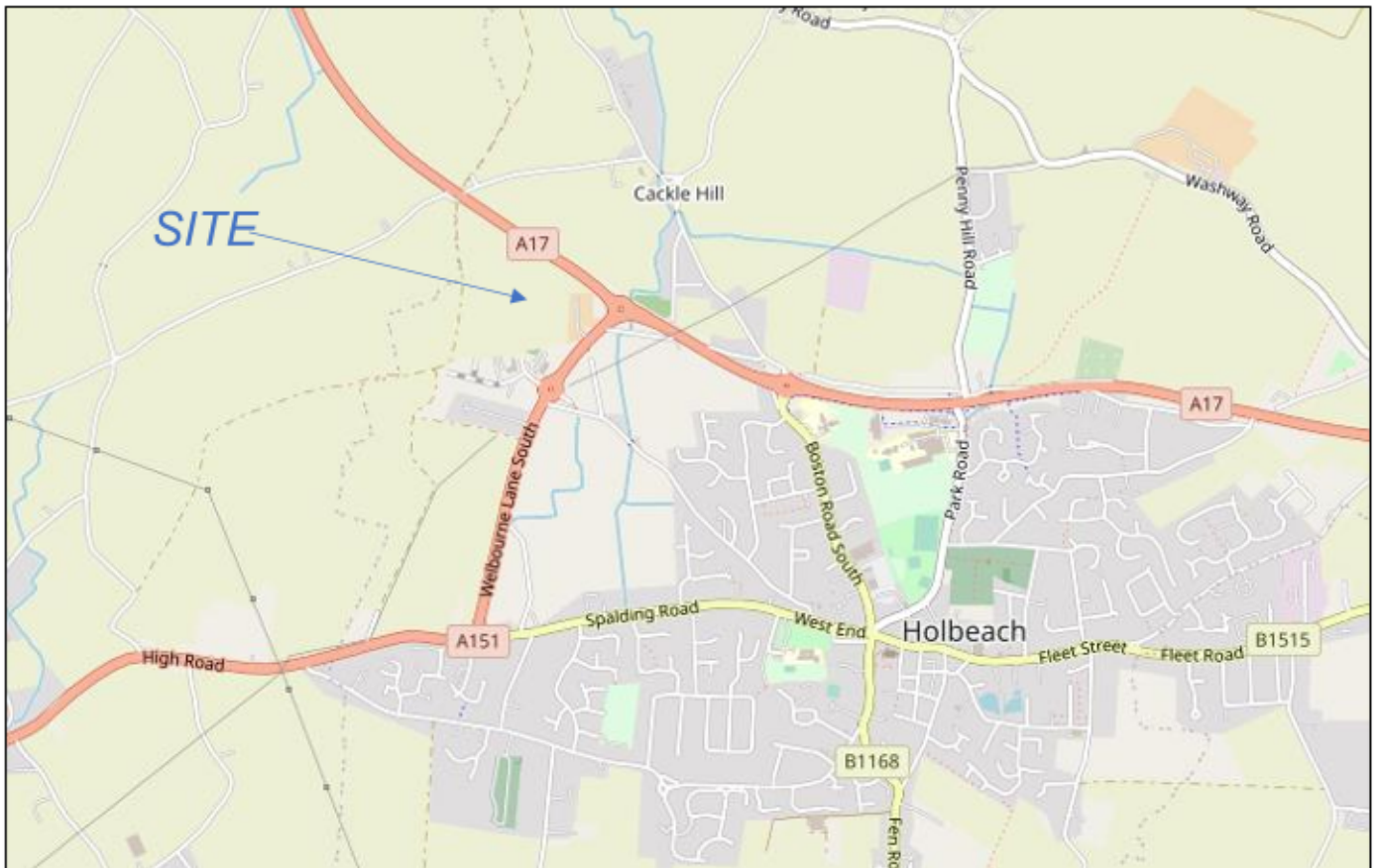
The Local Planning Authority (LPA) is South Holland District Council. On the 25<sup>th</sup> of January 2023 South Holland District Council confirmed that no trees with or adjacent to the site are afforded the protection of a Tree Preservation Order. In the Council's response, no reference was made to the site being located within or adjacent to a Conservation Area. On this basis, at the time of the Council's response, there is no statutory protection of trees.



### 3.0 SITE LOCATION MAP & PLAN



Map data: Google



© OpenStreetMap contributors



#### 4.0 METHOD OF SURVEY

The tree survey was carried out by Andrew Hudson & Dina Mysko on the 6<sup>th</sup> of January 2023. All observations were made from ground level in mostly clear weather conditions with broken clouds. To assist in gathering information about trees the following apparatus was used:

- Clinometer – for measuring the height of trees
- Diameter tape measure – for measuring the diameter of the main stem at 1.5m above ground level
- Binocular – to aid in the visual assessment of trees
- Probe – where required, to investigate further symptoms of decay/defects
- Thor Hammer - where required, to investigate further symptoms of decay/defects

4.1 An overall assessment of 15 individual trees, 6 groups of trees and 4 woodlands was made. On the Tree Constraints Plan (Appendix "B") the individual trees are identified as T1 to T15 and the groups of trees as G1 to G6 and woodland as W1 to W4.

4.2 It should be taken into consideration that trees and shrubs are living organisms and run the risk of rapid condition changes, unpredictable climatic and manmade events. An assessment of risk during a survey is based upon factors evident at the time of inspection. Comments upon the condition and safety of any tree relate to the condition of the tree at the time of inspection. It should be recognised that tree condition is subject to change due to but not limited to, for example, the effects of disease, wind, development works or changes in land use. The results of an inspection are only applicable for a limited period of 12 months; any further inspections should be made periodically on a basis commensurate with the level of risk or following sudden or extreme weather conditions. The consultant is not responsible for events that happen after the date of the report or due to factors that were not apparent at the time of the inspection or due to factors unpredictable at the time of inspection.





#### 4.3 **Method Of Survey (cont.)**

An assessment was made of the trees physiological and structural condition, noting any disorders or biomechanical features that present an obvious hazard to present or future users of the site or effect the trees life expectancy. Preliminary management works are proposed in order to either remove/reduce hazards or promote good arboricultural management practice. These recommendations do not take account of any development proposals at this stage. The trees overall quality and value for retention was assessed in accordance with BS5837: 2012 Trees in Relation to Construction. This was dependant on the trees physiological and structural condition, safe useful life expectancy, arboricultural, landscape, cultural and ecological value. Arboricultural and landscape value takes account of the tree's amenity value, which was determined by tree size, prominence, visibility, appropriateness, attractiveness, and screening value.

#### 5.0 **ROOT PROTECTION AREA (RPA)**

The root protection area (RPA) radius and area for each tree was calculated in accordance with BS 5837:2012. The RPA is an area of ground that provides sufficient soil rooting volume to ensure the survival of the tree.



## 6.0 TREE SURVEY RESULTS *(general comments)*

- 6.1 An overall assessment of 15 individual trees, 6 groups of trees and 4 woodlands was made. The full survey results are shown in the Tree Survey Schedule in Appendix "A".
- 6.2 1 individual tree and 2 woodlands (T12 & W2, W3) have been assigned to the high quality and value, category "A1/A2". These trees are considered to have high quality and value with a remaining life expectancy of at least 40 years. And those trees present in numbers growing as a woodland that may have a higher collective rating than they would as individuals. Any design/layout should avoid undue pressure on these trees and special consideration should be given to ensure a harmonious and sustainable relationship with the development is achieved.
- 6.3 7 individual trees, 5 groups of trees and 2 woodlands (T2, T6, T7, T8, T9, T13, T15 & G2, G3, G4, G5, G6 & W1, W4) have been assigned to the moderate quality and value, category "B1/B2". These trees are considered to be of moderate quality and value with an estimated contribution of at least 20yrs. Trees lacking the special quality necessary to merit the category "A" designation. And those trees present in numbers growing as a group or woodland that may have a higher collective rating than they would as individuals.
- 6.4 7 individual trees and 1 group of trees (T1, T3, T4, T5, T10, T11, T14 & G1) have been identified as category "C1/C2", trees of low quality and value with limited merit or in such a condition that reduces their safe useful life expectancy. It would be reasonable to suggest that trees of such low quality and value with limited long-term prospects would not be worthy of being given any significant weight in any planning decisions.



## 6.5 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
<b>Trees unsuitable for retention</b> (see Note)				
<b>Category U</b> Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> <li>Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li> </ul> <p><i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</p>			See Table 2
	<b>1 Mainly arboricultural qualities</b>	<b>2 Mainly landscape qualities</b>	<b>3 Mainly cultural values, including conservation</b>	
<b>Trees to be considered for retention</b>				
<b>Category A</b> Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
<b>Category B</b> Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
<b>Category C</b> Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Image source: © The British Standards Institution (2012) – *Cascade chart for tree quality and assessment* – British Standard BS 5837:2021

**Note:** Trees that have been categorized as "C", although may be a material consideration in a planning application, should not be allowed to impose a significant constraint on development of this site



## 7.0 PHOTOS



Generally, the site is currently open active arable farmland, with limited constraints within



Existing commercial business Frontier Agriculture and new business units are already located within the site



## 7.1 Photos



There are several trees within and around the Frontier Agriculture buildings and compound.



Mostly, the trees associated with Frontier Agriculture are located along its eastern boundary, close to the A17/A151 intersection



## 7.2 Photos



W4 is a small, wooded copse located directly within the site. Some development has already occurred close to W4, although currently this small copse of trees has successfully been incorporated into the design/layout



Groups G5 and G6 are located off-site. This linear landscape feature acts as a screening buffer to the Rose View Drive residential caravan site



### 7.3 Photos



Woodland shelterbelts W2 and W3 are located along the southwest boundary line. The trees within are of a mixed broadleaf variety, early mature with a native mixture of species



The majority of trees are located along the western boundary line, including woodland shelterbelts and a linear of Lombardy poplar trees

**EQUANS - ARBORICULTURAL REPORT** [land adj. A17 - A151 junction, Holbeach Food Enterprise Zone, Holbeach, Spalding]

Ref: QU-851-23-EQUANS



## 8.0 DISCUSSION *(general comments)*

- 8.1 Within the site's development 'red edge' there is a very limited amount of canopy coverage. Mostly the trees associated with this site are located close to the boundaries. Due consideration will need to be given to the above ground constraints the trees pose by virtue of their size and position, although it should be recognised that tree size can easily be controlled through correct arboricultural management. More importantly it would be the below ground constraints represented by the root protection area (RPA) where careful planning would be needed to ensure a harmonious relationship between trees and the introduction of structures and/or hard surfaces.
- 8.2 The morphology and disposition of the roots to some trees will be influenced by the existing site conditions. An important aspect of root growth and development is that it is dynamic and highly dependent on the soil environment. The existing ground conditions around the trees are generally quite good for root growth and proliferation with areas that are rich in water and minerals. Any modification to the RPA that may be required due to existing site conditions will reflect a soundly based arboricultural assessment of likely root distribution.
- 8.3 8 individual trees, 5 groups of trees and 4 woodlands have been identified as category "A1/A2" and "B1/B2", trees of high or moderate quality and value. Any design/layout should avoid undue pressure on these trees and special consideration should be given to ensure a harmonious and sustainable relationship with the development is achieved.
- 8.4 7 individual trees and 1 group of trees have been assigned to the low quality and value, category "C1/C2". These trees are considered unremarkable trees of very limited merit or such impaired condition that they do not qualify in a higher category. It would be reasonable to suggest that trees of such low quality and value with limited long-term prospects would not be worthy of being given any significant weight in any planning decisions.
- 8.5 The quality and value of the existing tree stock, that I have been instructed to survey, has been identified allowing informed decisions to be made concerning which trees should be removed or retained should development occur. The results of this survey and constraints plan should be used to assist with feasibility studies and any final site layout and design.





**8.6 Discussion (*general comments*) cont.**

It is essential that details of design proposals should be developed in conjunction with the project arboriculturist and, where required, input from a suitably qualified engineer. When incorporating existing trees into a development proposal it is essential to demonstrate that proposals are technically feasible. Such details should be included within planning applications.

- 8.7** Where the Local Planning Authority recognises and accepts the impact of a proposal on trees, there may be a planning requirement for more concise arboricultural information. Where this is a requirement a formal Arboricultural Method Statement and Tree Protection plan will expand on details in this report focusing on tree protection and specialist techniques if required, with illustrative specifications, timing and phasing of construction operations also including where necessary a performance specification. A formal Arboricultural Method Statement and Tree Protection Plan should be undertaken by an Arboriculturist who is familiar with trees and development and the BS 5837: 2012.



## 9.0 FOUNDATION DESIGN

There are no special requirements for foundation design at this stage, however, should matters change during the planning process it should be taken into consideration that there are solutions for inserting structures close to trees should matters change during the planning process.

### 9.1 Design Options (*referenced from the BS 5837:2012*)

The use of traditional strip footing can result in extensive root loss and should be avoided. The insertion of specially engineered structures within RPAs may be justified if this enables the retention of a good quality tree that would otherwise be lost, usually category "A" or "B". Designs for foundation design that would minimise adverse impact on trees should be site specific with specialist advice being sought from a suitably qualified engineer.

### 9.2 Root damage can be minimised by using:

- Piles, with site investigation used to determine their optimal location whilst avoiding damage to roots important for the stability of the tree, by means of hand tools or compressed air soil displacement, to a minimum depth of 600mm.
- Beams laid at or above ground level and cantilevered as necessary to avoid tree roots identified by site investigation.

9.3 Slabs for large structures such as dwellings should be constructed with a ventilated air space between the underside of the slab and the existing soil surface (to enable gas exchange and venting through the soil surface). In such cases, a specialist irrigation system should also be employed (e.g., roof run-off re-directed under the slab). The design of the foundation should take account of the effect of the load bearing properties on underlying soil from the re-directed roof run-off. Approval in principle for a foundation that relies on top-soil retention and roof run-off under the slab should be sought from the building control authority prior to this approach being relied on.

9.4 Where piling is to be installed near to trees, the smallest practical pile diameter should be used, as this reduces the possibility of striking major tree roots and reduces the size of the rig required to sink the piles. If a piling mat is required, this should conform to the parameters of temporary ground protection as per BS 5837:2012. Use of the smallest practical piling rig is also important where piling within the branch spread is proposed. The pile type should be selected bearing in mind the need to protect the soil and adjacent roots from the potential toxic effects of uncured concrete e.g., sleeved bored pile or screw pile.



### 9.5 Design Options (cont.)

An arboriculturist can provide a performance specification comprising of a list of arboricultural requirements the insertion of a structure must meet. Engineers will assess the particular site characteristics and use the performance specification to devise an appropriate design.

## 10.0 INSTALLATION OF SERVICES

The installation of services for this proposal must be kept as far as practically possible from the root protection area (RPA) of any retained trees. Trenching near trees by conventional means, using a mechanical excavator, inevitably causes root loss, as the bucket easily rips through roots. For services such as foul, surface, electric, gas, BT etc., the most practical solution would be to run all services through one trench. Where encroachment into the RPA cannot be avoided trench-less techniques should be adopted. An alternative would be to hand dig a trench minimising the cutting of roots. Pipes and ducted cables can then be thread through enabling installation with very little damage, provided that the borehole is small and deeper than the main lateral roots.

10.1 In the UK, the usual guidelines for trenching by utility companies are provided by NJUG Volume 4 (previously NJUG 10), which is available to download at <http://www.njug.org.uk/publications/>. By agreeing to the guidelines to be followed during trenching, all parties are assured that problems can be solved using a common set of criteria. Supervisors from the appointed contractor should direct operatives to follow the agreed practices and it is quite likely that the Local Authority Tree Officer will monitor for compliance.



## 11.0 CONCLUSION

- 11.1 The results of this survey and constraints plan should be made available to all interested parties during feasibility studies and design options and used to assist with a site layout and design.
- 11.2 Due consideration should be given in terms of the existing tree population and how these could be incorporated into the development of the site. The retention of boundary trees would soften the visual impact of development, settling the development into the environment as seen from outside the site.
- 11.3 Trees can generally tolerate a certain amount of changes in rooting environment and with careful consideration to the below ground constraints represented by the root protection area and the above ground constraints the trees pose by virtue of their size and position, I am confident that this site can be developed without there being an adverse impact on retained trees.



## 12.0 REFERENCE TO "TREE SURVEY SCHEDULE" (*Tree Descriptions and Recommendations*)

Data collected in the "Tree Survey Schedule" of Appendix "A". Headings in the schedule are as follows:

**Tree No:** Reference numbers for each tree(s) as they appear in the documents are:

- **T** = Individual trees (numbering starts at T1)
- **G** = Groups of trees (numbering starts at G1)
- **W** = Woodlands (numbering starts at W1)

**Species:** The common (generic) name for the species has been used.

**Age Class:** The maturity of the tree is defined in 5 main categories:

- **Y** = Young – small/recently planted tree not yet established
- **SM** = Semi-mature – fully established tree in the early stages
- **M** = Mature – biologically mature tree.  
The "M" may be prefixed by an "E" for early or an "L" for late
- **OM** = Over mature – old tree showing signs of terminal decline
- **V** = Veteran

**Stem Diameter:** Stem diameter to the nearest centimetre (cm) taken at 1.5m above ground level unless specified otherwise. For multi-stem trees the reading relates to immediately above the root flare.

**RPA radius:** Root protection area calculated in metres (m).

**RPA:** Root protection area calculated in metres square (m<sup>2</sup>).

**Stem No:** Individual stem, twin-stemmed or multi-stemmed trees expressed as a number or number of individual stems within a group of trees.

**Height:** Tree height calculated with the use of a clinometer in metres (m)

**Crown Spread:** Estimated in metres (m) taken at four cardinal points (N, E, S, W) from the stem

**Physiological Condition:** This is based on an assessment of the tree's health and vigour, i.e., Good, Fair, Poor, Dead. Groups of trees are allocated an overall assessment. Thus, individual trees within a group may have a higher or lower score.

**Structural Condition:** Description of defects or symptoms of defects (where applicable), i.e., collapsing, compression forks, bark inclusions, fungi.

**Comments:** A summary of comments on each tree or group of trees.

**Management Recommendations:** Arboricultural works required.

**Remaining Contribution:** Estimated in years, i.e., -10, 10+, 10-20, 20+, 20-40, 40+

**Category Grade:**

- **A** = Trees of high quality and value. Shown as green on the tree constraints plan (TCP)
- **B** = Trees of moderate quality and value. Shown as blue on the TCP
- **C** = Trees of low quality and value. Shown as grey on the TCP
- **U** = Trees to be removed. Shown as red on the TCP



### 13.0 PERSONAL PROFESSIONAL STATEMENT

*(Andrew Hudson ND Btec Forestry/Arboriculture / TechArborA)*

Acting consultant preparing reports for various organisations including British Standard reports for architects and developers in supporting planning applications.

Andrew holds a Btec National Diploma in Forestry and Arboriculture which was awarded at distinction level.

Andrew began working with trees as a forestry contractor, obtaining extensive knowledge and practical experience on various contracts throughout Lincolnshire, East Midlands, East Yorkshire, and East Anglia. Having worked for a number of years within the forestry sector Andrew moved to arboriculture, eventually becoming a fully qualified tree surgeon. This presented a broad spectrum of experience in arboriculture, which was enough to acquire the position of Arboricultural Officer at Local Authority level. This provided valuable experience in all aspects of arboriculture providing him with an inclusive insight into the social, legal and safety issues associated with the management of urban trees in the planning system and Local Authority owned tree stock.

Andrew is part of EQUANS Arboricultural Consultancy providing a service advising on a whole range of tree issues.



# Appendix A "Tree Survey Schedule"

ARBORICULTURAL CONSULTANCY

Site: Land adj. A17 / A151 junction, Halbeach, nr. Spalding, Lincolnshire  
 Client: South Holland District Council  
 Brief: B55837 Survey

Surveyors: Andrew Hulseon / Dina Mykko  
 Assessment Date: 6th January 2023  
 Viewing Conditions: Clear / Passing Clouds

### Category Grading and Definition

- Trees of high quality with an estimated remaining life expectancy of at least 40 years
- Trees of low quality with an expected remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

Tree No.	Species	Age Class	Stem Diameter (cm)	RPA Radius (m)	RPA (m <sup>2</sup> )	Stem No.	Height (m)	Crown Spread (m)	Physiological Condition	Structural Condition	Comments	Management Recommendations	Remaining Contribution (yrs)	Category Grading
T1	Hazel (m/s)	SM	8, 8, 8, 8, 8, 7, 10, 10, 10	3.2	33.2	10	6	N3, E4, S3, W3	Fair	Fair	Multi-stemmed at base. Low canopy structure. Dieback apparent in parts of upper canopy. Deadwood.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	10	C1
T2	Whitebeam	EM	24	2.9	26.1	1	8	N3, E4, S2, W2	Fair/Good	Fair/Good	Single stem with main canopy structure developing from 2m. Tight unions. Bark damage, no obvious active decay. Epicormic growth to main stem. Canopy biased east, lower canopy sits 0.5m above ground level (agl). Minor deadwood.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B1
T3	Laurel	SM	31 (g base)	3.7	43.5	1	6	N2, E4, S3, W2	Good	Fair/Good	Single stem with low canopy structure. Canopy biased east, in conflict with boundary fence.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	10+	C1
T4	Beech	EM	14, 50	6.2	122	2	10	N3, E5, S3, W4	Good	Fair	Tree adjacent to boundary fence. Twin stemmed at base. Wire mesh embedded within base of tree. Basal suckered growth. Lower branch east at 1m, union appears sound. Tight union at 3m. Lower canopy sits 3m agl. Grading reflects relationship with boundary fence and conflict with wire mesh.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	10+	C1
T5	Beech	SM	28	3.4	35.5	1	9	N3, E1, S2, W3	Good	Fair	Ivy coverage restricts visual inspection. Metal bar embedded in base of tree west. Lower branch at 1m south-east, developing upright. Tight canopy structure, biased north and west. Suppressed by adj. tree cover.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	10+	C1
T6	Field Maple	EM	29	3.5	38.1	1	7	N3, E2, S2, W2	Good	Good	Tree has good form and good vigour. Single stem up to approx. 0.5m, from here the tree forks to develop the main canopy structure. Low canopy structure, close to ground level. Major crossing branch fusing the fork stems. Minor dead wood present.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B1
T7	Field Maple	EM	22	2.6	21.9	1	6	N1, E2, S2, W1	Good	Good	Tree has good form and good vigour. Single stem up to approx. 0.5m, from here the tree forks to develop the main canopy structure. Low canopy structure, approx. 0.5m from ground level. Minor dead wood and crossing branches.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B1
T8	Lime	M	68	8.2	289.2	1	16	N5, E7, S6, W5	Good	Fair/Good	Single stem with major structural limbs developing upright from 3.5m. Minor included unions. Main canopy structure develops from 6m, lower canopy 2m agl. Minor deadwood. Crossing and duplicating branches.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B1
T9	Cypress	M	65	7.8	191.2	1	14	N6, E5, S2, W6	Good	Fair/Good	Single stem with first branch at 5m west, main canopy structure starts to develop from here. Tree has been 'topped' with main leader reduced. Canopy biased north. Lower canopy sits 2m agl.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B1
G1	Beech [4]	SM	Up to 24	2.9	26.1	5	Up to 15	Not recorded	Good	Fair/Good	4no. small trees planted and growing parallel to boundary fence line. Suppressed by adj. tree cover. Two tree twin stemmed at base. Two tree stem and canopy biased west. Minor deadwood. Crossing and duplicating branches.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	10+	C2
T10	Ash	EM	32	3.8	46.3	1	10	N5, E5, S3, W3	Good	Fair	Tree has good vigour. Single stem up to approx. 1m, from here the tree develops 3no. structural scaffold limbs. Major/minor dead wood present.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	10+	C1
T11	Silver Birch	SM	19	2.3	16.3	1	4	N1, E1, S1, W1	Fair	Fair	Single stemmed tree with a very limited crown structure. Main stem epicormic growth. Top of crown has died back. Long term prospects are strictly limited. Major/minor dead wood present.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	10	C1
T12	Silver Birch	EM	24	2.9	26.1	1	8	N3, E3, S3, W3	Good	Good	Tree has good form and good vigour. Single clear stem up to approx. 2m, from here the tree develops its main canopy structure. Some lower main stem historic damage, most likely due to impact from surrounding site operations. Minor dead wood present.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	40	A1

# Appendix A "Tree Survey Schedule"

### Category Grading and Definition

- Trees of high quality with an estimated remaining life expectancy of at least 40 years
- Trees of low quality with an expected remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
- Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

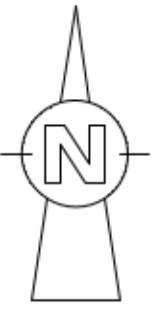
ARBORENTAL CONSULTANCY

Site: Land adj. A17 / A151 junction, Holbeach, nr. Spalding, Lincolnshire  
Client: South Holland District Council  
Brief: B55837 Survey

Surveyors: Andrew Hulseon / Dina Mykko  
Assessment Date: 6th January 2023  
Viewing Conditions: Clear / Passing Clouds

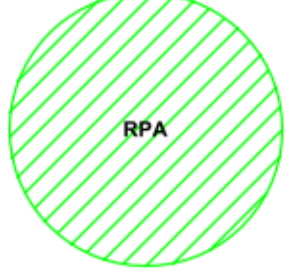

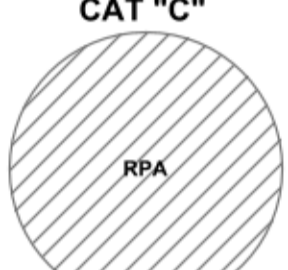
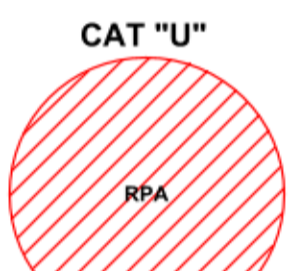
Tree No.	Species	Age Class	Stem Diameter (cm)	RPA Radius (m)	RPA (m <sup>2</sup> )	Stem No.	Height (m)	Crown Spread (m)	Physiological Condition	Structural Condition	Comments	Management Recommendations	Remaining Contribution (yrs)	Category Grading
T13	Silver Birch	EM	21	2.5	20	1	7	N2, E2, S2, W2	Good	Good	Tree has good form and good vigour. Single clear stem up to approx. 2m, from here the tree develops its main canopy structure. Some lower main stem historic damage, most likely due to impact from surrounding site operations. Some decaying wood resulting from impact damage. Callous repair growth is relatively good, although decay is also basal. Tree may recover.	In context with the current land use monitor on a yearly basis to establish extent of decay progression. Should development occur management should be reconsidered in context with the proposed land use.	25	B1
T14	Cypress	M	40, 24, 26	7.3	165.3	3	9	N4, E5, S3, W3	Good	Fair/Good	Tree in proximity with boundary fence north and west. Becomes multi-stemmed from approx. 0.5m, included minor west. Previous work to remove/reduce branches evident, truncated branches/stubs remain. Main canopy structure develops from 2m, lower canopy sits 2m agl. Grading reflects relationship with boundary fence and ditch.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	10+	C1
T15	Lombardy Poplar	M	Est. 95	11.4	408.3	1	22	East into site 2	Good	Good	Tree has good form and good vigour. Although spaced further apart, this tree forms part of the same linear feature as that of the other Lombardy Poplar and has the same structural appearance. Access to basal area is restricted due to dense ground vegetation, this restricts visual inspection and an accurate DBH could not be taken. Minor dead wood present.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	25	B1
W1	Mixed Broadleaf	SM/W	Up to 50	Up to 6	Up to 113.1	Numerous	Up to 17	East into site 8	Fair/Good	Fair/Good	Small woodland copse of mixed broadleaf species. Predominantly Ash. Other species include a lower storey of elder, field maple, elm regeneration. Upper storey species of ash and alder. Ground covering of invasive ivy. Some historic windblow failures. Major/minor dead wood present.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B2
G2	Lombardy Poplar [5]	M	Up to 100	Up to 12	Up to 452.4	5	Up to 22	East into site 3	Good	Good	Trees have good form and good vigour. Typical of mature poplar with ribbed, fluted main stems. Main stem epicormic growth. Inspection of basal area is mostly restricted due to epicormic growth and ground vegetation. Major/minor dead wood present.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	25	B2
G3	Lombardy Poplar [2], Ash [1]	M	Various	Various	Various	3	Up to 22	East into site 5	Fair/Good	Fair/Good	The two poplar species are similar in growth structure to that of trees within G2. The ash species is multi-stemmed (3no.) at the base. The long term retention of the ash is strictly limited. Continued growth will likely result in stem failure. Major/minor dead wood present. With the removal of the multi-stem ash the remaining poplar may be categorised as B2.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	25	B2
G4	Lombardy Poplar [3]	M	Up to 95	Up to 11.4	Up to 408.3	3	Up to 22	East into site 3	Good	Good	Trees have good form and good vigour. Typical of mature poplar with ribbed, fluted main stems. Main stem epicormic growth. Inspection of basal area is mostly restricted due to epicormic growth and ground vegetation. Major/minor dead wood present.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	25	B2
W2	Mixed Broadleaf	EM	Up to 67 (@ base)	Up to 8	Up to 265.1	Est. 80no. trees	Up to 14	Not recorded	Fair/Good	Fair/Good	Early mature mixed broadleaf woodland including native tree species field maple, ash, cherry, lime, alder with willow and hazel included in lower storey. Ivy growth to several stems. Minor deadwood. Standing and fallen deadwood within woodland.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	40+	B3
W3	Mixed Broadleaf	EM	Up to 58 (over ivy)	Up to 7	Up to 152.2	Est. 150no. trees	Up to 20	Not recorded	Fair/Good	Fair/Good	Early mature mixed broadleaf woodland including native tree species ash, alder, oak in upper storey with cherry and hazel included in lower storey. Ivy growth to several stems. Branch/ bark damage noted, although not significant. Suspected ash dieback, although not confirmed. Minor deadwood. Number of small dead trees within woodland.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	40+	B3
W4	Mixed Broadleaf	SM/W	Up to 40	Up to 4.8	Up to 72.4	Numerous	Up to 13	Not recorded	Fair/Good	Fair/Good	Small woodland copse of mixed broadleaf species. Predominantly Ash. Other species include a lower storey of hazel, privet, elder, willow and upper storey species of ash, oak, lime, alder and field maple. The ash species are showing signs of ash dieback. Some windblown trees evident, mainly to outer edge of northern section. Major/minor dead wood present. There are a couple of oak specimens within the copse with good form and good vigour as well as a single lime tree in the north east corner.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B3
G5 (off site)	Giant Willow [19], Alder [1]	SM	Est. up to 20	Up to 2.4	Up to 18.1	Approx. 22no. trees	Up to 10	Up to 4 north into site	Good	Fair/Good	Tree east 20m west of DG2. Tree 0.5m S of boundary fence. Length of tree line 40m. Tree west 0.5m S boundary fence. Shelterbelt of trees located off site, adj. boundary fence and parallel to public footpath. Inspection restricted due to access and high close boarded fence. Trees appear to have good vigour. Lower canopy sits approx. 2m agl north over site. Crossing and duplicating branches.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B3
G6 (off site)	Willow [24], Alder [10]	SM	Est. up to 25	Up to 3	Up to 28.3	Approx. 34no. trees	Up to 13	Up to 4 north into site	Good	Fair/Good	Group of willow and alder trees located on neighbouring land forming shelterbelt parallel to public footpath. Inspection restricted due to access and high close boarded fence. Trees appear to have good vigour. Single stemmed and multi-stemmed trees. Lower canopy over site sits generally 2m agl with 1no. alder tree sitting at 1m agl at eastern end of group. Crossing and duplicating branches.	In context with the current land use no works recommended. Should development occur management should be reconsidered in context with the proposed land use.	20+	B3

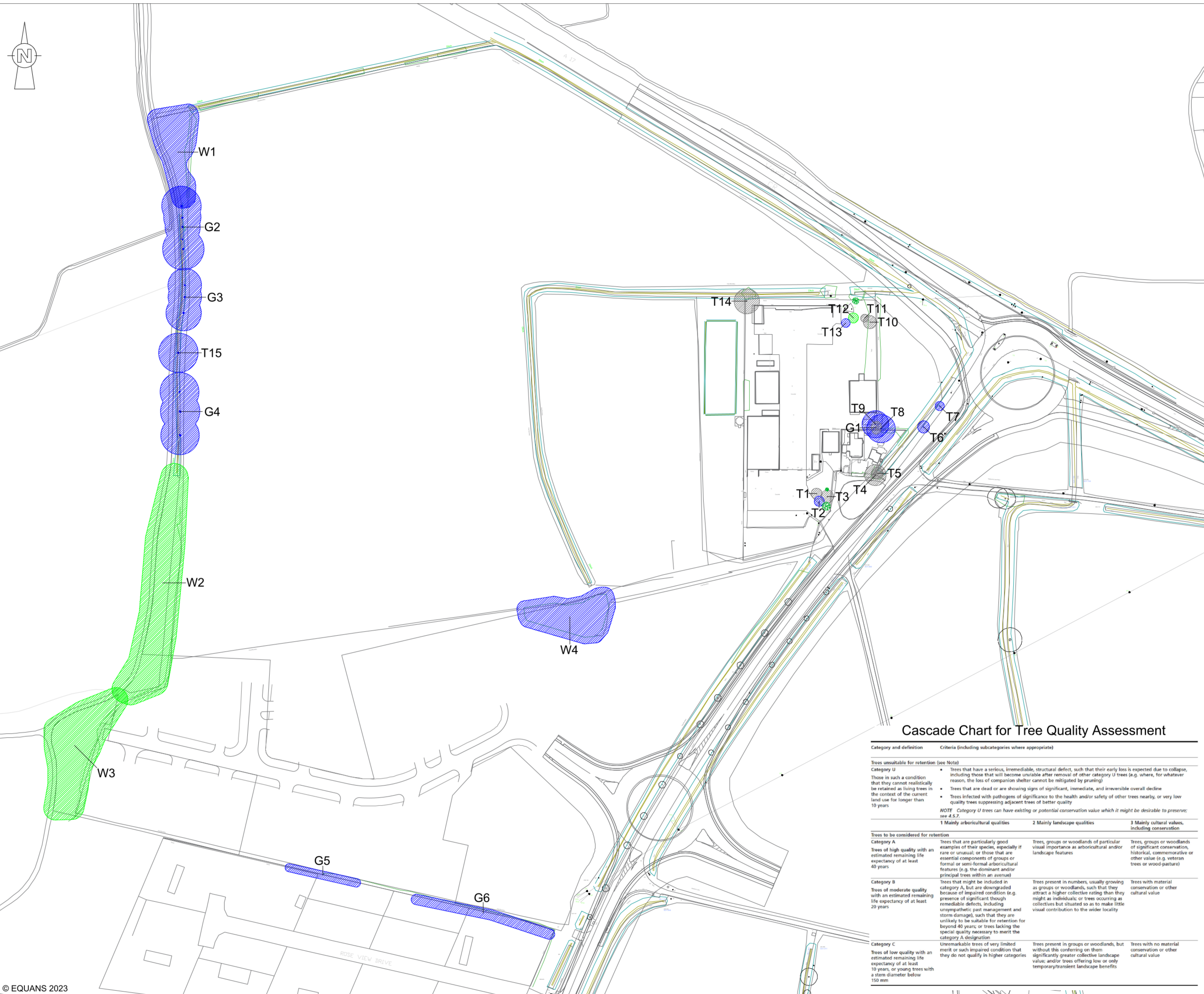




# Appendix "B"

## Category and Definition

- 
**CAT "A"**  
 Trees of high quality with an estimated remaining life expectancy of at least 40yrs
- 
**CAT "B"**  
 Trees of moderate quality with an estimated remaining life expectancy of at least 20yrs
- 
**CAT "C"**  
 Trees of low quality with an estimated remaining life expectancy of at least 10yrs, or young trees with a stem diameter below 150mm
- 
**CAT "U"**  
 Those trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10yrs



### Cascade Chart for Tree Quality Assessment

Category and definition	Criteria (including subcategories where appropriate)		
<b>Trees unsuitable for retention (see Note)</b>			
<b>Category U</b> Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> <li>Trees that have a serious, irreparable, structural defect, such that their early loss is expected due to collapse, including those that will become unstable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li> </ul> <p><i>NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i></p>		
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
<b>Trees to be considered for retention</b>			
<b>Category A</b> Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
<b>Category B</b> Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
<b>Category C</b> Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

ALL NECESSARY DIMENSIONS SHALL BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. DO NOT SCALE.

**ARBORICULTURAL CONSULTANCY**

 **EQUANS**

New Oxford House  
2, George Street  
Grimsby  
North East Lincolnshire  
DN31 1HB  
Tel: 01472 324271

CLIENT	South Holland District Council		
PROJECT	Commercial Development Land adj. A17/A151 junction, Holbeach, Lincs.		
TITLE	Tree Constraints Plan		
DRAWN	DJM	CHECKED	AH
DATE	9th January 2023	ORIGINAL SIZE	A1 (594 x 841)
FILE REF	AH-EQUANS	DRAWING NO.	TCP-9123-00
APPROVED	-	SCALE	1:1000
REVISION NO.	-		