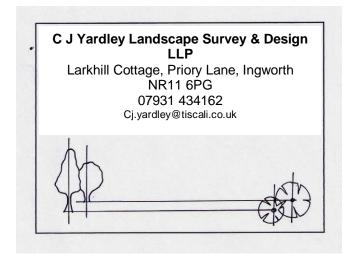
Arboricultural Impact Assessment, Tree Protection Plan, Method Statement Site at land south of Ardees, New Road, North Runcton.





March 2023

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1. Introduction

- 1.1. This report is intended to assess the implications for existing trees, shrubs and hedging within and surrounding the site of a proposed development at land south of Ardees, New Road, North Runcton. The development concerns the construction of two detached dwellings with access, parking and gardens located at New Road, North Runcton. The development proposals are as indicated on the plans 4814/01 with arboricultural information added March 2023 and developed from plans by David Taylor Associates. The report and plans are intended to provide sufficient information to address the required submission of arboricultural impact, tree protection and construction method details for a proposed Outline Planning Application for the development. This report assesses the impacts of the proposed development (as set out in the plans accompanying this document) on the trees / large shrubs on, and where relevant, adjacent to the site, and uses this information to provide details of any proposed tree protection and construction methodology in relation to trees that may be recommended. As the application is in Outline, general guidance on likely tree protection measures only are provided.
- N. B. This survey is not intended to be a tree condition survey and should not be used to identify tree hazard/risk or provide information for risk indemnity purposes. The survey was carried out at a time of year when some pathogens / faults may be visible but it should be recognised that such pathogens (fungal fruiting bodies / issues with leafing etc.) are transitory and seasonal and that they may not be present when the survey was carried out. A full inspection for Health and Safety purposes would identify faults / make relevant recommendations on appropriate seasonal inspections for faults that may not be presenting at the time of the survey.

1.2. How to Use this Document

- 1.2.1. The document is divided into four main sections
 - 1 Introduction and Executive Summary of Findings
 - 2 Table of Trees (and Hedging if relevant) covered by the survey
 - 3 Assessment of Arboricultural Impacts of the proposed development
 - 4 Tree Protection Plan and Method Statement
- 1.2.2. The Executive Summary sets out the main points to consider in relation to this report and is intended to assist the Planning Officer / applicant in knowing what impacts the development will have and the general scope of tree protection and mitigation measures which we consider are necessary to employ to protect trees which are to be retained after development
- 1.2.3. The Impact Assessment considers the detail of what impacts we consider the development will have on the trees on the site (both in terms of trees / hedging removed and the impacts on the trees to be retained). This section provides the basis on which we then devise the Tree Protection Plan and Method Statement and is a justification for the elements which we have included in this section.

1.2.4. The Tree Protection Plan and Method Statement are the 'important / actionable' part of the document which should be presented to ALL persons who are to work on the site. It is of great importance that this part of the document AND the Tree Protection Plan which accompanies it (and which due to size may be a separate sheet) is held by the architect, the engineers (if present) and the site manager. The document should be available for inspection by all persons working on the site and held in the Site Office or on site in a suitable place. A toolbox talk should be held between the Site Manager and ALL those working on the site (as and when needed but certainly at the commencement of development and certainly at the commencement of any works which are in areas which are clearly indicated to be specially worked upon in this report) to identify working practices as recommended in this document and make sure that all those working on the site know exactly what they are doing and why. If there are any doubts over the actions to be taken please refer IMMEDIATELY to the arborist who can either attend the site / and or provide advice.

NOTE; If this document is part of a Planning Application/ or deals with works near to or within TPO/ Conservation Areas, it is likely to form a legally binding part of any Planning Permission/Tree Works Application, and failure to adhere to the recommendations in the document can either lead to prosecution (in the case of trees covered by a TPO / Conservation Area) or invalidate the Planning Permission. If in any doubt about anything related to development and trees - contact the Arboricultural Consultant...

- 1.2.5. This report is based upon the recommended procedure outlined in the revised version of the British Standard (5837:2012). The procedure requires that a survey of all the trees on the site is conducted which includes consideration of the following:
- The location, species, height, crown spread, condition, likely future development and projected lifespan (where appropriate) of all the trees on or adjacent to (and thereby potentially impacted on by any proposed development) the proposal site.
- 1.2.6. This data is then used to produce plans and document showing;
- 1. The Root Protection Area (RPA) for each tree based upon a formula (Diameter of trunk at 1.5m height in mm x 12 shown as a radiused circle from the base of the tree with or as a formula based on trunk diameter x number of trunks in the case of multiple trunked trees. The RPA may be offset or altered only for certain existing physiological issues within the growth area of the tree. The area of the rooting zone will not be less than that calculated.
- 2. The Tree Constraints Plan (TCP) showing the RPA + any relevant other information such as tree shading issues / future growth potential of the trees.
- The factors contained in the TCP are intended to inform the layout of the development proposals. The TCP is not a development exclusion zone, but imposes certain constraints and restrictions (in order to achieve the BS) on what can and cannot be constructed within the zones.
- 4. From the TCP and any submitted development layout, the arboriculturalist is intended to produce an Arboricultural Implications Assessment. This document uses the data produced to assess the risk of damage to the trees both during construction and into the future. Liveability issues should also be considered within this survey.

- 5. A Tree Protection Plan (TPP) will then be drawn up to show the finalised layout of the site development plan together with the location of all the trees to be removed / retained and the location and nature of any protective fencing. This will be in plan form and will constitute part of any future Arboricultural Method Statement.
- 6. Finally an Arboricultural Method Statement (AMS) may be required to be produced to say how any works which may impact on tree health will be undertaken to ensure that they minimise damage and comply with the standards set in the BS.

The survey was carried out on 23rd November 2023 by C.J Yardley and represents a consideration of the condition of the site and trees at that time.

1.3. Executive Summary

The application will have the following impacts on trees and requires the following tree protection measures;

- The development would require two sections of hedge H1 (young mixed native species hedge of Moderate amenity value) to be removed to form two new access points off New Road.
 - As required under the NERC Act 2006 and NPPF (Development should seek to maintain, mitigate and enhance biodiversity), provisional indicative landscaping is shown on the plans by David Taylor Associates which indicate locations where new hedging and trees can be planted to mitigate for the loss of the planting listed above. Details of landscaping can be secured by suitable Planning Conditions to any permission
- 2. No alterations are proposed (with the exception of the cutting back of the canopy of hedge H3 and H4 for proposed sheds where shown) would be required to facilitate the proposed development. Therefore the impact on the trees is assessed as NEUTRAL.
- 3. The development was provided with a Tree Constraints Plan and arboricultural advice on the siting of development in proximity to trees. Adjustments were made to improve the relationship of the features to a point where the arboriculturalist was content that the significant trees on / adjacent to the site were retainable. The development will impact the root protection areas (RPAs) of trees in the following locations
 - The construction of the new vehicular access to both plots will extend into the RPA of T1 to a moderate degree. The extent is distributed to the outer area of the RPA of this tree but will breach the guidance offered in BS 5837 in relation to the maximum width of such surfacing (recommended not to exceed 3m and actually accounting for some stretches where it will extend to 4m and others of 5m). The amount of surfacing within the RPA of the tree (if carried out as a no-dig construction type) will however not exceed the recommended amount (of 20% of the total RPA). The RPA of T1 is 707m2 and the extent of

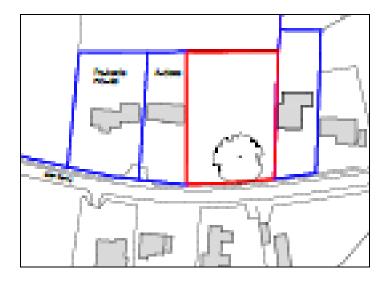
proposed hard surfacing (no-dig) would be 136m2 equating to approx. 19%.

- The works to install the new house on Plot 2 will intrude within the RPA of T1 to a marginal degree on the outer periphery of the RPA and extending into the RPA and accounting for less than 1m for approx. 3m2
- The location of soakaway provision on site is shown and these have been located with the benefit of a Tree Constraints Plan. The proposed new developments should not require works to install or alter services (which can be routed to the north or south of T1) within or close to the root protection areas of trees. If such works are required, an application for these works would be required prior to their commencement in order to vary the findings of this report. There is no deemed consent to install services unless expressly shown on Approved Planning documentation if the report on which it relies forms part of that consent.
- Access to the working area for the new development will be moderately
 restricted by tree constraints. Construction vehicles would need to
 access the site from the northern entrance to Plot 1 only in order to avoid
 requiring sophisticated ground protection measures. The site working
 area will require both ground protection and protective fencing around
 the new properties as they are developed and there will be limited
 access to the west of the new dwellings / requirements for specific
 construction methods for new surfacing / restrictions on placing services
 etc.
- Works to install boundary treatments (new boundary fencing) are likely to extend within the RPA of trees and hedging to the northern and southern sides (depending on what type or requirement given existing boundary features are present and may be considered adequate to be retained). A new boundary fence between Plot 1 and 2 to the site frontage will extend within the RPA of T1. Where such features occur, a suitable methodology will be required as set out in Section 4 of this report to avoid damage to tree rooting areas. If the works to install boundary treatments comply with the methodology stated, the impact on trees is assessed as NEGLIGIBLE.
- There are no proposals to install other surfacing or boundary treatments (not otherwise shown on the development plan on which the Tree Protection Plan is based) within the RPA of trees
- 4. It should be noted that the tree impacts are based on a layout as shown on the Outline plans and may be subject to change in which case the above assessment would require variation to the new layout / features. Based on the current shown layout, the CUMULATIVE impact of the works is assessed as producing a MINOR ADVERSE long term impact on tree T1 assuming that all tree protection measures stated in Section 4 of the AIA are complied with.

- 5. Shading and overbearing issues will be presented to the new properties from proximity to trees located to the western side of the site and has been indicated by the shade quadrants (based on tree height) on the Tree Protection Plan. These have been assessed as below:
 - The western outlook from both properties will be affected by shading from T1 located to the west of the site. The size and form of T1 is large and imposing. The tree has a high canopy clearance of between 4 and 7m allowing light to penetrate under the canopy but there will be shade generated from mid to late afternoon (for Plot 1) and late afternoon for Plot 2. The provision of the TCP gave the opportunity to move the buildings back more or less to the limit of the shade quadrant (point at which BS5837 indicates that shade may become significant to occupants)
 - Overbearing has similarly been considered. The tree T1 would, as a result of its size and orientation to the west – front elevation - present an overbearing element to residents of both properties. The properties are just within falling distance of the tree
 - The future growth of trees has been considered as part of this development and it is assessed that the future growth of T1 can be assessed as negligible and that of T2, whilst significant, would, because its located to the north east of Plot 1, experience only minor pressure from residents in Plot 1 to be retained or reduced as it developed, resulting in a NEGLIGIBLE impact on the future growth of this tree.
- 6. Subsequent landscaping to the site will need to be undertaken with due regard for the root protection areas of trees

1. 4. Site Description.

- 1.4.1. The site is located to the northern side of the village of North Runcton and to the eastern side of one of the main access roadways into the village, New Road. The property fronts onto this road with a relatively recent mixed native species hedge set back from a post and rail boundary fence and separated from the road by a wide footway. To the northern and southern sides of the site, the property is bounded by existing large detached dwellings (house and bungalow respectively) which have gardens extending to the depth of the site to the east. These are separated from the site by mature hedged boundaries in part or by post and rail fencing. To the eastern side of the site, the property adjoins a touring caravan park. The site itself is currently part of the touring park and is laid to grass with a single large Oak tree to the south western side of the land
- 1.4.2. The location and extent of the site are shown in the google earth image below. This also indicates the type of habitats and landscapes surrounding the site



1.5. Development Proposal for Site

- 1.5.1. The development proposals concern the construction of two new detached properties with access, parking and gardens, all located off New Road, The application is in outline form and therefore features are subject to change.
- 1.5.2. Services are assumed to be installed in to connect with existing services located in New Road and would need to be carefully located to avoid the RPA of trees.

1.6. Current Ground Cover and Boundary Treatments

- 1.6.1. The existing site comprises mown grassland
- 1.6.2. The relevant boundaries of the site are as follows;
 - 1. The northern boundary is formed by a combination of post and rail fencing (western end), conifers and close boarded fencing (eastern end)
 - 2. The eastern boundary to the site is not delineated
 - 3. The southern boundary to the site is formed by a combination of post and rail fencing and laurel hedging
 - 4. The western boundary to the site is formed by a post and rail fence with a youngish mixed native hedge to the inner side
- 1.6.3. Hedgerow Regulations 1997; there are no boundary hedgerows which are subject to the Regulations.

1.7. Levels

1.7.1. The site is more or less level.

1.8. Soil Type

1.8.1. The soil type across the site is The Lowestoft Formation forms an extensive sheet of chalky till, together with outwash sands and gravels, silts and clays. The soils are unlikely to be unstable and shrinkable but there is potential for clay layers to be present and these could present localised shrinkage issues. Detailed investigation of the soil structure will be necessary to determine the depths of footings etc.

1.9. Trees on/adjacent to the Site

- 1.9.1. There 5 individual and groups of trees / large shrubs and 3 hedges on and adjacent to the site which are included in the survey as being relevant to the construction of the new building / ancillary features such as services
- 1.9.2. The large central tree T1 is covered by a Tree Preservation Order which requires all above and below ground works which would affect parts of the tree to be applied for and agreed in writing by the LPA prior to works commencing. It is not known if the other trees on or adjacent to the site are covered by Tree Preservation Order/s (they were not in Autumn 2022). The site is not within a Conservation Area and is therefore not subject to the Conservation Area Regulations affecting trees. It is not known if the trees are subject to any residual Planning Condition affecting their retention or management. These factors are not fixed and may be liable to change, and it is therefore recommended that prior to any works commencing on trees on the site above or below ground (including excavating trenching for services or installing surfacing) that reference is made to the Council to ascertain if consents are required.

Local Policies

- 1.9.5. The Council has planning policies in place to protect important trees as part of the planning process (by the serving of Tree Preservation Orders or placing of Planning Conditions on Permissions) as part of planning policy within the emerging Local Plan (formerly LDF) Development Control policy structure.
- 1.9.6. Normally accepted scope of inclusion of trees to 15m from the site boundaries have been included in this survey unless otherwise agreed due to relevance.

2. Tabulated Assessment of the Trees on the Site - Tree Constraints Details

2.1. The trees on the site have been assessed in relation to the provisions in the BS and the information is presented in tabular format. The tables include all the relevant data required to assess the constraints (in construction terms) that the trees present and this data has been used to develop the Tree Protection Plan which accompanies this document. Details of the features included in the data collection and assessment are set out below in the Notes.

Notes on Tables

- All measurements are given in metres.
- 'DBH' is the diameter of the trunk/s at breast height (1.5m)

- Crown Spread is the limit of the crown of the tree at its maximum and is recorded as a diameter. On the plans the crown spread is shown in its actual form i.e. frequently asymmetrical.
- Age Class is assessed and described as set out in BS 5837 Table 1, where; Young Trees are aged less than 1/4 life expectancy; semi-Mature Trees are between ¼ and ½ life expectancy; Early Mature Trees are over ½ life expectancy, Mature trees are over 2/3ds life expectancy and Over Mature are effectively in decline.
- Tree Vigour is assessed as being either Good, Fair, Poor or Dead as set out in BS 5837
- Root Protection Distance (as shown as a dashed and dotted line on accompanying plans) is assessed based on the BS 5837 section 4.6 based on the diameter of the trunk at 1.5m height in mm x 12 and shown as an area based on the premise that the distance diameter x 12 = radius of circle of RPA area. Trees with more than one stem are calculated differently. Trees with 2 5 stems are calculated as the square root of the combined (added) stem diameters all of which are individually squared. For more than five stems, the result is the square root of the mean stem diameter squared which has been multiplied by the number of stems.
- Canopy Spread is shown at the four cardinal points and is also shown as a constraint (continuous or repeated line on accompanying plans).
- Shading issues (as described in Section 5.3.1) are shown on accompanying plans as
 a 'segment with its centre at the centre of the tree and radiating outwards as straight
 lines to the North West and east with the area between them radiused with a dashed
 line.
- The Useful Life Expectancy of the tree is shown in periods ranging between <10 yrs, 10+, 20+, 40+yrs (in accordance with Section 4.4.2)
- Where any work that may, in the opinion of the surveyor, be required to the tree in order to enable the proposed development to take place, or where changes to the use of the land (i.e. to garden) may change the risk posed by the tree/s, such work is indicated in the Comments section of the table. All work recommended will accord to BS 3998:2010, and be based on the principle that the tree takes primacy over the proposed development (unless it is adjudged to be of poor amenity value), and works will only be recommended that accord with the retention of the tree in good health.
- Tree Retention Category this is the product of the surveyor's opinion of the importance of the tree in terms of its individual features. The assessment is made on the basis of the criteria set out in BS5837:2012 and is described in the Table 1 summarised from the British Standard on the following page;

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)					
Trees unsuitable for retention Category U	Trees that have a serious, irremediab	ole, structural defect, such that their early loss	is expected due to collapse,	See Table 2		
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	 including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7. 					
	1 Mainly arboricultural qualities	3 Mainly cultural values, including conservation				
Trees to be considered for rete	ention	Account the state of the state				
Category A 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		
Category 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		
Category C 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		

Table 2 -How to read the tree table -

The tree table below is split into sections which detail the height, spread and form of the tree together with other important information relating to the diameter of the trunk - DBH - (which provides the data for determining the root protection area (RPA)), age class of the tree (what stage of its development it has reached); its condition and the amenity contribution that it makes together with its formally assessed 'retention category' or amenity rating (see table 1) as assessed using the BS criteria. These factors are used to provide the data which is transposed onto the development plan and which provides the 'Tree Constraints' on this plan. The data is then used to help determine our assessment of the impacts of development, the location of any tree protection and any remedial measures which will help to protect and ensure the health and retention of those trees which are shown to be retained after the development is completed

Tree No.	Species	Height	Crown	DBH mm	Vigour / Age	Condition / amenity contribution / under crown	Retention
		Metres	Spread	/Radius	Class	clearance	category
The	Given as the	The	metres	RPA m			
number	common	height	The spread	The	The vigour is	A broad guide to the condition of the tree from a	The formal
given to	name unless	of the	of the tree	'diameter	either low or	superficial ground level inspection. The condition	British
each tree	the Latin	tree	either as a	of the	normal.	rating is not to be used for health and safety purposes	standard
on the plan	name only		radius	trunk at	The age class	and is not a substitute for a detailed tree condition	amenity
	is known		from the	breast	varies from	survey but will indicate the approximate condition of	classification
			centre (to	height' -	Young to Over	the tree and highlight any major faults if clearly visible.	which ranges
			each	this is used	Mature in five	Where these are not visible (ivy obscuring the trunk)	from 'A to U'
			cardinal	to work	more or less	this may be highlighted. It is always advisable to have a	see Table 1
			point N, S,	out the	equal sections	formal tree condition survey for indemnity purposes.	
			E or W) or	radius of	relating to the	Amenity contribution highlights any special amenity	
			as a	the root	five 'stages' of	value that the tree/s may present	
			diameter	protection	development of	Under crown clearance is intended to provide a guide	
			where this	area (in	the tree - varies	to allow assessment of whether or not crown lifting	
			is	metres)	with the species	would be needed to gain access beneath the tree for	
			acceptable		as to how many	development or other purposes	
			_		years this may		
					be.		

Table 2 – Trees which are included in the Tree Survey

	Tree No.	Species	Height metres	Crown Spread metres	DBH/RPA in mm	Vigour / Age Class and remaining years	Comments:	First main branches (N, S, E, W) and minor bough outer canopy clearance (CC). Amenity Classification
Т	1.	Turkey Oak	20	12N, 9E, 11S, 11W	1300 / 15m	N/M 40+	Reasonable condition. The upper and lower main boughs have been reduced on the eastern side – fairly significantly (150mm dia). Also reduced are lower south west and lower northern boughs with an overall canopy reduction	South @ 7m (200mm dia) droops to 6m North @ 9m (350mm dia) droops to 6m at around 8m from the base of the tree. South east at 450mm rising Cc 4m north, 4.5m west, 5m south, 7-8m east – all with boughs under 30mm dia A1 + A2
Т	2.	Common Oak	8	8 dia	Est 350 / 4.2m	N/SM 40+	Fair condition what can be seen = approx. canopy extent over site is 2.5m	CC 4m over site B1
Т	3.	Sycamore	4	2 dia	3 x 60 / 1.2m	N/Y 40+	Fair condition – coppiced to a bush form	C1
Т	4.	Fir	4	2 dia	70 / 1m	N/Y 40+	Reasonable condition	C1
Т	5.	Holly	5	3 dia	120 / 1.4m	N/Y 40+	Reasonable condition	C1
Н	1	Mixed hedge	1.5 – 3m	1m	50 / 1m	N/Y 40+	Reasonable condition	B2
Н	2	Laurel	2.2	600	100 / 1.2	N/SM 40+	Fair condition	C2
Н	3	Lawsons	3	1	120 / 1.4m	N/EM 40+	Fair condition	C2
Н	4	2	Laurel	2.2	600	100 / 1.2	N/SM 40+	Fair condition

Condition Key (Vigour / Maturity) Vigour: L Low

Ν Normal Maturity: Y Young

EM Early Mature
SM Semi Mature
M Mature
OM Over Mature

- Good condition no obvious faults which would reduce the life expectancy of the tree, a good form with a full canopy.
- Reasonable condition. Some minor to moderate faults which will reduce the life expectancy of the tree or a tree with some degree of decline but which has good form and reasonable canopy density for the species.
- Fair condition. A tree with significant faults which will reduce the life expectancy. Probably with faults that require surgery and which will reduce the amenity of the tree. A tree with poor form and thin canopy.
- Poor condition. A tree near the end of its life or one with sever faults which may be correctable with surgery or may not but which will probably leave the tree in a form which is poorly structured.

3. Arboricultural Implications Assessment of trees on the site from the details contained in Table 2 above

3.0.1. The assessment has considered all the trees in the vicinity of the proposed development together with those which in our opinion may be affected by the requirements to access the working area to construct the proposed development features, or where new services may be installed. The trees on and adjacent to the site comprise a range of species and sizes commensurate with various intentions and comprise

A single large mature Turkey Oak T1 which stands in the western part of the site. This is part of a parkland associated with North Runcton hall

A number of smaller trees within the gardens of properties to the north and south of the site and part of recentish garden design

Three hedges associated both with the properties to the north and south and also to the landscaping of the caravan park (west boundary)

- 3.0.2. The assessment below has been carried out to the recommendations contained in the British standard BS 5837:2012. Where necessary, and due to the specific nature of the trees and constraints / development imposed, interpretation within the Guidance has been made.
- 3.0.3. Development proposals contained on the plans 4814/01 developed from plans by David Taylor Associates with arboricultural information added March 2023 show the layout of the proposed development and access etc and indicates the relationship between the trees and the proposed structures.
- 3.0.3. These features have all been considered in detail in the following assessment process and have been used to develop protection and mitigation strategies which are included in the final chapter of the report 'Tree Protection Plan and Method Statement'
- 3.0.4. The plan 4814/01 developed from plans by David Taylor Associates with arboricultural information added March 2023 indicates the location and extent of proposed development of the site. The location and canopy spread of the trees is also indicated together with the Root Protection Area. Additional information is added in the form of the location of protective fencing around the trees and special measures areas (for certain construction processes). This additional information forms the elements of the Tree Constraints Plan and Method Statement.

3.1. Overall Conclusions of the Amenity Value of the Trees on the Site/ Tree Constraints

- 3.1.1. Some indication of the relative amenity value of the trees on and adjacent to the site has been discussed above, this section provides additional detailed assessment of the site and the area.
- 3.1.2. The individual British Standard amenity classification value of the trees is appended to each tree in Table 2 and varies between tree/s which are of high amenity value as both individuals and as members of groups of trees in landscape / character terms (A1 / 2), moderate amenity value as individuals or as members of groups of trees / hedging (B1 and B2 respectively). There are also several trees, hedges and large shrubs which are classified as C2 or low amenity value.
- 3.1.3. The large Turkey Oak T1 is a significant landmark tree within the street scene and is classified as High amenity value for its size, form and public amenity value. It is also one of a number of other trees in the vicinity which are associated with the former Runcton Hall parkland (extensive) and probably dates from the early C19th.
- 3.1.4. Below this level of classification is a single moderate amenity value tree T2 (small oak) which contribute to the amenity of the area. The youngish front boundary hedge H1 also achieves this level of amenity value. Below this level are a larger number of (mainly small trees, Laurel hedging and conifer hedging) which contribute very little amenity value

3.2. Future Development of the Trees.

- 3.2.1. This assessment has only considered those trees which in the opinion of the surveyor may be impacted upon by the proposed development (constrained).
- 3.2.2. The large Oak T1 is more or less fully grown and unlikely to enlarge significantly (+/- 1m over the next 20 30 years) and therefore has no future growth potential which would be constrained by the proposed development (NEUTRAL). The small oak T2 is however young and has considerable growth potential. This tree is located to the north east of the new proposed Plot 2 and sufficiently far removed from the proposed house for the building to have a NEGLIGIBLE impact on constraining this development. There are no other trees of substance which would be affected by the development in relation to constraining future growth and hedge features on and adjacent to the site will be (we assume) managed to existing sizes.

3.3. Tree / hedge Removals and Replacements

- 3.3.1. Two sections of hedging in H1 are proposed to be removed to form the two new access points into the site. The integrity of the main hedge can be retained however and the impact is therefore lessened.
- 3.3.2. As required under the NERC Act 2006 and NPPF (2021) (Development should seek to maintain, mitigate and enhance biodiversity), provisional indicative landscaping is shown on the plans by David Taylor Associates which indicate locations where new hedging and trees can be planted to secure replacement / mitigation planting to

compensate for the loss of the sections of hedging on the site. Details of landscaping can be secured by suitable Planning Conditions to any permission

3.4. Canopy Spread and Canopy Clearance Issues

- 3.4.1. The proposed development does not require the alteration of the canopies of any trees on or adjacent to the site. Hedging will be required to be cut back for the new sheds (minor works) and to be retained at their current hedge sizes
- 3.4.3. All works must be carried out by suitably qualified arborists to BS3998:2010.

3.5. Root Protection Area

- 3.5.1. The root protection area of trees is shown as a dotted and dashed circle around trees on the plan. The British Standard default recommendation suggests that no development should be undertaken within the root protection area of trees unless it is unavoidable or unless the tree/s concerned are of low amenity value. The BS does however allow for some works to be undertaken within the RPA of trees subject to the assessment of a suitably qualified arboricultural surveyor but generally assumes that these will be minimal, peripheral and localised, and that the area of the RPA will be part of an exclusion zone (construction exclusion zone CEZ) around the trees which will be fenced off from all access during construction. Therefore, usually such an area will be closed off from works until any which are deemed acceptable (such as driveway constructions) actually need to take place and preferably at the conclusion of other developments on the site.
- 3.5.2. The development has considered the RPA of the trees adjacent to the site with great care. The key points which are considered relevant are;

New Vehicular Access to Plot s

3.5.3. The construction of the new vehicular access to both plots will extend into the RPA of T1 to a moderate degree. The extent is distributed to the outer area of the RPA of this tree but will breach the guidance offered in BS 5837 in relation to the maximum width of such surfacing (recommended not to exceed 3m and actually accounting for some stretches where it will extend to 4m and others of 5m). The amount of surfacing within the RPA of the tree (if carried out as a nodig construction type) will however not exceed the recommended amount (of 20% of the total RPA). The RPA of T1 is 707m2 and the extent of proposed hard surfacing (no-dig) would be 136m2 equating to approx. 19%.

Construction of new house on Plot 2

3.5.4. The works to install the new house on Plot 2 will intrude within the RPA of T1 to a marginal degree on the outer periphery of the RPA and extending into the RPA and accounting for less than 1m for approx. 3m2

<u>Installation of Services</u>

3.5.5. No details of the location of services to or from the site have been provided at this Outline stage of development. We have therefore had to

hypothesize where such services are likely to be required and whether it would appear possible to distribute them in locations where they would not affect tree rooting areas. We have assumed that all services will enter and leave the site via the New Road frontage of the dwellings. To this end it would appear that the only service route that would avoid the RPA of trees would be to have both properties share a service route via the northern boundary area of Plot 1 with distribution very close to the frontage of the house of Plot 2 (this would extend marginally within the RPA of T1 but would need to be kept within 500mm of the footings of the building to avoid significant additional impact on tree rooting compared with the footings alone.). The levels on the site (site is level) may allow this relationship but we would state that it will be necessary for the development to submit details of the location, type and installation method of all services prior to their installation in order to be able to assess impacts on trees

3.5.6. However, the location of soakaway provision on site is shown and these have been located with the benefit of a Tree Constraints Plan. The proposed new developments should not require works to install or alter services (which can be routed to the north or south of T1) within or close to the root protection areas of trees. If such works are required, an application for these works would be required prior to their commencement in order to vary the findings of this report. There is no deemed consent to install services unless expressly shown on Approved Planning documentation if the report on which it relies forms part of that consent.

Construction Access

3.5.7. Access to the working area for the new development will be moderately restricted by tree constraints. Construction vehicles would need to access the site from the northern entrance to Plot 1 only in order to avoid requiring sophisticated ground protection measures. The site working area will require both ground protection and protective fencing around the new properties as they are developed and there will be limited access to the west of the new dwellings / requirements for specific construction methods for new surfacing / restrictions on placing services etc.

Boundary treatments

- 3.5.8. Works to install boundary treatments (new boundary fencing) are likely to extend within the RPA of trees and hedging to the northern and southern sides (depending on what type or requirement given existing boundary features are present and may be considered adequate to be retained). A new boundary fence between Plot 1 and 2 to the site frontage will extend within the RPA of T1. Where such features occur, a suitable methodology will be required as set out in Section 4 of this report to avoid damage to tree rooting areas. If the works to install boundary treatments comply with the methodology stated, the impact on trees is assessed as NEGLIGIBLE.
- 3.5.9. There are no proposals to install other surfacing or boundary treatments (not otherwise shown on the development plan on which the Tree Protection Plan is based) within the RPA of trees

3.6. Shading Issues

- 3.6.1. The issue of liveability particularly shading and perceived tree hazard to occupants' resident within the properties should be considered carefully. Whist these are not physical constraints to development of the properties, they should inform the nature of the development. The BRE have produced a considerable amount of guidance upon shading related issues which is distilled in two booklets (Environmental Site Layout Planning – Littlefair P. J. et al 2000; and Site Layout Planning for Daylight and Sunlight – a guide to good practice; Littlefair P. J 1991 revised 2011. The BS 5837:2012 makes reference to seeking guidance from these sources. However it remains as 'guidance' and does not confer rules even to the same degree as that for root protection areas, nevertheless they are good starting points for considering the relationship between housing, gardens and peoples reaction to trees within their proximity. The guidance recommends that windows from properties do not fall within the 'shade quadrants' (which are based on the height of trees and assume therefore that when the sun is above 45° altitude, its light should directly reach windows (i.e. tree shadows should not intervene). The recommendations also provide for a 'guidance' that no more than 50% of amenity garden / outdoor space should be within shaded areas based on the same sun altitude assessment. NOTE THEREFORE that shade quadrants do not equate to 'actual shade patterns' of trees, but are considered to be the point at which shading can be assessed as likely to be a constraint
- 3.6.2. The main issues that tend to present with liveability of trees in relation to property are:
 - Shading direct and indirect light obstruction by trees.
 - Overbearing and the 'fear' of trees falling or being 'close'

Shading and overbearing to the new dwellings and their gardens

- 3.6.3. The western outlook from both properties will be affected by shading from T1 located to the west of the site. The size and form of T1 is large and imposing. The tree has a high canopy clearance of between 4 and 7m allowing light to penetrate under the canopy but there will be shade generated from mid to late afternoon (for Plot 1) and late afternoon for Plot 2. The provision of the TCP gave the opportunity to move the buildings back more or less to the limit of the shade quadrant (point at which BS5837 indicates that shade may become significant to occupants)
- 3.6.4. Overbearing has similarly been considered. The tree T1 would, as a result of its size and orientation to the west front elevation present an overbearing element to residents of both properties. The properties are just within falling distance of the tree

4. Method Statement and Tree Protection Plan

- 4.0. The tree protection plan details set out below provide information on how to protect and avoid damage to trees on and adjacent to the site during and after the development process. Damage to trees occurs in several main ways from construction processes and these are set out below.
 - Tracking of vehicles over root protection areas
 - Excavating within root protection areas
 - Storage of materials within root protection areas
 - Leakage of toxic chemicals within root protection areas or near to them
 - Physical damage to above ground parts of the trees by collision with vehicles or equipment
- 4.0.1. The tree protection plan therefore sets out to provide information which can be followed to avoid the risk of damage occurring, and / or where damage is inevitable (such as where vehicles have to cross over a root protection area of a tree) minimise the amount of damage occurring.
- 4.0.2. The tree protection operations below relate to specific items on the site in specific locations and this should therefore be read with the plans, as each area within the site is unique and presents different tree protection requirements.
- 4.0.3. These physical constraints have been taken into account as far as practicable, the relevant sections of the Tree Protection / Method Statement recommendations below. To a large extent, the constraints actively militate to assist in protecting trees by restricting the size and type of vehicle and construction process that can be used. The development requires a number of specific procedures and these have been considered in relation to the tree protection issues discussed in Section 3 above. The main points are set out in the summary below with each point being expanded upon in the following text:

4.1. Summary of Construction Method Processes in relation to Trees on and Adjacent to the Site.

As the application is in Outline only, general advice based on the principles presented by the layout as indicated on the Tree Protection Plan have been provided but the detailed specific location of features will be likely to alter or change depending on where development is located on the site when Reserved Matters are submitted. Therefore this report does not address the specifics of the proposed development and should not be used to condition tree protection / methodology matters as these may be greater or different from those assessed in the Section 3 of this report

1. Prior to the commencement of any other works associated with the proposed development including storage of materials, access the site with construction

vehicles, scraping the surface vegetation from the site or undertaking site level changes, protective fencing and or ground protection will be erected around the trees and hedging to be retained as indicated by the HATCHED YELLOW line on the plans for ground protection and SOLID YELLOW line indicates where existing or Herras type fencing must be retained or installed to prevent access into areas within the RPA of trees which do not have ground protection measures. This will ensure that the trees are protected adequately from accidental damage. The construction of the ground protection and fencing is detailed below. NOTE that NO SCRAPING OF SURFACES, MECHANICAL CLEARANCE OR VEGETATION REMOVAL within tree protection areas may be undertaken

- 2. The installation of footings for the new buildings (depending on the extent of the building within the RPA of trees if greater than that indicated, impacts will be different and may not be suitable to be addressed in the manner stated in this report).
- 3. The installation of services to and from the new dwellings and any other ancillary works on site to position or alter services will be undertaken outside the Root Protection Areas. No other services or below ground features may be installed within the Root Protection Areas of trees unless otherwise agreed in writing with the Borough Council.
- 4. No-dig Celweb supported surfacing will be installed to the specification shown below in the relevant section and in the diagrame in the Appendix where shown outlined in GREEN on the tree protection plan
- The construction of the boundary fencing shown ORANGE on the plans will be constructed as set out below unless otherwise agreed in writing with the District Council
- 6. Finally landscaping will be carried out as described below

4.2. Protective Fencing/ Construction Exclusion Zone site Access.

- 4.2.1. Following the removal of the canopy elements above, but prior to the commencement of any other development on the site including further site clearance, access by vehicles, storage of materials or demolition, ground protection and or temporary protective fencing (as shown on the plans by the YELLOW HATCHED / YELLOW LINE areas respectively) will be installed where shown. The ground protection should be adequate for the type of traffic it will be expected to accommodate (see designs in Appendix which comply with BS5837:2012).
- 4.2.2. Where new temporary protective fencing is required to provide an exclusion zone around the Root Protection Areas of trees, this is shown as a SOLID YELLOW line on the plans. Only at the completion of the main works to construct the development (or where it is necessary to remove existing features within CEZs such as surfacing as discussed in the section below) and where it is necessary to remove the fencing in order to construct specific features within the CEZ (e.g. garden works/fencing see Boundary Features and Landscaping Sections below) the fencing can be moved or dismantled ONLY after all other construction works on the site have been largely completed.

- 4.2.3. No materials, chemicals, machinery or access shall be stored or gained within this fenced off area during the entire period of the subsequent development of the site.
- 4.2.4. This fencing shall be either the existing boundary fencing type or to a specification as indicated in BS 5837:2012 and shall comprise weldmesh (Herras type) fencing attached to the ground by posts driven into it to hold the fence rigidly and semi-permanently during construction. Notices shall be attached to the fencing stating that no access, machinery, equipment or materials will be allowed within the fenced off area during the construction period. see designs in Appendix
- 4.2.5. All chemicals including cement, together with the mixing of cement, must be located at least 3m beyond the root protection areas (dotted and dashed circles around trees) (this is to prevent spillages / leeching of chemicals into the soil).
- 4.2.6. All construction access will be either via the existing eastern boundary areas within the caravan site or along the north boundary from New Road and outside the RPA of trees

All materials storage must be located outside the fenced off areas of the site and outside the RPA of trees – no cement/chemicals or sand / cement mixing may take place within 3m of the outer area of the RPA of any tree or hedge

4.3. Installation of footings within the RPA of trees

- 4.3.1. Where any footings are to be installed within the RPA of trees (assuming that this does not exceed the proximity or extent shown in the Tree Protection Plan) the following methodology could be used
 - 1. Ground protection matting will be present to the tree side of any trenching.
 - 2. A mini-digger equipped with a toothless bucket or hand digging will be used to excavate the trench
 - 3. A banksman will be present to halt excavation, enter the trench and cleanly sever any roots encountered using a saw or lopper. NOTE arboricultural advice should be sought prior to removal of any root over 20mm dia
 - 4. At the end of each days work the outer side of the excavation nearest the tree/s will be lined with a damp proof membrane to prevent the soils drying. This will be retained in situ when the footings are formed / concrete poured to prevent cement products contaminating the rooting area of trees

NOTE that different extents of development within the RPA of trees will require altered assessments of impacts and altered construction methods

4.4. Driveway No Dig celweb / Core supported driveway surface for Plot 7

4.4.1. Where shown on the plans outlined in GREEN (and Green Hatched) the new permeable SUDS type surface will be constructed as set out below. The surface should be installed after all other development is completed to enable access to services if required. NOTE that temporary ground protection matting (Shown Yellow Hatched) will

have been installed and maintained for the full length of the development prior to the installation of the new Celweb surface and at no time will any area of the zone shown to be protected NOT HAVE ground protection as detailed in this report. This will ensure that there is adequate vehicular support over the RPA of retained trees for construction traffic.

- 4.4.2. The surface will be installed by building up (not excavating) the existing surface of the
- 4.4.3. A celweb support system will be used over a geotextile retaining base layer, and will be filled with the suppliers recommended aggregate mix (which is normally a washed (to remove fines and salts both of which are harmful to trees) of 5 14mm dia angular stone.
- 4.4.4. The works to install the Celweb surface should be commenced from the EASTERN OR WESTERN end of the driveway (depending on access due to development of Plot 1) and 'rolled out' with a working head extending from the point of commencement. All delivery of new aggregate must be made along the part completed and filled Celweb surface and no vehicle may track over unsurfaced areas during construction unless these otherwise have ground protection matting in place.

NOTE; The works to install the celweb surfaces will be overseen by a suitably qualified arborist who will make a brief report to the Council to confirm that the methodology detailed above has been adhered to.

4.5. Installation of new Services

4.5.1. All service installations and connections – including foul water, fresh water and surface water (and soakaways) – will be located outside the root protection areas of trees (dotted and dashed circles shaded red on the Tree Protection Plan) unless otherwise agreed in writing with the Borough Council prior to commencement of works.

Note; There is no 'deemed' consent to install services within the Root Protection Areas of trees as a result of grant of planning unless this is specifically indicated. If it is proposed to install any services within or closer to the RPA of trees or hedging than that indicated on the plans this will require the prior written consent of the Borough Council

4.6. Post Construction Landscaping Procedures - including fencing

- 4.6.1. Where the new fencing is proposed to be installed within or close to the root protection areas of trees shown ORANGE on the plans or in other locations we have not anticipated, it will be constructed as set out below
 - Post holes will be dug by hand. Any roots encountered over 20mm dia will be retained and the post hole / post moved accordingly to retain the roots.
 - No post will be located closer than 1m to the base of any tree
 - All post holes will be lined with a damp proof membrane (rubble sack is effective) and this will be used to contain the concrete post base.

- No part of any repaired or altered fence will rest against or be within 300mm of the trunk of any retained tree and no part will be attached to any tree - this is to allow for tree growth and movement
- 4.6.2. No other details of additional surfacing or boundary treatments (apart from that included in this report) are presented as part of this planning application and it is assumed that the existing boundary treatments and surfacing type (gravel) will be retained after development. If any other landscaping is undertaken to the areas near or within the rooting areas of trees after development, then this should conform to the specification below. Other features such as surfacing and or fencing etc may also require special installation methods or may be unsuitable for installation within the root protection area of trees we would recommend strongly that you consult either the Council tree officer or an arborist if there are such proposals which are not part of this planning application process.
- 4.6.2. Following the completion of the construction of the development, when landscaping to the site is undertaken, special procedures will be carried out where these might conflict with trees. Where landscaping impinges within the Root Protection Area of trees to be retained, the following procedures will be adopted;
- 4.6.2. Only glyphosate based weed killers will be used on any surface vegetation. All use of weed killers will be restricted to pre-physical clearance of the area within the RPAs of trees to be retained in order to prevent spray contacting exposed tree roots.
- 4.6.3. All removals of existing landscaping, hedging etc will be carried out by hand operated machinery and tools only. The use of backactors etc to remove items will not be used. No excavation beyond that absolutely necessary to remove existing plants and structures (fence posts etc) will be used.
- 4.6.4. Following removals of existing landscaping, no use of rotorvators will be undertaken within the RPA of trees, all levelling and tilthing will be carried out by hand to a maximum depth of 100mm. Any importation of topsoil will be restricted to a maximum of 150mm above previous ground levels. No topsoil to be made up within 500mm radius of the base of any tree (to prevent 'rotting off')

Appendix

Inc;

Photographs of trees on the site

Schematic of protective fencing to BS 5837:2012 Type 1 and 2 versions as necessary

Specification for ground protection matting to BS5837:2012

Diagramme of no dig celweb supported driveway surface

Arboricultural Impact Assessment Plan / Tree Protection Plan / Development Plan shown superimposed on plan 4814/01 with arboricultural information added March 2023

Developed from plans by David Taylor Associates

Photographs of Site Features



Figure 1 – H2, T1 and H1 looking west from within the site



Figure 2 – T1 and H1 with T4 and T3 in the background looking north west



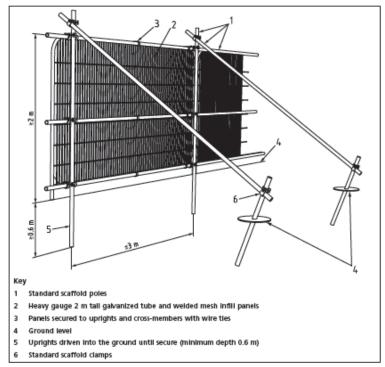
Figure 3 – H4 with T2 looking north

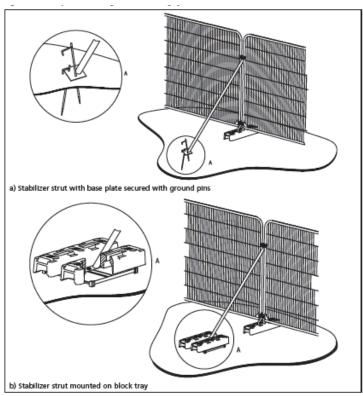


Figure 4 – H2, H1 and T1 looking south west

Tree Protection Barriers - Type 1 designs

The standard design which BS5837:2012 now requires as the 'default' design is shown below. In certain circumstances (where there is hard surfacing or other physical features which prevent the use of this type)





Plot south of Ardees, New Rd North Runcton. Arboricultural Impact Assessment, C J Yardley Landscape Survey & Design

Ground protection during demolition and construction

Designs for Ground protection in relation to construction can vary considerably according to the location and terrain. These can be simple scaffolding boards over a plastic membrane where scaffolding or other pedestrian access is required, more sophisticated and heavy duty arrangements such as plywood sheeting which may be suitable for locations where a mini-digger up to 2.5 tons is working / light vehicle access is required, up to heavy vehicle access provision where a proprietary system such as Ground Guards or Rola Track is required. In all cases three main principles apply and these are set out in more detail below

- 1. The ground support must be adequate to prevent compaction of the ground type being tracked over soft ground requires better protection than hard / wet than dry etc.
- 2. The ground support must be adequate for the weight of traffic using it
- 3. There must be both a compression layer of wood chippings / washed aggregate to distribute the loading and a plastic membrane to prevent cement or other leachate spills from contaminating the soil under the ground protection surface.

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.

Where the set-back of the tree protection barrier would expose unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

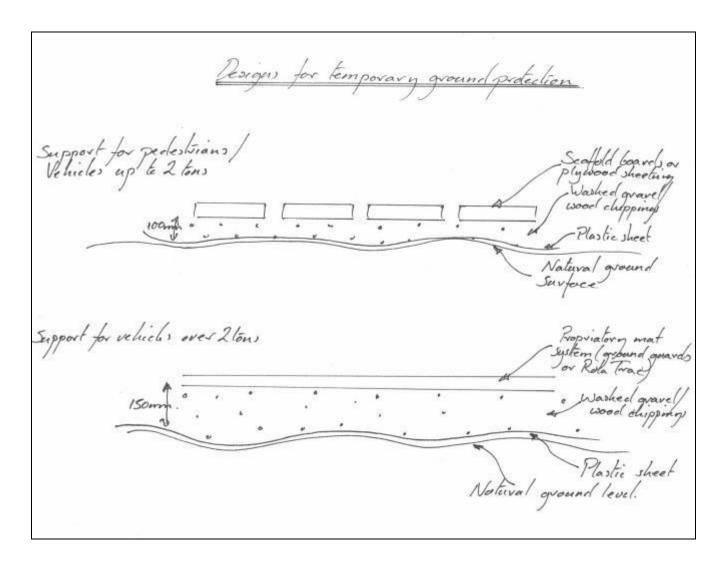
b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

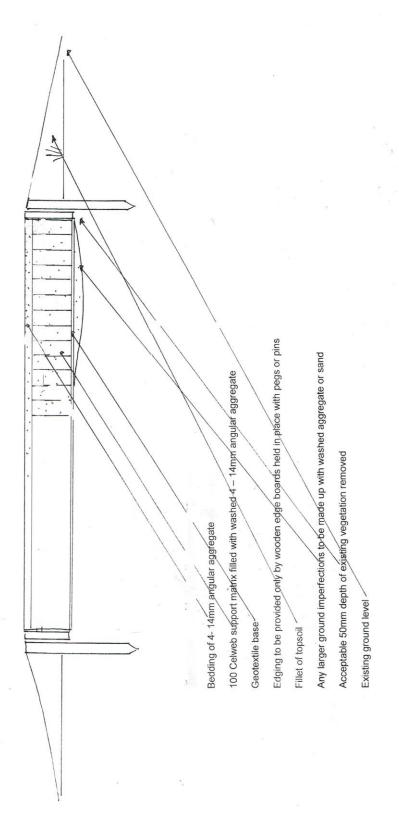
The locations of and design for temporary ground protection should be shown on the tree protection plan and detailed within the arboricultural method statement (see 6.1). - see overleaf

In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet

Plot south of Ardees, New Rd North Runcton. Arboricultural Impact Assessment, C J Yardley Landscape Survey & Design



Section showing No-dig Celweb supported Geogrid with Gravel Driveway Surface Type (not to scale) CJY 2009





Legend for Plans (plans overleaf)

Trees shown with crown extent as continuous black line (circ or cusped) - approx Trees retained trees to be removed
{ ()
Future canopy growth extent shown
Root Protection Area shown as line
Temporary protective fencing around trees shown
Temporary ground protection matting shown
Special footings construction areas (See Section 4 of AIA doc) Shown
No-dig celweb permeable gravel surface shown
Trees coloured to indicate Tree Retention Category as recommended by BS 5837:2005
Category A - Trees of high quality and value (shown green on the plan)
(in the state of t
Category B - Trees of moderate quality or value (shown blue on the plan)
Category C - Trees of low quality or value (shown grey on the plan)
Category U - Trees in very poor condition or which would be lost within 10 years
, ** • • • • • • • • • • • • • • • • • •
Shading (by the tree) (in accordance with BS 5837:2012) shown as a factor of height - indicated within the area shown as a segment with two solid lines running East and North West from the centre of the tree and a dashed line marking the circumference. Height of tree shown as sides of segment with existing height (EH) solid line and ultimate projected growth height (UH) as broken line
Shade
EH UH
Job Title Plot ad Ardee, New Rd, North Runcton. Provisional Tree Protection Plan - to be read with Arboricultural Impact Assessment document
Plan No. 4814/01 developed from plans David Taylor Assocs - Scale 1:200 at A3
Date
14 th March 2023
C J Yardley Landscape Survey and Design LLP. Larkhill Cottage, Priory Lane, Ingworth, NR116PG 07931 434162 / 01263 479691

