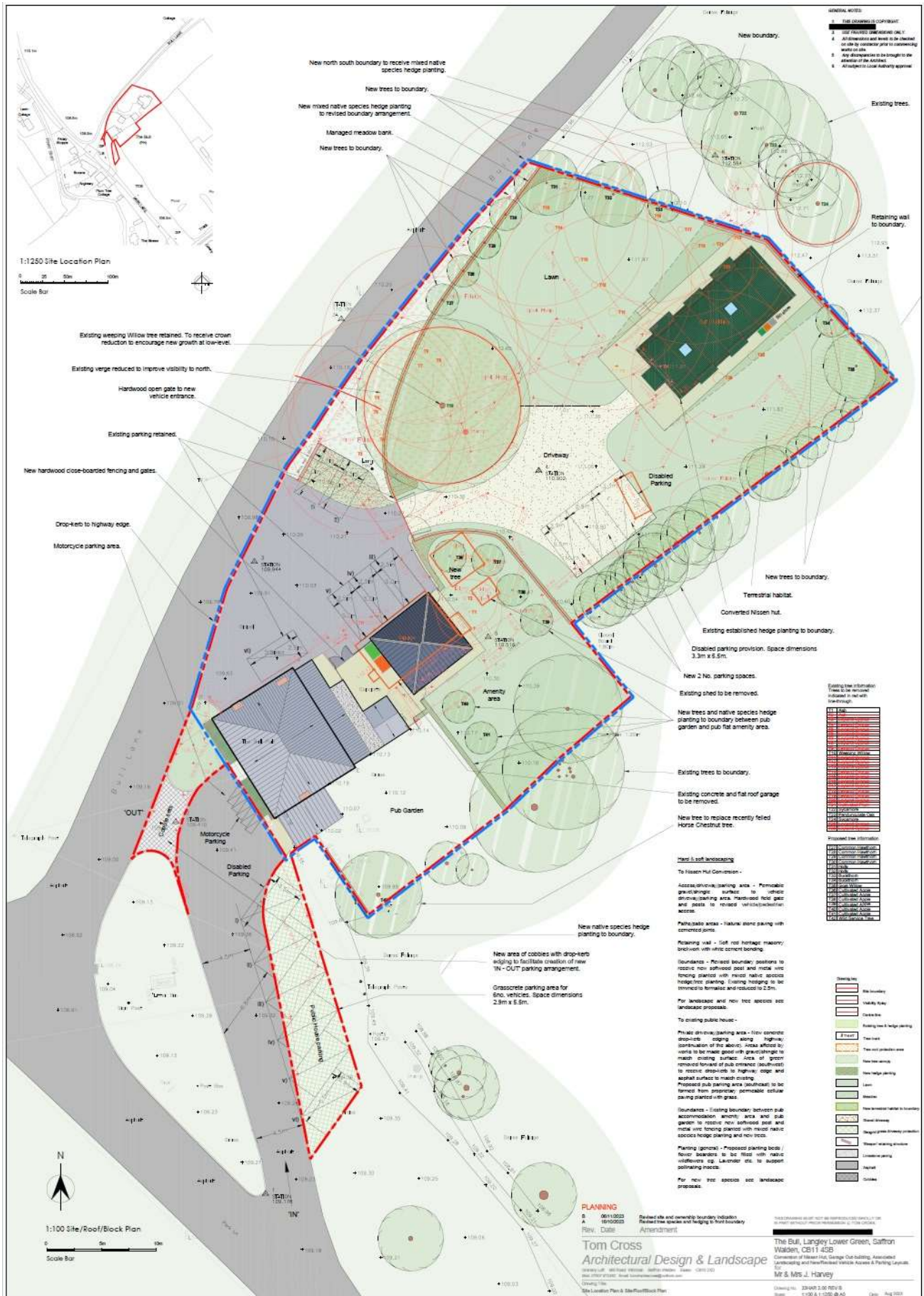
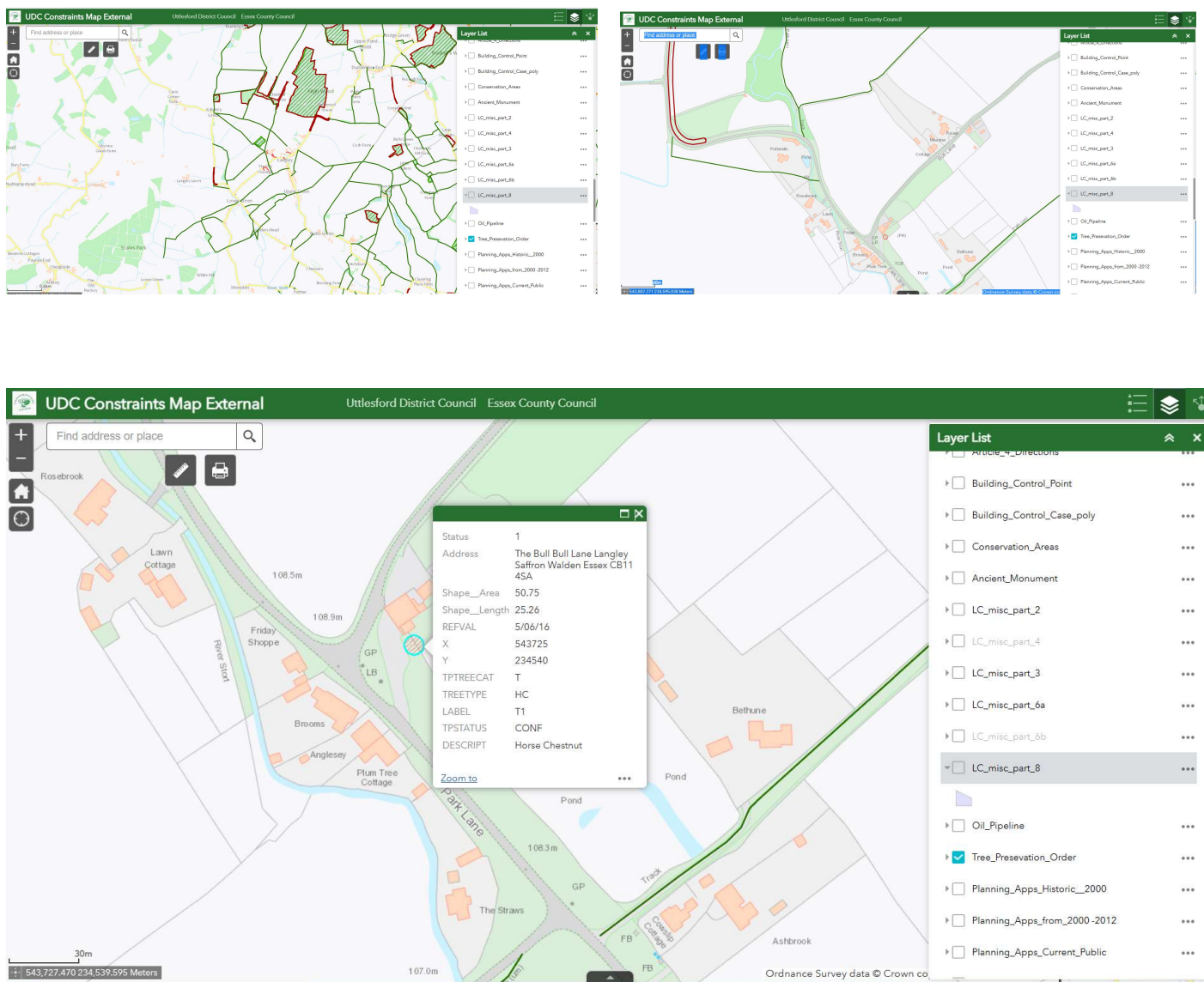


BS: 5837:2012 paragraphs relevant to Arboricultural Report, The Bull, Langley, Essex.

Conversion of Nissen Hut, Garage Out-building, Associated Landscaping and New/Revised Vehicle Access & Parking Layouts



Drawing number 25 HAR 2.00

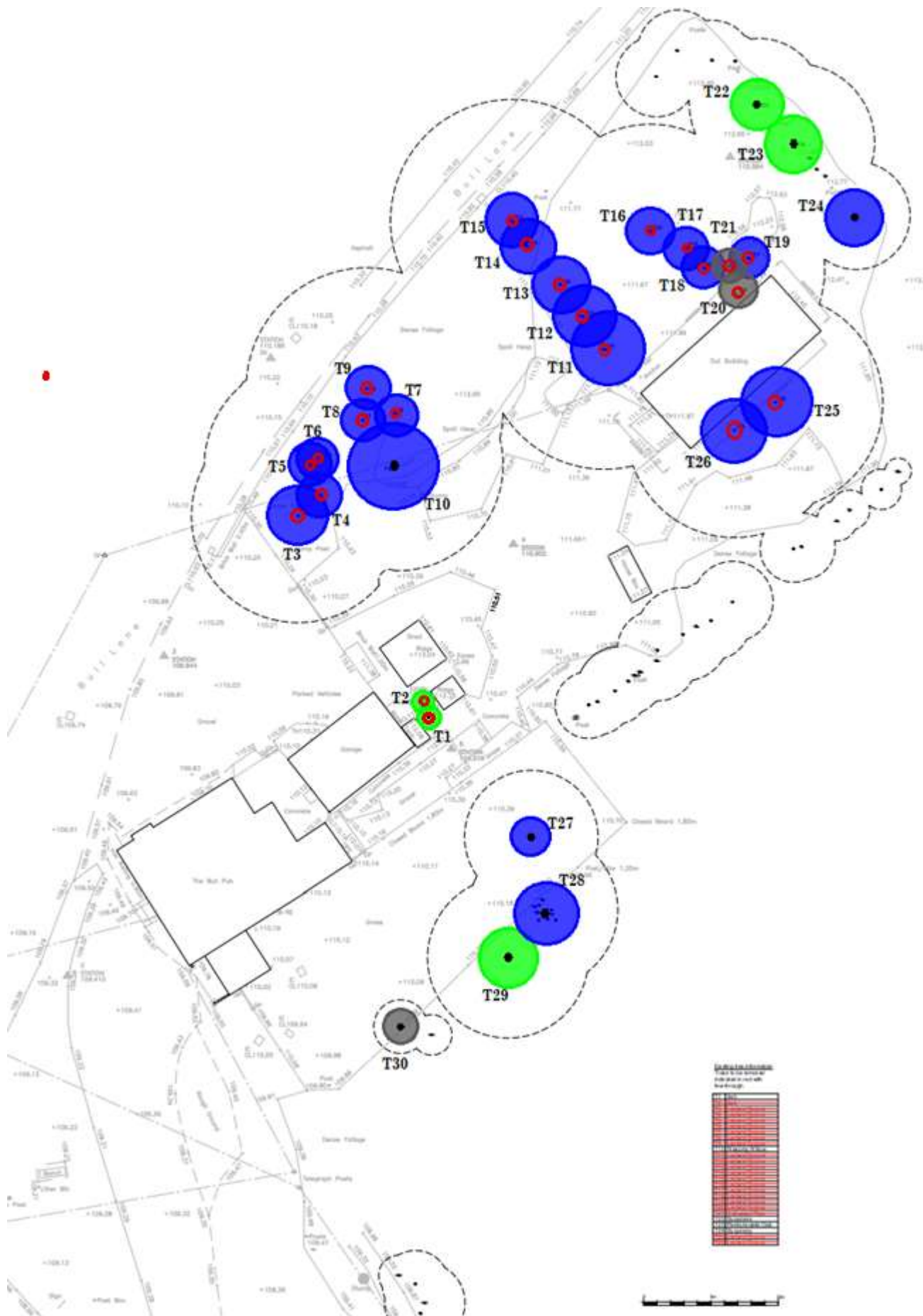


There are 30 trees marked on the plan 25 HAR2.00. Due to their size, lack of management, progressive limb loss and unstable root systems, the *Cupressocyparis x leylandii* are best all felled and removed from the site.

The *Prunus domestica* T20 has grown in a manner that is not attractive due to the shade of the dominant *Cupressocyparis x leylandii*.

The *Salix x sepulcralis* requires remedial pruning to remove the deadwood and reshape the tree for the long term.

The two semi-mature *Fraxinus excelsior*, T1 and T2 are in good condition, but both have root protection areas that reach into the footprint of the existing flat roofed garage. The plan is to remove both trees due to the possible medium and certain long term adverse effect on this building. The superficial geology, Lowestoft Formation in juxtaposition to 'Head', is such that to have a large forest tree in close proximity to an existing building is not ideal in the long term. In the previous application, now withdrawn, it was thought that despite the dangers of shrink swell of the clay rich soil, T1 could be retained for the short to medium term. The plan in this application retains the existing garage building. It is proposed therefore, that for the long term both trees are removed, and two replacement trees are planted. These proposed replacements should reach maturity providing not only landscape value but also as foodplants for numerous indigenous invertebrates, which in turn provide for the food chain above.



Above drawing number 25 HAR 3 showing position and condition in BS 5837: 2012 colours. RPAs are marked on 25 HAR 2.00, those marked with a Red Ring are proposed for removal.

At the time of the main survey the agreed northern property boundary was not marked on the ground. In September 2023 this was still the case. The shallow depression and an earth mound are beyond the north-eastern boundary and thus are within the neighbouring property. There are no structures, i.e., fence posts, marking the exact position of the northern boundary. However, all significant trees are included in the survey, both within the application area and those in the neighbouring property.

Below the results of the tree survey. Tree No's for removal are marked in Red.

Tree No.	Species	English	N	E	S	W	Height	Stem diameter	RPA	Condition
T1	Fraxinus excelsior	Ash	4000	4000	4500	2000	9000	160	1920	A1
T2	Fraxinus excelsior	Ash	6000	2000	5000	5500	9000	200	2400	A1
T3	Cupressocyparis x leylandii	Leyland Cypress	3500	6000	4000	5000	15000	400+180+160+140+(7 x 90)	5500	B1
T4	Cupressocyparis x leylandii	Leyland Cypress	2000	4000	4000	5000	11000	340	4080	B1
T5	Cupressocyparis x leylandii	Leyland Cypress	2000	2500	4500	5000	12000	350	4200	B1
T6	Cupressocyparis x leylandii	Leyland Cypress	2000	1500	2000	3000	7000	180	2160	C1
T7	Cupressocyparis x leylandii	Leyland Cypress	2500	3000	3000	1500	12000	250	3000	B1
T8	Cupressocyparis x leylandii	Leyland Cypress	5000	3000	1500	1500	10000	180	2610	B1
T9	Cupressocyparis x leylandii	Leyland Cypress	5000	6000	6500	5000	13000	300+(3 x 250)	6325	B1Broken stems Storm Eunice 2022
T10	Salix x sepulcralis	Weeping Willow	7000	8000	11000	8000	14000	600	7200	B1 Bad surgery, dead branches
T11	Cupressocyparis x leylandii	Leyland Cypress	6500	7000	7000	2000	13500	450+450+(6 x 150)	7640	B1 Root mass loosened by storms
T12	Cupressocyparis x leylandii	Leyland Cypress	6500	2000	6000	4000	12500	320+160	4300	B1 Root mass loosened by storms

T13	Cupressocyparis x leylandii	Leyland Cypress	6500	3000	5000	5000	12500	340	4080	B1 Root mass loosened by storms
T14	Cupressocyparis x leylandii	Leyland Cypress	5000	3000	5500	4000	12000	350+240+(5 x 130)	5780	B1 Root mass loosened by storms
T15	Cupressocyparis x leylandii	Leyland Cypress	5000	2000	5000	5000	11000	340+200	3740	B1
T16	Cupressocyparis x leylandii	Leyland Cypress	3000	2000	2500	2500	9000	300	3600	B1
T17	Cupressocyparis x leylandii	Leyland Cypress	4000	1000	3500	400	11000	310	3720	B1
T18	Cupressocyparis x leylandii	Leyland Cypress	1500	4000	3500	1500	11000	325	3900	B1
T19	Cupressocyparis x leylandii	Leyland Cypress	4000	3500	1000	3500	10000	400	4800	B1
T20	Prunus domestica	Cultivated Plum	6000	5000	4000	3000	6500	170+170+160+100	3670	C1
T21	Cupressocyparis x leylandii	Leyland Cypress	2000	1000	1000	2000	7000	150	1800	C1
T22	Acer pseudoplatanus	Sycamore	4000	4000	5000	6000	11000	200+180	3230	A1
T23	Quercus robur	Pedunculate Oak	5000	4500	5000	4000	11500	260	3120	A1
T24	Acer pseudoplatanus	Sycamore	6000	6000	4000	4000	8000	190+190+150+150	3740	B1
T25	Cupressocyparis x leylandii	Leyland Cypress	6000	6000	3000	6000	13500	330+280+180	5625	B1
T26	Cupressocyparis x leylandii	Leyland Cypress	3000	6000	5000	6000	13500	300+220+(2 x 200)+180+(2 x 150)	6350	B1
T27	Fagus sylvatica	Beech (weeping)	5000	2500	1500	4000	7000	250	3000	B1
T28	Aesculus hippocastanum	Horse Chestnut	7000	6500	3000	6500	12500	3X300 + 3X200 + 3X140	7680	B1
T29	Fraxinus excelsior	Ash	3000	8000	8000	6000	13000	430	5160	A1
T30	Prunus domestica	Cultivated Plum	4500	4000	2000	3500	6000	130	1560	C1

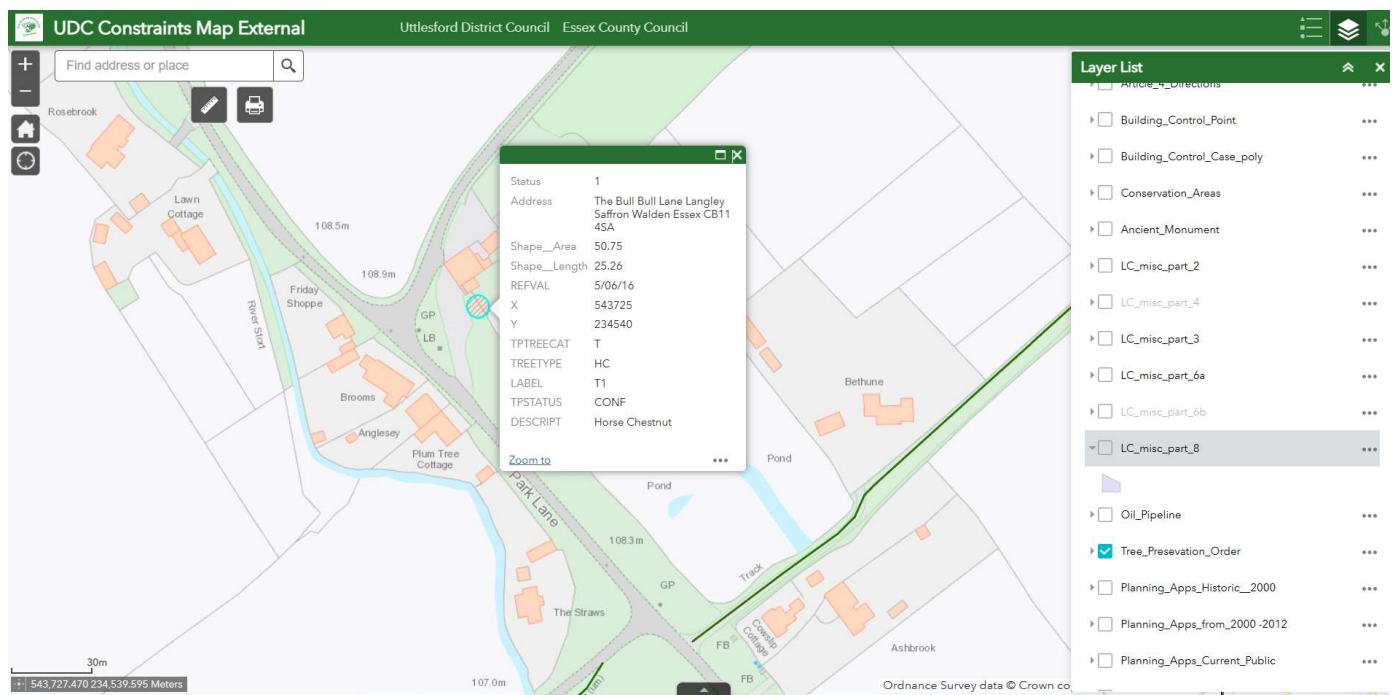
A full survey of the trees was undertaken on 9th March 2022 This tree survey was repeated on 3rd September 2023. This survey included information required under BS 5837:2012 and also an assessment of each tree for PRFs, Potential Bat Features, carried out to BCT Collins 3rd Edition Chapter 6. (Collins edition 4 2023 was not available on 3rd September 2023, published

online 15th September, hard copy not available until October 2023). In addition, potential bird nesting opportunities were noted. The timing was too early to assess some summer migrant species so the whole exercise was repeated twice more in May 2022 and late June 2022.

4.5 See Tree Survey sheet above

5.2.3. a

With reference to the Uttlesford DC Constraints map the site and surroundings are not in any Conservation Area. The Tree Preservation Order map name one *Aesculus hippocastanum*, White Horse Chestnut as seen below. I am informed that this protected tree developed progressive and irreversible structural weakness due to rot. One presumes the initial cause was *Pseudomonas syringae* pv *aesculi*, Bleeding Canker followed by a host of fungal agents resulting in structural weakness and limb failure. An application to fell was made to the Uttlesford DC Trees Officer circa 2012 or earlier and permission was granted to remove this tree. There appears to be no record of an application to remove on the planning portal, so no precise dates can be given. At present therefore no tree within the application area or immediate surroundings has any statutory protection either as a Scheduled TPO or in a Conservation Area.



Section 4.2 Topographic survey

4.1 – 4.3 all noted 25 HAR 2.00

4.2.4 a see Topographic survey 25 HAR 2.00 and 25 HAR 3

4.2.4 b-f see Topographic survey, 25 HAR 2.00 and 25 HAR 3

4.3 Soil survey See 4.6.2. c)

4.4 See Tree survey

4.4.1.2 Proposed design identified conflicts; design has been modified accordingly.

4.4.1.3 The final design of all parts of the application dates from September 2023 and thus post dates all arboriculture surveys.

4.4.2 Parameters

4.4.2.1 see 25 HAR 2.00

4.4.2.2 -4.4.2.4 all noted

4.4.2.5 see Tree survey data sheet above.

4.4.2.7 There are 2 hedges within the application area.

H1 A roadside hedge along Bull Lane which is very close cut comprising mostly of *Ulmus procera*, Rough Leaved or Small Leaved Elm. 28000 mm in length; 1800 mm in height



H2 is the mature unmanaged hedge along the southeast boundary. It comprises of mostly *Crataegus monogyna*, Common Hawthorn. Length 30000 mm with a few weak points along application SE boundary; 3000-3500 mm high.



4.4.2.9. Not significant as yet.

4.5 Tree Categorization Method

4.5.1 – 4.5.3 see above.

4.5.4 It is quite clear that several of the trees identified on the Tree Survey qualify for more than one category.

4.5.5 – 4.5.10 all noted.

4.5.11 No trees on the site could be regarded as a Veteran Tree. In addition, the final design of the development has taken into account all the relevant criteria including a search for *Tyto alba* and Chiropteran species, see photos.

4.6 Root Protection Areas.

4.6.1 Root protection areas. All Root Protection Areas have been plotted on Drawing 25 HAR 2.00. The vast majority of the existing trees have outgrown their positions; some are unstable.

The application proposes the felling and removal of these trees. This is mostly on safety grounds in the short term and to allow space for the proposed dwelling and garage.

All Root Protection Areas have been calculated at 12x single stem diameter at 1500 mm above ground. The Root Protection Areas of the multi-stemmed specimens with 5 or less stems, Trees T9, T15, T20, T22, T24, T25 have been computed using the equation BS 5837:2012 4.6.1a. Trees T3, T11, T14, T26 and T28 have more than 5 stems and therefore the equation BS5837:2012 4.6.1b has been used to calculate those Root Protection Areas.

4.6.2 Whilst there are several structures and loose objects within the application area there is very little on site that would cause any tree to alter the circular RPA with the exception of T11, T12, T13, T14 and T15, which are located against the northern bank of the original historic pond. The lack of support on the south side of this row has left the ground beneath unstable due to asymmetrical root development.

4.6.3

a) There are no existing structures within the application area that could influence the growth pattern of the trees surveyed other than the predominantly dry ditch located just beyond the northeast boundary of the site. The Nissen Hut is scheduled to be demolished. The existing flat roofed garage will be affecting the root growth of both T1 and T2, both *Fraxinus excelsior*.

b) The topography is unremarkable and the drainage passive. There are no ponds or other temporary bodies of water currently within the site. There is the remains of a man-made pond with liner at the northern boundary. This is permanently dry and defunct as a pond and the majority of its area now lies beyond the northern boundary. A court case established the northern boundary purely as a line on a map after years of dispute. As above there are no boundary markers on the ground.

c) The soil type is clay loam over the entire site reflecting the superficial glacial deposit beneath namely the Lowestoft Formation from the Great Anglian Glacial period c. 450,000 years BP. The Solid geology under this glacial deposit is Lewes Nodular and Seaford Chalk Formation (Undifferentiated) C. 93-83 ma. Soil type and structure on this site should not alter the root protection area equations.

d) All significant trees have been assessed and their tolerance to root disturbance has been taken into account.

5.1 The final submission drawing has altered as a result of the Arboricultural survey.

5.2.1 The position and height of all the proposed buildings has been modelled on the results of the survey both a) ultimate height and crown dimensions and b) species characteristics, limb failure etc.

5.2.2 The site is currently quite open in the east side with trees along the western margins and perimeter and in the northern section beyond the northern boundary of the historic pond. The proposed tree planting scheme has also taken future shading into account.

5.2.3

a) At present there are no Tree Preservation Orders, SSSIs, Schedule Monuments or Listed Buildings within the application site. This revised application does however affect some areas up to the main structure of 'The Bull', which is of course Listed as a Grade 2 due to its

proximity to other Listed Buildings around this road junction. No Conservation Area can be identified from U.D.C. maps.

b) No issues. A good account has been given as to why these trees should be removed from this site regardless of whether planning consent is granted. Once all the necessary removals for arboricultural reasons had **taken place on paper**, the design of the proposed dwelling could start in earnest.

c) No pruning required with the exception of T10. This pruning is for the long-term benefit of the tree, it would not necessarily interfere with the designs in this application.

d) Although the removal of this number of trees from the site may seem radical, it is merely the consequence of years of neglect and the lack of maintenance. The *Cupressocyparis x leylandii* have simply been left and have now outgrown their position.

e) All retained tree canopies as measured are well clear of any of the proposed dwellings and scaffolding. The tree protection fencing has been positioned to cater for all construction requirements.

f) All infrastructure requirements can be dealt with in the treeless centre of the development site. The access road and the main entrance will carry all the necessary services. There need not be any infringement of the root protection areas or existing canopies.

g) The proposed end use of all the areas adjacent to every retained tree will be the proposals in this application in addition to domestic garden or Public House open space / amenity area.

h) The loss of so many poor quality, non-native hybrid trees that have outgrown their positions and become structurally unsound, has left numerous replacement planting opportunities. The replacement trees will all be native species. These are chosen in preference to introduced species as they can offer just as much landscape value and a several fold increase in biodiversity enhancement. The provision of numerous opportunities for indigenous invertebrate larvae to thrive and support the fauna higher in the food chain is of prime importance in this application.

5.2.4 The only tree to which this paragraph would apply is T10, *Salix x sepulcralis*. Adequate provision has been made to protect the R.P.A. in the long term. This tree is unlikely to grow much more, thus the space given should suffice to all above ground parts.

5.3 Proximity of structures to trees.

5.3.1. a There is no encroachment into the Root Protection Areas of any retained tree.

With Tree T1 removed, the retained garage for The Bull, has guttering and downpipes that can deliver a significant amount of water to the root system of the proposed new trees directly or can be stored and given in times of drought.

Tree T10 will benefit from significantly less competition for water and minerals with the removal of the surrounding *Cupressocyparis x leylandii*.

5.3.2 All noted

5.3.3 The entire application area is on clay rich calcareous loam with the Lowestoft Formation immediately below. The shrink / swell effect has been taken into account with the new planting scheme.

The use of *Rhamnus cathartica*, Common Buckthorn, a good native calcicolous species, as the nearest planting to the proposed new dwelling not only reduces the effect of shrink swell, but it is also the main foodplant of *Gonepteryx rhamni*, Brimstone Butterfly. The further use of *Ilex aquifolium*, Holly, another good native species of limited size, helps to ensure that there is no conflict between the proposed new trees and the proposed structures in this application.

5.3.4

5.3.4 a)

1 Shading of buildings. The final design would receive natural sunlight from the NNE direction from sunrise at the summer solstice right through until late evening. At the winter solstice the same is true if the south-eastern boundary hedge is pruned and maintained to 2200 mm in height. A great deal of thought has gone into this hedge management to allow as much light as possible yet maintaining the biodiversity potential that can be achieved.

2, Shading of open spaces. The necessary removal of the *Cupressocyparis x leylandii* would allow much more light into the application area. The amenity area would benefit in particular. The new planting scheme proposes a new hedge along the northern and western boundary; nothing to obscure light or warmth from the Sun.

b) Privacy and screening are also taken into account from the northwest in Bull Lane along with the relocated hedge, maintained at 2400 mm, a mound protects further. The *Ilex aquifolium* is evergreen and provides privacy, screening and security. All other aspects are protected by existing trees or existing buildings.

c) and d) No direct damage is envisaged.

e) Seasonal nuisance. The final architectural design and landscaping design has taken all this into account. If planning consent is granted, much more detailed drawings will cover this paragraph.

5.4 Arboricultural Impact Assessment

5.4.1 noted.

5.4.2 noted.

5.4.3

a) See tree data sheet above

b) See 25 HAR 2.00 and for clarity 25 HAR 3

c) See 25 HAR 2.00 and 25 HAR 3

d) Only T10 requires pruning. At present this tree leans markedly to the south. Regardless of this application, this tree needs some remedial pruning to balance the crown and to remove the dead material. With this remedial work completed the long-term future of this tree is improved. See images below.



e) See Tree Protection Plan document appended to this report. The terrestrial habitat is fenced off outside the construction area.

f) The effect of the removal of 2 x *Fraxinus excelsior*, 1 x *Prunus domestica* and particularly 21 x *Cupressocyparis x leylandii* will have a significant impact on the landscape in and around the application area. However if nothing is done, i.e., if no future management is undertaken, the following will undoubtedly occur.

1. Tree T1 and T2 will further undermine the footprint of the existing flat roofed garage. Structural damage may already be present in this building as a result of the extreme shrinking during the summer of 2022 followed by a very wet autumn and winter of 2022 /2023. Although appearing to be healthy at present, T1 and T2 are vulnerable to *Hymenoscyphus fraxineas*, Ash Die Back, which is still having a significant effect on this species throughout the country. With reference to the Forestry Commission and the Woodland Trust October 2023, planting this species is still not recommended.

2. The removal of the single multi-stemmed *Prunus domestica* from its dark surroundings is of little consequence as it is dominated by large *Cupressocyparis x leylandii*

3. The loss of 21 *Cupressocyparis x leylandii* will have a large impact on the landscape. These trees as with so many others throughout the UK., were planted with the best intention. Having no maintenance for decades, these trees are now a liability as limb failure has commenced. Some canopies hang over the carriageway and are a threat to road users.



Rather than removing the roadside trees one could suggest pruning back the side growth level with the boundary. This would be ill-advised as regrowth is not always the result. See below an example of this in Whittlesford, South Cambridgeshire, 2023; surgery undertaken 2019.



5.5 Tree Protection Plan

Details of 5.5.1 -5.5.6 (a-m) are available in the appended document 'Tree Protection Plan and Arboricultural Method Statement.'

5.6 New Planting Design and associated landscape operations

All parts a) -h) have been taken into account in the final design

5.6.1. All advice noted

5.6.2. 1 Future growth has been taken into account, both canopies, Root Protection Areas and water supply

5.6.2.2 The planting scheme and retained trees have been taken into consideration regarding the new paths and driveways

5.6.2.3, 5.6.2.4 and 5.6.2.5 The geology of this site both soil, Superficial geology and the Solid geology beneath is very well understood and has been taken into account from the start.

5.6.2.6 Views, shading and light have been taken into account in the short, medium and long term.

5.6.3 The landscape plan with the new planting scheme, the line of a native hedge, the mound and a host of other features have been well thought through to allow good visibility and increase the biodiversity of the site by allowing more natural light to reach the ground. This is particularly true for the roadside environment in the long term.

5.6.4 All underground utilities will avoid any issues with the proposed landscaping of the retained trees.

6. Technical design

See both documents.

6.1 Arboricultural method statement

6.1.1. A precautionary approach has been adopted. The design has taken into account all the recognised constraints around the trees on the site.

6.1.2.

a) Removal of existing structures and hard surfaces will be done carefully and responsibly with no threat to any retained tree, its root protection area or the soil

b) Installation of temporary ground protection will be provided on the south side of the proposed new garage for 'The Bull'. The Root Protection Area of the retained Tree T1 will be protected throughout the construction period.

c) Excavations and the requirement for trenchless techniques; none envisaged.

d) Installation of new hard surfacing- materials, design constraints and implications for levels; all new hard surfacing will be in the centre of the plot and not in any root protection area. The drainage issues are dealt with in the main application documents and 25 HAR 4. Existing and subsequent new planting will not be adversely affected.

e) Specialist foundations and f) retaining structures to facilitate changes in ground level; neither of these apply near any Root Protection Area

g) Preparatory work for new landscaping; all proposed engineering works are well outside any root protection area.

h) Monitoring of the site is comparably straight forward. Supervision will be required during the erection of the tree protection fencing. Further supervision will be required during the removal of T1, T2, T20 and T3-T9, T11, T19, T21, T25 and T26. The sections of hedge for reasons of ecological prudence e.g., nesting birds during the spring and summer months, will also be closely monitored.

6.1.3

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Ecologist / Arboriculturalist A.R. Arbon MBE, Consultant Ecologist and NPTC Qualified Tree Surgeon, 1, Wren Park, Whittlesford, Cambridge. CB22 4LY.

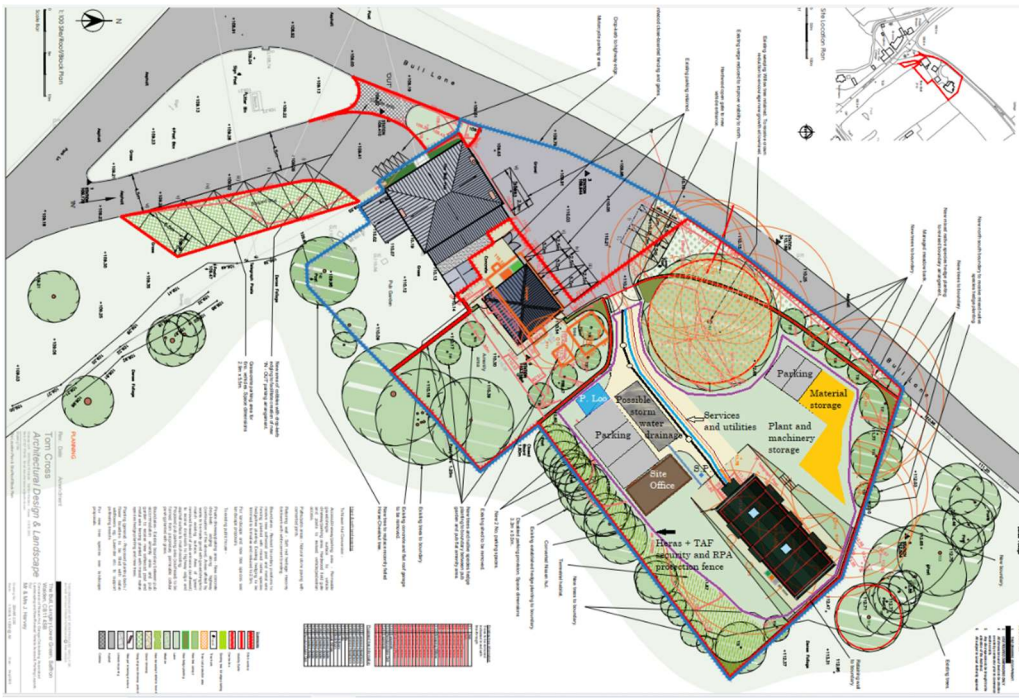
6.2 Barriers and Ground Protection

6.2.1.1 – 6.2.1.5 Advice noted, and the relevant information has been added to the two documents.

6.2.2 Barriers

The proposed site security fencing would be Heras Fencing with concrete foot supports, mostly 2.00 mm high and 3500 mm in length. See below.





Tree protection plan during construction.

6.2.2.1 shown above

6.2.2.2. and 6.2.2.3 The Heras Fencing will be well braced at strategic locations involving close vehicle movements. Judgement will be made on extra support elsewhere.

All other paragraphs of advice, guidance, and contingency operations of Chapter 6, 7 and 8 are noted and will be adhered to throughout the construction period if Planning Consent is granted.

All hazardous chemicals and materials will be stored and handled so as not to threaten any tree or the soil.

In conclusion all other advice in sections 7 and 8 together with the information in annexes A-D are noted and the guidance therein will be followed.

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19th January 2023

Revised 13th October 2023